



**TOWN OF HUACHUCA CITY
IN PARTNERSHIP WITH THE
SIERRA VISTA METROPOLITAN PLANNING ORGANIZATION**

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

**BID-CONTRACT DOCUMENTS
&
SPECIAL PROVISIONS-SPECIFICATIONS**

14 OCTOBER 2019



Expires 12/31/2020

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REFERENCED DOCUMENTS

STANDARD SPECIFICATIONS

Separate documents from these bid/contract documents

- Uniform Standard Specifications and Details for Public Works Construction
2019 Revision to the 2015 Edition, Maricopa Association of Governments (MAG)
- Arizona Department of Transportation, Standard Specifications for Road and Bridge
Construction, 2008 Edition, latest revision
- Manual on Uniform Traffic Control Devices, latest revision
- Arizona Supplement to the MUTCD, latest revision

PLANS (CONSTRUCTION DRAWINGS)

Separate document from these bid-contract documents

- Town of Huachuca City in partnership with the Sierra Vista MPO
EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT
Dated 10/14/2019

INVITATION TO SUBMIT BIDS

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

TOWN OF HUACHUCA CITY
500 North Gonzales Boulevard
Huachuca City, AZ 85616

NOTICE IS HEREBY GIVEN that the Town Council of the Town of Huachuca City, Sierra Vista, Arizona, will receive sealed bids from qualified construction firms registered with the Arizona Registrar of Contractors for the **EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT**.

Sealed bids will be accepted until 4:00 pm (Arizona Time), on the 15th day of November, 2019, by Matthew Williams, Town Manager, at Town Hall in Huachuca City, located at 500 North Gonzales Boulevard, Huachuca City, AZ 85616, at which time the bids will be opened, read aloud, and verified. It is the responsibility of the Bidder to ensure timely delivery of the bid. Any bid received after the bid closing time will not be accepted and will be returned unopened. Unsigned bids will be considered unresponsive and will be rejected. All information and bids submitted by bidders will be made available for public inspection following award of a Contract.

Each Bid shall be accompanied by a Certified Check, Cashier's Check, or Bid Bond in the amount of ten percent (10%) of the amount of the total bid price, and made payable to the Town of Huachuca City. Such Check or Bid Bond will be given as a guarantee that Bidder will enter into a Contract, if awarded, and will provide a satisfactory Performance and Payment Bond; and shall be declared forfeited as Liquidated Damages if the successful Bidder refuses to enter into the said Contract after being requested to do so by the Town Council of the Town of Huachuca City. Such Check or Bid Bond will be returned to the respective unsuccessful Bidders upon award of the Contract and to the successful Bidder on execution and delivery of a satisfactory Surety Company Performance and Payment Bond in the amount of one hundred percent (100%) of the total Contract Price.

All Bids must include a proposed project schedule.

Bidders and other interested parties are hereby notified that a **non-mandatory pre-bid conference shall be held on Tuesday, October 29, 2019, at 10:00 am**, for this project. The pre-bid conference will be held at the:

Town of Huachuca City
500 North Gonzales Boulevard
Huachuca City, Arizona 85616

The deadline for submittal of Questions by Bidders for formal response by the Town of Huachuca City is Thursday, November 07, 2019.

Bid/contract documents, plans, and any other supporting information, in PDF format only, will be available from the Town of Huachuca City located at 500 North Gonzales Boulevard, Huachuca City, AZ 85616, Monday through Friday, 8:00 am to 5:00 pm. Electronic copies of the Plans and Bid/Contract Documents in PDF format will be provided by email or on a CD at no charge by contacting Janine Collins, Town Clerk, at (520) 456-1354, jcollins@huachucacityaz.gov. To receive a set of bid/contract documents and plans, you **must register as a plan holder** with Janine Collins, Town Clerk, at (520) 456-1354, jcollins@huachucacityaz.gov, in order to receive addenda and other project-related information.

The Town of Huachuca City reserves the right to reject any or all bids, to waive informalities or irregularities in the bidding, and to withhold the award for any reason that the Town of Huachuca City determines to be in their best interests.

Minority, woman-owned, and disadvantaged businesses are encouraged to submit bids.

All questions and/or correspondence regarding this project shall be directed to Matthew Williams, Town Manager, at (520) 456-1354, mwilliams@huachucacityaz.gov.

Johann Wallace, Mayor
Town of Huachuca City

Matthew Williams, Town Manager

Publication: Public Notice has been advertised
 Bidding period starts October 15, 2019

End of Invitation to Submit Bids

INFORMATION FOR BIDDERS

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

Sealed bids will be accepted until 4:00 pm (Arizona Time), on the 15th day of November, 2019, by Matthew Williams, Town Manager, at Town Hall in Huachuca City, located at 500 North Gonzales Boulevard, Huachuca City, AZ 85616. Bids must be mailed or hand delivered to the Town of Huachuca City at 500 North Gonzales Boulevard, Huachuca City, AZ 85616. Late bids will not be considered.

Each bidder, before submitting their bid, shall become fully informed as to the extent and character of work required. All questions relating to the bid must be submitted in writing to Matthew Williams, Town Manager, at mwilliams@huachucacityaz.gov, referencing this IFB prior to the **Thursday, November 07, 2019, bidder questions deadline** indicated in the Bidding Procedure Timetable. The bidder shall bear all risks associated with delays in the US mail or delivery service. Any requests received after the stated deadline may not be considered. All requests received prior to the deadline will be responded to in writing by the Town of Huachuca City in the form of an addendum addressed and sent to all registered plan holders.

If any addenda are issued, the contractor must acknowledge receipt of any and all addenda on the bid form in order to submit a qualifying bid.

Each Bid Form (and the Bid Schedule) must be submitted in a sealed envelope addressed to Town of Huachuca City. Each sealed envelope containing a Bid Form must be plainly marked on the outside with the name of the project:

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

The envelope should also bear on the outside:

- **Name of the Bidder,**
- **Bidder's address, and the**
- **Bid opening date and time.**

All Bids must be made on the required Bid Form and Bid Schedule. All blank spaces for Bid prices must be filled in, in ink or typewritten, and the Bid Form and Bid Schedule must be fully completed, and the Bid Form executed, when submitted. Only one copy of the Bid Form and Bid Schedule are required. Any improperly completed bids will not be accepted.

Bid Security in the amount of not less than ten percent (10%) of the total Bid amount must accompany each Bid Form in the type and form specified in these Bid/Contract Documents.

The Town of Huachuca City reserves the right to reject any and all Bids, to waive any informalities and minor irregularities in bids, and to accept the Bid deemed in the opinion of the Town of Huachuca City to be in the best interest of the Town of Huachuca City. A conditional or qualified Bid may be cause for rejection.

Any Bid may be withdrawn prior to the above scheduled date and time for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be considered and will be returned unopened. No Bidder may withdraw a Bid within ninety (90) calendar days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period of time, the time may be extended by mutual agreement between the Town of Huachuca City and the Bidder.

Bidders and other interested parties are hereby notified that a **non-mandatory pre-bid conference shall be held on Tuesday, October 29, 2019, at 10:00 am**, for this project. **The deadline for submittal of Questions by Bidders for formal response by the Town of Huachuca City is Thursday, November 07, 2019.**

Bidders must satisfy themselves as to the extent and accuracy of the estimated quantities in the Bid Schedule by examination of the project site and review of the plans (construction drawings), these bid/contract documents including the Special Provisions-Specifications, and any issued Addenda. After Bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the approximate quantities of the work or the nature of the work to be done and satisfactorily completed.

Each Bidder shall demonstrate their experience in the construction of traffic signals including emergency vehicle preemption signals, traffic control signs with foundations, pavement markings, street light luminaires, electrical conduit with conductors, associated appurtenances, and other related improvements as shown on the plans and under local traffic conditions. The Bidder shall provide to the Town of Huachuca City with their Bid a list of at least three (3) successfully completed projects of a similar nature to this project. The Bidder shall include the size range of construction costs for relevant projects constructed, and a general description and conditions for each of the three or more referenced projects. The Bidder shall also provide at least one reference for each project with current and correct contact information (phone number and email address) for that reference.

Each Bid must include a proposed project schedule, the provided 'Schedule of Major Subcontractors' to be assisting in the project, and a list of at least three (3) recent relevant complete projects of a similar nature with reference contact information.

The Bid-Contract Documents, and any Addenda issued, contain the provisions required for the construction of the Project. Information otherwise obtained from an officer, agent, or employee of the Town of Huachuca City, or any other person, shall not affect the risks or obligations assumed by the Contractor or relieve them from fulfilling any of the conditions of the contract.

The Party to whom the Contract is awarded will be required to execute the Agreement within fourteen (14) calendar days from the date when Notice of Award is delivered to the Bidder. The Notice of Award shall be accompanied by the necessary Agreement and any additional required or needed forms.

In case the Bidder fails to execute the Agreement, the Town of Huachuca City reserves the right to exercise its option to consider the Bidder in default and the Bid Security forfeited, in which case, another Bidder may be awarded the project.

A Performance Bond and a Labor and Material Payment Bond, each in the amount of 100 percent (100%) of the Contract Price, with a corporate surety approved by the Contracting Agency, will be required for the faithful performance of the Contract. Attorneys-in-Fact who sign Bid Bonds or Performance Bonds or Labor and Material Payment Bonds must file with each Bond a certified and effective dated copy of their Power of Attorney.

INSURANCE REQUIREMENTS: 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 A-, or approved unlicensed to do business in the State of Arizona with policies and forms satisfactory to the Town of Huachuca City.

All insurance required 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 formally accepted. Failure to do so may, at the sole direction of the Town of Huachuca City, constitute a material breach of this Contract.

The Contractor's insurance shall be primary insurance, and any insurance or self-insurance maintained by the Town of Huachuca City shall not contribute to it.

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 Town of Huachuca City.

The insurance policies, except Workers' Compensation, shall contain a waiver of transfer rights of recovery (subrogation) against the Town of Huachuca City, its agents, representatives, directors, officers, and employees for any claims arising out of the Contractor's work or service.

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 Town of Huachuca City under such policies. The Contractor shall be solely responsible for deductible and/or self-insured retention and the Town of Huachuca 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.

The Town of Huachuca City reserves the right to request and to receive, within 10 working days, certified copies of any or all of the herein required insurance policies and/or endorsements. The Town of Huachuca 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 Town of Huachuca City's right to insist on, strict fulfillment of Contractor's obligations under this Contract.

The insurance policies, except Workers' Compensation, required by this Contract shall name the Town of Huachuca City, its agents, representatives, officers, directors, officials and employees as Additional Insureds.

REQUIRED INSURANCE COVERAGE:

A. General Liability

Contractor shall maintain Commercial General Liability insurance with a limit of not less than \$1,000,000 for each occurrence with a \$2,000,000 Products and Completed Operations Aggregate and \$2,000,000 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 any 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, nor 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.

Any 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 Town of Huachuca City's and Contractor's Protective Liability insurance policy for bodily injury and property damage, including death, which may arise in the prosecution of the Work or Contractor's operations under this Contract. Coverage shall be on an occurrence basis with a limit not less than \$1,000,000 per occurrence, and the policy shall be issued by the same insurance company that issues the Contractor's Commercial General Liability insurance.

B. 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 with respect to the Contractor's any 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 off-loading 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.

C. 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 \$100,000 for each accident, \$100,000 disease for each employee, and \$500,000 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.

CERTIFICATES OF INSURANCE: Prior to commencing Services under this Contract, Contractor shall furnish the Town of Huachuca City with Certificates of Insurance (naming the Town of Huachuca City as additionally insured), or formal endorsements as required by the Contract, issued by Contractor's insurer(s), as evidence that policies providing the required coverages, conditions and limits required by this Contract are in full force and effect.

In the event any insurance policy(ies) required by this contract is(are) written on a "claims made" basis, coverage shall extend for two years past completion and acceptance of the Contractor's work or services and as evidenced by annual Certificates of Insurance.

If a policy does expire during the life of the contract, a renewal certificate must be sent to the Town of Huachuca City fourteen (14) calendar days prior to the expiration date.

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.

INSURANCE CANCELLATION AND EXPIRATION NOTICE: Insurance required herein shall not expire, be canceled, or materially changed without fourteen (14) calendar days prior written notice to the Town of Huachuca City.

Within fourteen (14) calendar days of receipt of acceptable proof of insurance, W-9 form, Payment and Performance Bonds, any other required documents, and an Agreement signed by the party to whom the Agreement was awarded, the Town of Huachuca City shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the Town of Huachuca City not execute the Agreement within such period, the Bidder may, by Written Notice, withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Town of Huachuca City.

The Town of Huachuca City shall issue a Notice to Proceed within fourteen (14) calendar days of the execution of the Agreements for the **Emergency Vehicle Preemption Signal Project**.

Should there be reasons why the Notice to Proceed cannot be issued within such period of time, the time may be extended by mutual agreement between the Town of Huachuca City and Contractor. If the Notice to Proceed has not been issued within the fourteen (14) calendar day period, or within the period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project, shall apply to the Contract throughout the term of the Contract.

Bidders shall be qualified firms registered with the Arizona Registrar of Contractors and shall be a licensed and bonded contractor in the State of Arizona.

The Selected Contractor shall, in all hiring or employment made possible or resulting from this project, take affirmative action to ensure that there shall be no unlawful discrimination against any employee or applicant for employment because of sex, race, age, color, creed, national origin, marital status, sexual orientation, or the presence of any sensory, mental or physical handicap, unless based upon a bona fide occupational qualification, and this requirement shall apply to, but not be limited to, the following: employment, advertising, layoff, termination, rates of pay, or other forms of compensation, and selection for training, including apprenticeships.

No person shall be denied or subjected to discrimination in receipt of the benefit of any services or activities made possible by or resulting from this project on the grounds of sex, race, color, creed, national origin, age (except minimum age and retirement provisions), marital status, sexual orientation, or the presence of any sensory, mental or physical handicap. In addition, the Town of Huachuca City will ensure that disadvantaged business enterprises (DBEs) will be afforded full opportunity to submit bids and proposals to all invitations.

This project is being bid in accordance with the Town of Huachuca City policies. Protest Procedure – bid protests shall be submitted in writing to:

Matthew Williams, Town Manager
Town of Huachuca City
500 North Gonzales Boulevard, Huachuca City, AZ 85616
Phone: (520) 456-1354 Email: mwilliams@huachucacityaz.gov

Bid protests must be received within 72 hours of the notification of award. Protests must contain, at a minimum:

- the name, address and telephone number of the protester
- the signature of the protester or its representative and evidence of authority to sign
- a detailed statement of the legal and factual grounds of the protest including copies of relevant data
- the form of relief requested

Within 5 business days of receipt, and after consultation with legal counsel or others, the Town of Huachuca City will respond in writing to the protest.

The Town of Huachuca City reserves the right to reject any or all bids; to waive irregularities of information in any bid; to re-advertise the bid; and/or take any steps determined prudent in order to resolve the protest.

End of Information for Bidders

BIDDING PROCEDURE TIMETABLE

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT TOWN OF HUACHUCA CITY & TOWN OF HUACHUCA CITY

Project Publication of Notice:	Public Notice has been advertised Bidding period starts October 15, 2019
Pre-Bid Conference (non-mandatory)	October 29, 2020 (Tuesday) @ 10:00 AM
Deadline for Bidder's Questions	November 07, 2019 (Thursday)
Final Addendum Issued (if necessary)	November 08, 2019 (Friday)
Bid Deadline / Bid Opening	4:00 PM November 15, 2019 (Friday) Town of Huachuca City 500 North Gonzales Boulevard Huachuca City, AZ 86301
Huachuca City Council Award Approval	December 12, 2019 (Thursday)
Notice of Award	December 13, 2019 (Friday)
Notice to Proceed & Project Commencement Date (estimated)	January 06, 2020 (Monday)
Number of Construction Days	90 Calendar Days
Project Completion (estimated)	April 06, 2020 (Monday)
Notes: A preconstruction conference with the Contractor will be scheduled and conducted prior to the commencement of construction.	

BID FORM

**EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT
TOWN OF HUACHUCA CITY**

Proposal of _____ (hereinafter called "Bidder"), organized and existing under the laws of the State of _____, doing business as _____,* to the Town of Huachuca City (hereinafter called "Contracting Agency").

(* Insert "a Corporation", a Partnership", "an Individual", as applicable)

In compliance with your Invitation to Submit Bids, Bidder hereby proposes to perform all work for the complete construction of the **EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT** in strict accordance with these Bid/Contract Documents, within the time set forth therein, and at the prices stated in the following Bid Schedule. **The Bid Schedule must accompany this Bid Form.**

By submission of this Bid, the Bidder certifies, and in the case of joint Bid, each party thereto certifies as to his own organization, that this Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in the Notice to Proceed, and to **complete the Project within ninety (90) calendar days** thereafter. Bidder further agrees to pay as liquidated damages, and not as penalty, the sum of one thousand dollars (\$1,000.00) for each consecutive calendar day thereafter as provided in the General Conditions.

Bidder acknowledges receipt of the following Addenda:

ADDENDUM NUMBER	ISSUE DATE	ACKNOWLEDGEMENT
Addendum 1		
Addendum 2		
Addendum 3		
Addendum 4		

Bidder agrees to perform all work described and contained on the Project Plans and in accordance with these Bid-Contract Documents and the Special Provisions-Specifications for the unit prices or lump sum amounts shown on the **accompanying Bid Schedule**.

Bidder acknowledges that the quantities shown on the Project Plans and in the accompanying Bid Schedules are estimated and approximate, and are only for the purpose of comparing bids for the purpose of determining the low bidder for award of the contracts.

Bidder acknowledges that payment will be based on the unit prices set forth in the Bid Schedule for the actual quantities furnished, installed, or constructed, as provided for in the Special Provisions-Specifications and these Bid-Contract Documents.

Bidder acknowledges that he/she has included the cost of a 100% Performance and Payment Bond in the foregoing Bid, and agrees that the Bidder will, at the time of execution of the Agreement or a suitable Letter of Intent, furnish said Bonds, in the amount of the 100% of the Contract amount, with a Surety Company satisfactory to the Town of Huachuca City.

Respectfully Submitted:

Contractor-Firm Name (Bidder)

Signed by (Typed or Printed Name)

Title

Address

Doing Business As

City/State/Zip Code

Contact Phone Number

Contact Email Address

Authorized Signature

Date

The following BID SCHEDULE must accompany this BID FORM.

BID SCHEDULE

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

Bidders Name: _____

NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	ITEM BID TOTAL
1	EV PREEMPTION REMOTE CONTROL DEVICES	12	EA	\$	\$
2	ADVANCE WARNING EV SIGNAL WITH SIGNS, FLASHERS, POLE & FOUNDATION	4	EA	\$	\$
3	PAVEMENT STRIPING, THERMOPLASTIC ALKYD, WHITE	96	SF	\$	\$
4	TYPE 'R' POLE AND FOUNDATION WITH 45' SIGNAL MAST ARM & 20' LUMINAIRE MAST ARM	2	EA	\$	\$
5	TYPE 'T' SIGNAL HEAD PER ADOT TS 8-5	5	EA	\$	\$
6	TYPE 'II' MOUNTING PER ADOT TS 9-1	5	EA	\$	\$
7	EV SIGNAL CONTROLLER WITH COMMUNICATION SYSTEM IN A POLE HANGING CABINET	1	LS	\$	\$
8	INSTALL TRAFFIC SIGN, 'W11-12P'	2	EA	\$	\$
9	INSTALL TRAFFIC SIGN, 'W11-8'	2	EA	\$	\$
10	INSTALL TRAFFIC SIGN, 'R8-10'	2	EA	\$	\$
11	INSTALL TRAFFIC SIGN, 'R10-14'	2	EA	\$	\$
12	SIGN POST, TYPE 'T', 2-1/2" SQUARE GALVANIZED STEEL POST PER ADOT S-3	4	EA	\$	\$
13	SIGN POST SLIP BASE FOUNDATION PER ADOT S-3	4	EA	\$	\$

NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	ITEM BID TOTAL
14	STREET NAME SIGN ASSEMBLY, D3-1	2	EA	\$	\$
15	INSTALL SCHEDULE 40 PVC CONDUIT, 3" DIA, DIRECTIONAL DRILLING	160	LF	\$	\$
16	INSTALL SCHEDULE 40 PVC CONDUIT, 2-1/2" DIA, IN TRENCH WITH PULL CORD	130	LF	\$	\$
17	INSTALL CONDUCTORS, COMPLETE	1	LS	\$	\$
18	INSTALL PULL BOX, NO. 7, LIGHT DUTY, PER ADOT TS 1-1	3	EA	\$	\$
19	INSTALL LUMINAIRES WITH PHOTO CELL CONTROL	2	EA	\$	\$
20	TRAFFIC CONTROL	1	LS	\$	\$
21	MOBILIZATION	1	LS	\$	\$
TOTAL BID AMOUNT					\$
EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT					

Bidders Name: _____

BASIS FOR BID AWARD

The Bidder is required to bid each and every item in the bid schedule.

Award shall be based on the lowest total bid amount for the EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT.

The Town of Huachuca City will jointly award the project on a low bid basis.

QUANTITIES

The estimated quantities are approximate only and may vary from those shown in the bid schedules.

BIDDER ACKNOWLEDGEMENT OF BID PROPOSAL

The Bidder hereby declares that representatives of the Bidder have visited the site and have carefully examined the Bid-Contract Documents and Special Provisions-Specifications relating to the work covered by the above bid.

The Bidder understands that any quantities stated or implied in the specifications or elsewhere in the Contract Documents are approximate only, and are subject to increase or decrease, and hereby proposes to perform all quantities of work, as either increased or decreased, in accordance with the provisions of the Special Provisions-Specifications for the unit bid prices stipulated in the Bid Schedule.

The Bidder understands that all work associated with EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT as specified for this contract shall be in accordance with:

- Uniform Standard Specifications and Details for Public Works Construction 2019 Revision to the 2015 Edition, Maricopa Association of Governments (MAG)
- Arizona Department of Transportation, Standard Specifications for Road and Bridge Construction, 2008 Edition, latest revision
- Manual on Uniform Traffic Control Devices, latest revision
- Arizona Supplement to the MUTCD, latest revision

The Bidder understands that this Bid Proposal Form and the Bid Schedule shall be submitted with a Proposal Guarantee of a Certified Check, Cashier's Check, or Surety (Bid) Bond for an amount not less than 10 percent of the total amount bid, along with a Certification of Bid form and a completed Affidavit of Non-Collusion.

The Bidder also understands and acknowledges that the bid items listed in the bid schedule are considered to cover all items of work required to complete the work per the plans and the Special Provisions-Specifications. Any items of work not specifically mentioned or included as part of the bid items description of work shall be completed as required, and the work shall be considered incidental and subsidiary to the applicable item of work or to the overall project, and no separate measurement and payment will be made.

The Bidder agrees that upon receipt of the Notice of Award from the Town of Huachuca City, the Bidder/Contractor will execute the contract documents and furnish the required bonds and certificates of insurance to both parties prior to commencement of work.

The Work shall be completed within 90 calendar days beginning with the starting date specified in the Notice to Proceed. The time allowed for completion of the work includes lead time for obtaining all necessary materials, supplies, and/or equipment needed to complete the work in its entirety.

CONSTRUCTION SCHEDULE

The bidder shall submit with the bid a proposed construction schedule for the project.

Upon award of the combined project, once the final size and scope of the project has been established, the Contractor shall submit a detailed construction schedule prior to the preconstruction conference that will be scheduled for the project.

All Bids must include:

- **Bid Bond (10% Bid Amount)**
- **Proposed Project Schedule (for all phases)**
- **Completed Schedule of Major Subcontractors to be assisting in the project**
- **List of at least three (3) successfully completed projects of a similar nature to this project with reference contact information**

End of Bid Form and Bid Schedule Section

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned,

_____ as

Principal, and _____, as Surety, are

hereby held and firmly bound unto the TOWN OF HUACHUCA CITY, ARIZONA, as Contracting

Agency in the penal sum of \$ _____

_____ for the payment of which, well and truly to be made, we hereby jointly and severally

bind ourselves, successors and assigns.

Signed this _____ day of _____, 2019

The Condition of the above obligation is such that whereas the Principal has submitted to the TOWN OF HUACHUCA CITY, ARIZONA, a certain Bid, attached hereto and hereby made a part hereof, to enter into a contract, in writing, for the construction of the Project:

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

NOW, THEREFORE,

- (A) If said Bid shall be rejected, or
- (B) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the form of an Agreement attached hereto (properly completed in accordance with said Bid) and shall furnish a Bond for his faithful performance of said Agreement, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated. The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its Bond shall in no way be impaired or affected by an extension of the time within which the Contracting Agency may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed, and these present to be signed by their proper officers, the day and the year first set forth above.

Principal (printed)

Principal (signature)

Surety (printed)

Surety (signature)

Witness

IMPORTANT: Surety companies executing Bonds must appear on the U.S. Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Arizona.

Submit with bid proposal form.

End of Bid Bond

SCHEDULE OF MAJOR SUBCONTRACTORS
EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

Contractor: _____

1	Subcontractor	Specialty	Telephone
	Address	Percentage of Contract	Fax
	DBE?		E-mail
2	Subcontractor	Specialty	Telephone
	Address	Percentage of Contract	Fax
	DBE?		E-mail
3	Subcontractor	Specialty	Telephone
	Address	Percentage of Contract	Fax
	DBE?		E-mail
4	Subcontractor	Specialty	Telephone
	Address	Percentage of Contract	Fax
	DBE?		E-mail
5	Subcontractor	Specialty	Telephone
	Address	Percentage of Contract	Fax
	DBE?		E-mail
6	Subcontractor	Specialty	Telephone
	Address	Percentage of Contract	Fax
	DBE?		E-mail

Attach additional pages as needed. **Submit with bid proposal form.**

End of Schedule of Major Subcontractors

TOWN OF HUACHUCA CITY
STANDARD FORM OF AGREEMENT
BETWEEN THE
TOWN OF HUACHUCA CITY AND CONTRACTOR
FOR
CONSTRUCTION SERVICES
FOR THE
EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

This Contract, made and entered into by and between the Town of Huachuca City, an Arizona municipal corporation, referred to as "TOWN" in this Contract, and _____, an _____, referred to as "CONTRACTOR" in this Contract.

RECITALS:

WHEREAS, TOWN is an Arizona municipal corporation, organized under and existing pursuant to Title 9, Arizona Revised Statutes; and

WHEREAS, TOWN requires those services as specified in this Contract; and

WHEREAS, TOWN desires to engage the CONTRACTOR to perform services as specified in this Contract; and

WHEREAS, the CONTRACTOR represents that it is fully able and professionally qualified to perform such services; and

WHEREAS, TOWN authorized the execution of this Contract on _____; and

WHEREAS, TOWN has authorized this Contract for the sum total amount of

\$ _____.

NOW, THEREFORE, for and in consideration of the mutual covenants and conditions hereinafter contained, TOWN does hereby engage the CONTRACTOR and the CONTRACTOR does hereby accept engagement in accordance with the conditions and terms that follow:

A. SCOPE OF WORK

SEE ATTACHMENT A, incorporated herein by this reference.

B. SPECIAL TERMS AND CONDITIONS

1) Key Personnel:

Principal in Charge: _____, an officer of the CONTRACTOR, will serve as the Principal in Charge and will have the authority to commit resources necessary to complete the Scope of Work and will be ultimately responsible for satisfactory execution of all work tasks.

CONTRACTOR'S Project Manager: _____, an officer or employee of the CONTRACTOR, will serve as the primary contact with the TOWN Project Manager, _____. The CONTRACTOR'S Project Manager's responsibilities will include coordination and management of day-to-day work, development and production of all deliverables, reviewing and responding to TOWN inquiries and comments, and tracking the status of the Contract budget and schedule.

2) Performance Schedule: The CONTRACTOR may begin performing only upon receipt of the TOWN'S Notice to Proceed. The work shall be completed in a timely manner and all deliverables shall be submitted to the TOWN Project Manager no later than _____. This Contract shall terminate on _____, unless extended at the sole option of TOWN.

3) Insurance: The CONTRACTOR shall obtain insurance as described below and keep such coverage in force throughout the life of the Contract. All policies must contain an endorsement providing that written notice be given to TOWN at least ten (10) calendar days prior to termination or cancellation in coverage in any policy. Except for workers' compensation insurance, the liability insurance policy(s) shall include TOWN as an additional insured with respect to liability arising out of the Contract. The CONTRACTOR agrees that its insurance will be primary and that any insurance carried by TOWN will be excess and non-contributing.

REQUIRED INSURANCE COVERAGE:

A. General Liability

Contractor shall maintain Commercial General Liability insurance with a limit of not less than \$1,000,000 for each occurrence with a \$2,000,000 Products and Completed Operations Aggregate and \$2,000,000 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 any 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, nor 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.

Any 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 Town of Huachuca City's and Contractor's Protective Liability insurance policy for bodily injury and property damage, including death, which may arise in the prosecution of the Work or Contractor's operations under this Contract. Coverage shall be on an occurrence basis with a limit not less than \$1,000,000 per occurrence, and the policy shall be issued by the same insurance company that issues the Contractor's Commercial General Liability insurance.

B. 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 with respect to the Contractor's any 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 off-loading 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.

C. 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 \$100,000 for each accident, \$100,000 disease for each employee, and \$500,000 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 must present to the TOWN Project Manager written evidence (Certificates of Insurance) of compliance with these insurance requirements prior to the start of work and shall satisfy TOWN regarding their adequacy.

- 4) **Summary Progress Reporting Requirements:** The CONTRACTOR shall prepare and submit summary progress reports to the TOWN Project Manager on a monthly basis or as otherwise requested by the TOWN Project Manager.
- 5) **Payment and Performance Bonds:** Are required for this construction project.
- 6) **Warranty:** The Contractor warrants the construction portion of the Work against defects in workmanship and materials for a period of two (2) years commencing on the date of Final Acceptance (the "Warranty Period"). The Contractor shall also assign to the Town any longer term warranty of materials used by the Contractor as may be provided by the manufacturer. The Contractor shall promptly replace any materials or re-perform any portion of the Work found to be defective within the Warranty Period in accordance with the Contract Documents and without expense to the Town. If the Contractor fails to proceed promptly in accordance with these warranties, the Town may have the work performed, at the expense of the Contractor..

GENERAL TERMS AND CONDITIONS

1) Key Terms and Definitions:

- **TOWN'S Mailing Address:** 500 N Gonzales Blvd, Huachuca City, Arizona 85616.
- **Contract:** This document executed between TOWN and the CONTRACTOR.
- **CONTRACTOR'S Mailing Address:**

- **May:** Indicates an action that is permissible, but not mandatory.
- **TOWN Project Manager:** The TOWN officer or employee who is responsible for overseeing the CONTRACTOR'S performance under this Contract.
- **Shall, Must and Will:** Indicates an action that is mandatory.
- **Should:** Indicates an action that is recommended, but not mandatory.

- 2) **Termination:** TOWN, upon certification of the TOWN Project Manager, without prejudice to any other right or remedy of TOWN, and after giving the CONTRACTOR ten (10) working days written notice, may terminate this Contract with the CONTRACTOR.

Such termination will apply to all work, or any part thereof, for the following reasons:

- The CONTRACTOR is adjudged bankrupt;
- The CONTRACTOR is persistently or repeatedly refusing or failing to perform in accordance with the requirements of the Contract;
- The CONTRACTOR abandons the work, or unnecessarily or unreasonably delays the work;
- Funds are not appropriated or are otherwise unavailable to TOWN;
- The CONTRACTOR should be found by TOWN to have a conflict of interest as contemplated by Arizona Revised Statutes §38-511, et seq.;
- The CONTRACTOR refuses to correct, at the CONTRACTOR'S sole expense, any portion of the work product determined by TOWN'S Project Manager to be deficient; or
- TOWN determines that termination is in the best interest of TOWN.

3) Records and Audit: Internal control over all financial transactions related to the Contract shall be in accordance with sound fiscal policies. TOWN may, at reasonable times and places, audit the books and records of the CONTRACTOR, or any and all of the sub-contractors' records, relating to the performance of the Contract for a period of not less than three (3) years after the final payment is made under the Contract. Such audit shall be limited to the subject matter of this Contract and the execution of its Scope of Work.

4) Arbitration: It is understood and agreed that no provision of the Contract relating to arbitration or requiring arbitration, shall apply to or be binding upon TOWN, except by TOWN'S express written consent given subsequent to execution of the Contract. However, at TOWN'S sole option, or by other means expressly approved by TOWN, disputes may be resolved through arbitration.

5) Independent Contractor: It is clearly understood that each party will act in its individual capacity and not as an agent, employee, partner, joint venture, or associate of the other. An employee or agent of one party shall not be deemed or construed to be the employee or agent of the other party for any purpose whatsoever.

6) Non-Exclusive Contract: This Contract is awarded with the understanding and agreement that it is for the sole convenience of TOWN. TOWN reserves the right to obtain like goods and services from another source at TOWN'S convenience.

7) Patents and Copyrights: All services, information, computer program elements, reports and other deliverables which may have a potential copyright or patent value, and which are created under the Contract, shall be the property of TOWN and shall not be used by the CONTRACTOR or any other person, except with the prior written permission of TOWN.

8) Commencement of Work: The CONTRACTOR shall work only after receiving TOWN'S Notice to Proceed from the TOWN Project Manager. The CONTRACTOR shall complete all work to the reasonable satisfaction of TOWN in accordance with the Scope of Work.

9) Records and Information: The CONTRACTOR understands that TOWN is a public entity subject to Arizona's public records laws as codified in Arizona Revised Statutes Title 39, and as interpreted by Arizona case law.

10) Certification: By signature on the Contract, the CONTRACTOR certifies that:

- a. The submission of the offer did not involve collusion or anti-competitive practices.
- b. The CONTRACTOR has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a TOWN officer or employee or to any public servant in connection with the submitted offer. Signing the Contract with a false statement in connection with this provision shall void the Contract and may result in TOWN exercising other remedies under the law and the Contract.

11) Signing Authority: The individual signing the Contract for CONTRACTOR hereby certifies and warrants that he is an authorized agent for the CONTRACTOR and has the authority to bind the CONTRACTOR to the Contract.

12) Conflict of Interest: TOWN may cancel this Contract, pursuant to A.R.S. 38-511.

No member of the Town Council, and no other officer, employee or agent of TOWN who exercises any function or responsibility in connection with planning and carrying out work or services under this Contract or any relative thereof shall have any substantial interest, direct or indirect, in this Contract or subcontract, or to the proceeds thereof; and the CONTRACTOR shall take appropriate steps to assure compliance.

13) Applicable Law: The laws of the State of Arizona shall govern the Contract, and all suits regarding this Contract shall be brought only in Federal or State courts in the State of Arizona. Venue and jurisdiction for any suit or other dispute resolution proceeding shall be in Cochise County, Arizona.

14) Contract Terms and Conditions: TOWN reserves the right to clarify any contractual terms or conditions with the concurrence of the CONTRACTOR; however, any substantial non-conformity in the Contract, as determined by TOWN, shall be deemed non-responsive and the Contract terminated. Any Standard Terms and Conditions, as well as any Special Terms and Conditions contained in the RFP, are incorporated herein by this reference. However, the terms of this Contract shall prevail in the event of direct conflict with the terms of the RFP. This Contract contains the entire agreement between TOWN and the CONTRACTOR relating to the work and services provided hereunder and shall prevail over any and all previous agreements, oral or written statements, proposals, negotiations, or purchase orders in any form.

15) Contract Amendments: The Contract shall be modified only by a written Contract amendment signed by TOWN, and persons duly authorized to enter into contracts on behalf of the CONTRACTOR. While amendments are discouraged, they may be considered when TOWN adds related work to the original Scope of Work, or when TOWN and the CONTRACTOR agree that changes to the nature of one or more tasks are sufficient to warrant modification of the Scope. TOWN may choose to issue a new RFP for such work, rather than provide a Contract amendment. Amendments may also be required to extend the term of the Contract. Any additional work performed by the CONTRACTOR without an appropriate amendment shall be at the CONTRACTOR'S sole cost.

16) Assignment – Delegation: No right or interest in the Contract shall be assigned by the CONTRACTOR without prior written permission of TOWN, and no delegation of any duty of the CONTRACTOR shall be made without the prior written permission of the TOWN Project Manager. TOWN shall not unreasonably withhold approval, and shall notify the CONTRACTOR of TOWN'S position within thirty (30) days of receipt of written notice by the CONTRACTOR.

17) Rights and Remedies: No provision in this Contract shall be construed, expressly or by implication, as a waiver by TOWN of any existing or future right and/or remedy available by law in the event of any claim of default or breach of contract. The failure of TOWN to insist upon the strict performance of any term or condition of the Contract, or to exercise, or to delay the exercise of, any right or remedy provided in the Contract or by law, shall not be deemed a waiver of the right of TOWN to insist upon strict performance of the Contract.

18) Indemnification: The CONTRACTOR shall indemnify, defend, and hold TOWN harmless from any and all claims, demands, suits, actions, proceedings, loss cost, and damages of every kind and description, including any reasonable attorney's fees and/or litigation expenses, which may be brought or made against the CONTRACTOR, TOWN, any of TOWN'S officers, directors and employees, or any person, regardless of who makes the claim, to the extent they result from the acts of the CONTRACTOR, its employees, agents, representatives, or subcontractors, their employees, agents or representatives in connection with or incidental to the performance of this Contract. The CONTRACTOR'S obligations under this section shall not apply to any damages caused by the negligence of TOWN or its employees. The indemnity provided in this section shall survive termination of this Contract. Neither the contract amount, nor the minimum limits and types of insurance provided for in section B3, above, shall limit the scope and extent of indemnity hereunder.

19) Force Majeure: Except for payment of sums due, neither party shall be liable to the other nor deemed in default under this Contract if and to the extent that such party's performance is prevented by reason of Force Majeure.

The term “Force Majeure” means an occurrence that is beyond the control of the party affected and occurs without its fault or negligence. Force Majeure shall not include late performance by a subcontractor unless the delay arises out of a Force Majeure occurrence in accordance with this Force Majeure term and condition.

If either party is delayed at any time in the progress of the work by Force Majeure, the delayed party shall promptly notify the other party in writing of such delay, and shall specify the cause(s) of the delay in the notice. The notice shall be hand-delivered or mailed certified – return receipt, and shall make a specific reference to this section, thereby invoking its provisions. The delayed party shall cause the delay to cease as soon as practicable and shall notify the other party in writing when it has done so. The time of completion shall be extended by contract modification for a period of time equal to the time that results.

20) Right to Assurance: Whenever TOWN has reason to question the CONTRACTOR’S intent or ability to perform, TOWN may demand that the CONTRACTOR give a written assurance of its intent or ability to perform. In the event that a demand is made, and no written assurance is given within five (5) working days, TOWN may treat this failure as an anticipated breach of the Contract.

21) Right to Inspect: TOWN may, at reasonable times, and at TOWN’S expense, inspect the place of business of the CONTRACTOR or any subcontractor, which is directly or indirectly involved in the performance of the Contract as awarded, or proposed to be awarded.

22) Quality of Materials, Services and Deliverables: All materials, services and other deliverables are subject to acceptance by TOWN. Materials, services or other deliverables (either interim or final) failing to conform to the specifications of the Contract or which are deemed to be substantially deficient by the TOWN Project Manager, shall be returned to the CONTRACTOR for remedy. If so returned, all costs to remedy the deficiencies shall be the responsibility of the CONTRACTOR. Should the CONTRACTOR dispute the Project Manager’s decision regarding the quality of the work product at issue, the CONTRACTOR may appeal the Project Manager’s decision, through the TOWN Procurement Director, or his designee. The decision of the Procurement Director shall be final. In the event the Procurement Director should find the work product at issue to be deficient, and the CONTRACTOR refuses to correct the work product at the CONTRACTOR’S sole cost, the Procurement Director may invoke its remedies set forth in this Contract for noncompliance.

23) Exclusive Possession: All services, information, computer program elements, reports, and other deliverables created under the Contract, are the sole properties of TOWN, and shall not be used or released by the CONTRACTOR or any other person, except with prior written permission of TOWN.

- 24) Title and Risk of Loss:** The title and risk of loss of material or service shall not pass to TOWN until TOWN actually accepts the material or service at the point of delivery, unless otherwise provided within this Contract.
- 25) Default in One Installment to Constitute Total Breach:** The CONTRACTOR shall deliver conforming work or materials in each installment or lot of the Contract and may not substitute non-conforming work or materials. Delivery of non-conforming work or materials, or default of any nature, shall, at the option of TOWN, constitute a breach of the Contract as a whole.
- 26) Liens:** All materials, services and other deliverables supplied to TOWN under this Contract shall be free from all liens.
- 27) Licenses and Compliance with Laws:** The CONTRACTOR shall maintain in current status all Federal, State and local licenses and permits required for the performance of the work hereunder and operation of the business conducted by the CONTRACTOR as applicable to the Contract, throughout its duration. The CONTRACTOR and any subcontractors shall fully comply with all applicable federal, state and local laws in performing hereunder.
- 28) Americans with Disabilities Act:** The CONTRACTOR shall comply with all applicable provisions of the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 12101 – 12213), and applicable Federal regulations under this Act.
- 29) Method and Schedule of Payment:** The method and schedule of payment is subject to the requirements and restrictions of TOWN.

TOWN agrees to reimburse the CONTRACTOR up to the sum specified on page 1 which shall constitute full and complete compensation for the CONTRACTOR'S services.

TOWN'S normal policy is to process invoices requesting payment for work done within forty-five (45) days, upon satisfactory delivery of products, services, and/or goods, as well as receipt of properly complete invoices and the necessary TOWN Project Manager approvals. Written progress reports shall accompany each billing and shall specify the percentage of Contract work completed. Each itemized invoice must bear a written certification by the authorized TOWN Project Manager confirming satisfactory progress or completion of services for which payment is requested.

Invoices for payment will be submitted by task and line item as presented in the Scope of Work on a monthly basis. From time to time, additional documentation may be requested by TOWN.

Invoices for payment will be submitted by mail to the TOWN Project Manager, at TOWN'S mailing address on page 3, above.

Costs incurred by the CONTRACTOR as a result of any work performed outside the Scope of Work of this Contract will not be allowed for reimbursement under this Contract unless such changes and related costs were approved pursuant to a contract amendment.

Payment to the CONTRACTOR in advance of the CONTRACTOR incurring costs for authorized work to be performed under the Scope of Work of this Contract is prohibited, unless TOWN makes a written determination prior to the payment that an advance payment is in TOWN'S best interest.

30) Equipment Maintenance: The CONTRACTOR must maintain all equipment, as applicable, in good working order throughout the length of the project, repairing or replacing any unsafe or inoperative equipment without delay.

31) Safety: The safety requirements of the Occupational Safety and Health Act (29 U.S.C. Sections 651-678) as promulgated by the Federal government, and as implemented by the State of Arizona, apply to all work performed under this Contract. The CONTRACTOR will be solely responsible for implementing and enforcing the safety requirements of this Act at all times.

32) Retention of Records: The CONTRACTOR shall retain all work materials and records, relating to the performance of the Scope of Work of the Contract, for a period of not less than five (5) years after the final payment is made under the Contract.

33) Assignment of Principals: The CONTRACTOR shall maintain the assignment of its Principals as shown in section B1, above. Prior written permission shall be obtained from the TOWN Project Manager for any change in these assignments. TOWN will notify CONTRACTOR if TOWN changes its Project Manager.

34) Compliance with Immigration Laws: As mandated by Arizona Revised Statutes ["A.R.S."] § 41-4401, TOWN is prohibited from awarding a contract to any contractor or subcontractor that fails to comply with A.R.S. § 23-214(A). TOWN must also ensure that every contractor and subcontractor complies with federal immigration laws and regulations that relate to their employees and A.R.S. § 23-214(A). Therefore, in signing or performing any contract (including this Contract) for TOWN, the CONTRACTOR fully understands that:

- A. It warrants that both it and any subcontractors it may use comply with all federal immigration laws and regulations that relate to their employees and their compliance with A.R.S. § 23-214(A);
- B. A breach of the warranty described in subsection A, shall be deemed a material breach of the Contract that is subject to penalties up to and including termination of the Contract; and

C. TOWN, or its designee, retains the legal right to inspect the papers of any CONTRACTOR or subcontractor employee who works on the Contract to ensure that the CONTRACTOR or subcontractor is fully complying with the warranty under subsection A.

35) No Discrimination: Neither Party shall discriminate against any employee or client of either Party or any other individual in any way because of that person's age, race, creed, color, religion, sex, genetic information, disability, familial status, political affiliation or national origin in the course of carrying out the duties pursuant to this Agreement. Both Parties shall comply with applicable provisions of Executive Order 75-5, as amended by Executive Order 2009-09 of the Governor of Arizona, which are incorporated into this Agreement by reference as if set forth in full herein, and of the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, including 28 CFR Parts 35 and 36, as well as the Genetic Information Nondiscrimination Act of 2008.

36) Compliance with Applicable Laws: CONTRACTOR shall comply with all applicable laws, ordinances, rules, and regulations, including without limitation federal, state, and TOWN, relating to or affecting work under this Contract. CONSULTANT shall secure and obtain any and all permits, licenses, and consents in connection with its performance of its services.

37) Grant Agreement Provisions Incorporated: Any terms or provisions required to be included in this Contract, pursuant to the terms of any grant funding agreements to which TOWN is a party, are hereby incorporated by this reference.

38) CONTRACTOR'S Responsibilities Upon Notice of Termination by TOWN: Upon receipt of a notice of termination, CONTRACTOR, unless otherwise directed by TOWN, shall make a good faith effort to cancel or terminate all existing orders or contracts, which CONTRACTOR or its subcontractors shall have made. Upon receipt of such notice, CONTRACTOR, unless otherwise directed by TOWN, shall thereafter do only such work as may be necessary to preserve and protect work already in progress and shall take all reasonable steps to minimize cost and mitigate any potential damages against TOWN. On the effective date of such termination, CONTRACTOR shall discontinue all performance under this CONTRACT.

39) Surviving Provisions: CONTRACTOR'S obligations under (CONTRACTOR'S Responsibilities upon Notice of Termination), (Exclusive Possession), (Patents and Copyrights), (Records and Audit), (Retention of Records), (Indemnification), and this Section (Surviving Provisions), and any other obligations which reasonably should survive, shall survive expiration or other termination of this Contract.

40) No Boycott of Israel: Pursuant to A.R.S. 35-393.01, the Town may not enter into a contract with an entity to acquire services, unless the contract includes a written certification that the entity is not currently engaged in, and agrees for the duration of the contract to not engage in, a boycott of Israel. By signing below, Contractor makes this certification.

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the date signed by the TOWN.

TOWN OF HUACHUCA CITY

CONTRACTOR

by _____

by: _____

its: _____

its: _____

Date: _____

Date: _____

APPROVED AS TO FORM:

Thomas A. Benavidez
Town Attorney

Date: _____

ATTACHMENT A
[Scope of Work]

End of Standard Form of Agreement

NOTICE TO PROCEED

(DATE)

(CONTRACTOR)

RE: EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

Dear (CONTRACTOR):

The date of Notice to Proceed for the above project is _____, **2020**.

In accordance with the Agreement dated _____, **2020**, you are hereby notified to commence work within ten calendar days after the Notice to Proceed, hence on or before _____, **2020**.

Before you begin work on the project, we will need the following, as necessary, for Town of Huachuca City and City of Huachuca City approval:

- Shop Drawings
- List of key Project Personnel contact names, telephone numbers, and email addresses
- Detailed Construction Schedule
- Traffic Control Plan
- Pre-Construction Meeting | Please coordinate to set this up with the SVMPO Project Manager and the City of Huachuca City Capital Projects Manager in joint charge of the project.

You are to complete the work within **ninety (90) consecutive calendar days after the Notice to Proceed date**.

Therefore, the date of completion of all work is _____, **2020**.

Sincerely,

Matthew Williams
Town Manager
Town of Huachuca City

End of Notice to Proceed

ACCEPTANCE OF NOTICE TO PROCEED

(CONTRACTOR)

RE: EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

Receipt of the Notice to Proceed is hereby acknowledged on this _____ day of _____, **2020.**

By _____

Title _____

Company _____

Please complete and return this form within ten days to:

**Town of Huachuca City
500 North Gonzales Boulevard
Huachuca City, Arizona 86301**

**Attn: Matthew Williams, Town Manager
Town of Huachuca City**

End of Acceptance of Notice to Proceed

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That

(Full name and address of legal title of Contractor)

_____, a

_____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Full name and address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Full name and address or legal title of Contracting Agency)

hereinafter called Town of Huachuca City, in the penal sum of _____

_____ Dollars \$(_____)

(insert sum equal to Contract Price) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these present.

THE CONDITION OF THIS OBLIGATION is such that whereas the Principal entered into a certain contract with the Contracting Agency, dated the _____ day of _____, **2019**, a copy of which is hereto attached and made a part hereof for the construction of:

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

in accordance with the **Plans (Drawings) and the Bid-Contract Documents and Special Provisions-Specifications prepared by RICK Engineering Company, 6150 N 16th St, Phoenix, AZ 85016 [Attention: Dale E. Miller, PE, (480) 522-0330, dmiller@rickengineering.com];**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Contracting Agency, with or without notice to the Surety and during the two-year warranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Town of Huachuca City from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Contracting Agency all outlay and expense which the Contracting Agency may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or Work to be performed thereunder of the Specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.

Any suit under this Bond must be instituted before the expiration or two (2) years from the date on which final payment under the Contract falls due. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Contracting Agency named herein or the heirs, executors, administrators, or successors of the Contracting Agency.

PROVIDED, FURTHER, that no final settlement between the Contracting Agency and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF this instrument is executed in _____ (number) counterparts, each one of which shall be deemed an original, on this the _____ day of _____, **2019**.

ATTEST:

(Principal)

By: _____
Secretary

(SEAL)

(Witness as to Principal)

(Address)

(Address)

ATTEST:

(Surety)

By: _____
(Surety) Secretary

(SEAL)

(Witness as to Surety)

Attorney-in-Fact

(Address)

(Address)

NOTES: Date of Bond must not be prior to date of Contract.
 If Contractor is a Partnership, all partners should execute Bond.

IMPORTANT: Surety companies executing Bonds must appear on the US Treasury Department's
 most current list (Circular 570 as amended) and be authorized to transact business
 in the State of Arizona.

End of Performance Bond

LABOR AND MATERIAL PAYMENT BOND

This Bond is issued simultaneously with the Performance Bond in favor of the Town of Huachuca City conditioned on the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS:

That _____
(Full name and address or legal title of Contractor)

as Principal, herein called "Principal", and

(Full name and address of Surety)

a corporation duly organized under the laws of the State of Arizona, as surety, herein called Surety, are

held and firmly bound unto

(Full name and address or legal title of Contracting Agency)

as Obligee, hereinafter called Contracting Agency, for the use and benefit of claimants as here in below defined in the penal sum of

_____ Dollars (\$_____),
for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, 2019, entered into a contract with the Contracting Agency for the construction of the following project:

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

in accordance with the **Plans (Drawings) and the Bid-Contract Documents and Special Provisions-Specifications prepared by RICK Engineering Company, 6150 N 16th St, Phoenix, AZ 85016 [Attention: Dale E. Miller, PE, (480) 522-0330, dmiller@rickengineering.com];**

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

1. A claimant is defined as one having a direct contact with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the Contracting Agency that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Contracting Agency shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Contracting Agency, or the Surety above named, within ninety (90) days after such claimant performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Contracting Agency or Surety at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
 - b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be the minimum period of limitation permitted by such law.
 - c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

- The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

IN WITNESS WHEREOF, this instrument is executed in _____ (number) counterparts, each one of which shall be deemed an original, this _____ day of _____, 2019.

ATTEST:

(SEAL)

(Principal)

(Principal Secretary)

By: _____

(Address)

By: _____
Witness as to Principal

(Address)

ATTEST:

(Surety)

By: _____
(Attorney-in-fact)

By: _____
(Witness as to Surety)

(Address)

NOTE: Date of Bond must not be prior to date of Contract.
If Contractor is a Partnership, all partners should execute Bond.

IMPORTANT: Surety companies executing Bonds must appear on the US Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Arizona.

End of Labor and Material Payment Bond

CHANGE ORDER

RE: EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

Contractor: _____

Acct. #

Department:

Staff Contact:

Contractor Name:

Address:

Original Contract Date:

Change Order Number:

THE CONTRACT SHALL BE MODIFIED AS FOLLOWS:

JUSTIFICATION:

COST BREAKDOWN:

Contractor agrees to the specific costs herein and waives all rights to any future impact costs directly or indirectly related to or arising from the additional work. The appropriated funds for this project are equal to or exceed the amount of the contract. Pursuant to C.R.S. § 24-91-103.6(2), any change order or change directive requiring additional compensable work to be performed which work causes the aggregate amount available under the contract to exceed the amount appropriated for the original contract shall be agreed to in writing, signed by both parties and shall assure that the Town of Huachuca City has made lawful appropriations to cover the costs of the additional work. Any change order or directive made by the Town of Huachuca City requiring additional compensable work to be performed shall be performed at the hourly rates and/or unit pricing set forth in the contractor’s bid and shall be reimbursed at the contractor's costs on a monthly basis for all additional directed work performed until a change order is finalized. However, in no instance shall the periodic reimbursement be required before the contractor has submitted an estimate of cost to the Town of Huachuca City for the additional compensable work to be performed.

Original Contract Amount	\$
Net change by previous Change Orders/Contract Modifications	\$
Contract Sum prior to this Contract Modification	\$
The Contract Sum will be (increased) (decreased) (unchanged) by	\$
The new Contract Sum including this Contract Modification will be	\$

The original completion date for the Contract was..... Month/Day/Year

The Contract Time will be (increased) (decreased) (remain the same)

The Date of Completion for the Contract therefore is Month/Day/Year

IN WITNESS WHEREOF, **the Parties have executed this Change Order on:**

_____, **2020.**

CONTRACTOR

TOWN OF HUACHUCA CITY

By: _____

By: _____

Matthew Williams, Town Manager
Town of Huachuca City

Print Name: _____

Janine Collins, Town Clerk
Town of Huachuca City

Title: _____

End of Change Order Form

SPECIAL PROVISIONS-SPECIFICATIONS

EMERGENCY VEHICLE PREEMPTION SIGNAL PROJECT

The construction of the project shall be in accordance with the following standards:

- Uniform Standard Specifications and Details for Public Works Construction 2019 Revision to the 2015 Edition, Maricopa Association of Governments (MAG)
- Arizona Department of Transportation, Standard Specifications for Road and Bridge Construction, 2008 Edition, latest revision
- Manual on Uniform Traffic Control Devices, latest revision
- Arizona Supplement to the MUTCD, latest revision

These Special Provisions-Specifications provide supplemental information regarding the bid line items for the project, and shall be used in conjunction with the Bid Schedules for determination of the quantities and line item costs for measurement and payment purposes for this project. These Special Provisions-Specifications shall govern and control anywhere they may deviate or conflict with the MAG Standard Specifications, ADOT Standard Specifications, MUTCD, and the Arizona Supplement to the MUTCD.

In addition, anywhere the Maricopa Association of Governments Uniform Standards and Details for Public Works Construction, ADOT Standard Specifications, the Plans (Design Drawings), these Special Provisions-Specifications, or the Bid/Contract Documents conflict, the more stringent of the document requirements shall apply, except the measurement and payment of construction bid items shall be strictly governed by these Special Provisions-Specifications.

The various bid items set forth in the Bid Schedule are hereby described starting on the subsequent pages and the measurement and payment for each bid item are defined for this project as provided for in this Special Provisions-Specifications section.

Geotechnical Evaluation & Report

No geotechnical investigation and evaluation was conducted for this project. Bidders/contractors shall satisfy themselves as to the local site conditions (surface and below surface grade) through close and careful site reconnaissance and any potholing and/or testing needed to prepare the bid and for construction of the project.

BID ITEM 1 EV PREEMPTION REMOTE CONTROL DEVICES

Description:

The Contractor shall furnish to the Town twelve (12) handheld/in-vehicle type transmitter/remote controller devices that are fully compatible with the EMV Controller units.

The EMV lights/signals are to be activated by the handheld transmitter/remote controller with 'delay' and 'no delay' program capability.

The controllers are to be capable of allowing up to 40 transmitters to be programmed to activate a single receiver. The remote control transmitter devices shall have a red LED indicator on the transmitter that confirms transmission and a battery indicator as well. The transmitter/remote controller device shall be capable of activating up to 4 separate wireless receivers/ preemption controller units.

Measurement and Payment:

Measurement for 'EMV PREEMPTION REMOTE CONTROL DEVICES' will be based on each (EA) handheld/in-vehicle type transmitter/remote controller device furnished to the Town. Payment will be made at the bid unit price per each (EA) based on the actual quantity.

The following pay item is included in this project:

PAY ITEM 1: EV PREEMPTION REMOTE CONTROL DEVICES (EA)

BID ITEM 2 ADVANCE WARNING EV SIGNAL WITH SIGNS, FLASHERS, POLE & FOUNDATION

Description:

The work under this item shall consist of installing an Advance Warning Emergency Vehicle Signal system including all materials, equipment, supplies, tools, and labor at the locations designated on the project plans and conformance with the requirements of these specifications.

Materials:

Components for each Advance Warning Emergency Vehicle Signal system assembly shall include the following:

1. W11-8 Emergency vehicle sign – 48” x 48”
2. Two 12 inch LED yellow flashers
3. Solar panel - 50w panel with 20 year warranty
4. Modified “PREPARED TO STOP WHEN FLASHING” sign (see graphic on plans)
5. 19 feet ADOT Type “A” pole
6. ADOT pole breakaway base per Traffic Detail Sheets 5-1 & 5-3
7. Pole foundation
8. Programmable logic controller, MIKROS EIC with radio
9. Flasher (adjustable flashing duration from 1 second to 100 hours)
10. Timer
11. Cabinet, 2 Compartment with Police Lock
12. Modems and antennas, 900MHz 3dB OMNI STREKWAVE TRA9023NP 'SALT SHAKER' with capability of activation up to 1,000 feet with long range Omni and yogi antennas
13. Battery pack - 110 Ampere Hour
14. Necessary wiring and assembly hardware

Construction:

The parts and materials listed above are all assembled onto a single pole. There are four individual sign/signal/pole assemblies required for this project.

System Requirements:

- Each Advance Warning Emergency Vehicle Signal system shall consist of a warning indicator along with a controller and necessary radio and antennas to receive an activation signal from hand-held/in-vehicle transmitter remote controllers to activate the flashers
- When not activated by the transmitter unit, the flashing signal lights shall be ‘dark’ (not lit)
- Shall operate on solar-assisted battery power
- Solar charging of the battery packs shall be managed with the solar regulator circuitry which is integrated into the sign control circuit
- Individual components shall be independently replaceable

Sign Panel:

- Face plate on all signs shall conform to 2009 Federal Highway Administration's MUTCD section 2A.07 on retro reflectivity and illumination and shall be a minimum of 0.1875" thick aluminum
- Face plate sign sheeting shall conform to Section 608 ADOT Standard Specifications
- Face plate sign sheeting shall be YELLOW high-intensity prismatic reflective sheeting with black colored text
- Face plate sign panel shall be provided with protective overlay film to provide an additional layer of graffiti protection
- UV-resistant label(s) shall be applied to the back of each sign assembly and shall include specific information such as the manufacturer, manufacturer phone number, model number, serial number, date of manufacture and any applicable regulatory compliance information
- Shall include two banding style brackets that fit poles with a 2-3/8" or larger diameter to ensure secure mounting to the supporting post
- Unit dimensions 48" X 48" for W11-8 EMERGENCY VEHICLE sign and 36" X 18" inch for the modified "PREPARE TO STOP WHEN FLASHING" sign
- Shall have conformal coating on all circuit boards

Loads:

- Single 12" amber DC LED lamps, STC G2C, >960Cd optical output on center, max bright
- SPX control circuit with FHSS radio, control logic and integrated charge/flasher control (0.18A)

Duty Cycles:

- LED Lamp, up to 6 hrs/day, every day 50-60 FPM 50% duty cycle
- Control circuit, 24/7

Sign Housing:

Sign housing shall house the Sign Control Circuit, Battery Pack, and Terminal Block for connection of the Radar Sensor and Sign. The sign housing shall:

- Be NEMA 4X-12, IP65 Level, constructed of a 12 gauge aluminum
- Prevent insects and other foreign matter from entering
- Facilitate maintenance or repairs by being constructed with a removable control panel on the interior to which all control circuit components either mount or connect
- Have housing construction and mounting hardware made of either aluminum or stainless steel

- Have a UV resistant label that is applied to the exterior of the cabinet that includes system specific information including model number, serial number, date of manufacture and any applicable regulatory compliance information

System Wiring:

System wiring from the solar panel to the sign system all other wiring shall:

- Not be left exposed
- Be routed inside a conduit
- Waterproof bow connected
- Have a drip loop

Equipment:

- 50W Solar panel with 50W top of pole solar array, 1B enclosure with pole mounts, wiring package including RF cable and antenna kit, control panel with integrated charger/flasher control, and XB radio/logic package, sealed 110 Ah battery and security hardware
- 12" AMBER DC LED beacon kit with YELLOW poly signal head and tunnel visor, 12" gen 2 DC LED with 196 LED elements, upper arm assembly, one-way hub with u-bolt, universal hub, lamp enclosure kit, and 5" louvered back plate

Solar Panel:

Solar panel sizing requirements:

- Shall include a 50W solar array and a 110Ah sealed battery
- The solar panels shall be constructed of an anodized aluminum frame, high-transmission 1/8" tempered glass, with silicon cells encapsulated in double-layer EVA, and with a white polymer backing.
- For secure mounting, the solar panel is mounted to an aluminum plate and pole top bracket at a fixed angle of 45° to provide maximum insolation exposure
- Solar Panel must be oriented with Collector facing south
- To ensure maximum solar insolation regardless of installation location, the post top mounting system shall provide 360° of rotational direction adjustment.
- The solar panel must be IEC61215, TUV, and UL 1703 certified
- The solar panel shall operate at 6VDC nominal with a maximum output rating of 26 watts
- The solar panel specifications:
 - DC Power input: 12 VDC
 - Operate from -40° to +185°F (-40° to +85°C)
 - 50W and 90W Solar Panel
- All solar panel connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and be protected from temporary immersion in water up to 1 meter deep for 30 minutes.

- All solar panel fasteners shall be anti-vandal pin-type set screws; wrench shall be provided

Testing Requirements:

- Signs shall have an auto-test feature
- Auto-test feature shall be the default setting when the system is powered on
- Contractor shall perform the auto-testing before installing the sign system at the project locations
- Only sign systems passing the auto-test, shall be installed

Construction Requirements:

Each Advance Warning Emergency Vehicle Warning system assembly (signal, signs, flashers, solar panel, pole, and foundation) shall be installed at the location designated on the project plans. The solar panel shall be installed with collector facing south. Wiring connecting the solar panel to other components shall not be left exposed and shall be run in a conduit securely attached or clamped to the pole.

Measurement and Payment:

Measurement for the 'ADVANCE WARNING EMV SIGNAL WITH SIGNS, FLASHERS, POLE & FOUNDATION' will be based on each (EA) Advance Warning Emergency Vehicle Warning system assembly (signal, signs, flashers, solar panel, pole, and foundation) furnished, installed, and successfully auto-tested. Payment will be made at the bid unit price per each (EA) based on the actual quantity.

The following pay item is included in this project:

PAY ITEM 2: ADVANCE WARNING EV SIGNAL WITH SIGNS, FLASHERS, POLE & FOUNDATION (EA)

BID ITEM 3 PAVEMENT STRIPING, THERMOPLASTIC ALKYD, WHITE

Description:

The work under this section shall conform to the requirements of Section 704 of the ADOT Standard Specifications for Road and Bridge Construction, 2008 Edition. This work shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion or ribbon dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the widths, length, configuration, and details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Transverse Pavement Markings, and Symbols and Legends, shall be extruded thermoplastic alkyd material placed and applied in accordance with the manufacturer's instructions.

All thermoplastic pavement markings shall have a thickness of 0.090" (90 mils).

Measurement and Payment:

Extruded Thermoplastic Alkyd Pavement Striping will be measured by the square feet (SF) of applied and completed pavement markings. The accepted quantities of Extruded Thermoplastic Alkyd Pavement Striping of the type specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price per square feet (SF) for pavement markings furnished and installed per ADOT Specification Section 704 as measured in place by the Town Inspector.

The following pay item is included in this project:

PAY ITEM 3: PAVEMENT STRIPING, THERMOPLASTIC ALKYD, WHITE (SF)

BID ITEM 4 TYPE 'R' POLE AND FOUNDATION WITH 45' SIGNAL MAST ARM & 20' LUMINAIRE MAST ARM

Description:

This item of work includes construction of a signal pole foundation and furnishing and installing a Type 'R' pole with a 45' long signal mast arm and a 20' long luminaire mast arm. The materials and work under this section shall conform to the requirements of Section 731, Structural Supports and Foundations for Traffic Signal and Highway Lighting, of the ADOT Standard Specifications for Road and Bridge Construction, 2008 Edition.

Measurement and Payment:

Structural supports and foundations for traffic signals and lighting will be measured for each (EA) unit for each type of support and foundation furnished and installed. The accepted quantities of supports and foundations for signals and lighting, measured as provided above, will be paid for at the contract unit price for each (EA), for the type of support or foundation designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including all parts, hardware, tools, supplies, equipment, labor, and incidentals necessary to complete the work.

The following pay item is included in this project:

PAY ITEM 4: TYPE 'R' POLE AND FOUNDATION WITH 45' SIGNAL MAST ARM & 20' LUMINAIRE MAST ARM (EA)

**BID ITEM 5 TYPE 'T' SIGNAL HEAD PER ADOT TS 8-5
&
BID ITEM 6 TYPE 'II' MOUNTING PER ADOT TS 9-1**

Description:

The work under this section shall consist of furnishing and installing traffic signal indication assemblies, pedestrian signals, and mounting assemblies at the locations shown on the project plans, and in accordance with the details shown on the plans and the requirements of these specifications. The materials and work under this section shall conform to the requirements of Section 733, Signal Indications and Mounting Assemblies, of the ADOT Standard Specifications for Road and Bridge Construction, 2008 Edition.

Measurement and Payment:

Traffic signal faces, pedestrian signal faces, and traffic signal mounting assemblies will be measured for each (EA) unit for each type of signal face or mounting assembly installed. The accepted quantities of traffic signal faces, pedestrian signal faces, and traffic signal mounting assemblies, measured as provided above, will be paid at the contract unit price each (EA) for each type of signal face and mounting assembly, which will be full compensation for the item of work including all parts, hardware, tools, supplies, equipment, labor, and incidentals necessary to complete the work.

The following pay items are included in this project:

PAY ITEM 5: TYPE 'T' SIGNAL HEAD PER ADOT TS 8-5 (EA)

PAY ITEM 6: TYPE 'II' MOUNTING PER ADOT TS 9-1 (EA)

BID ITEM 7 EV SIGNAL CONTROLLER WITH COMMUNICATION SYSTEM IN A POLE HANGING CABINET

Description:

The work under this item shall consist of installing an Emergency Vehicle Flashing Beacon Signal Controller with a Communication System in a Pole Hanging Cabinet and will include all materials, tools, and labor at the locations designated on the project plans and the requirements of the specifications.

Materials:

The Contractor shall furnish and install the following component items:

1. ADOT pole mounted Type III cabinet (T.S. 3-7) with Police Lock
2. Programmable logic controller MIKROS EIC with Radio modems and antennas, 900MHz 3dB OMNI STREKAWAVE TRA9023NP 'SALT SHAKER' with capability of activation up to 1,000 feet with long range Omni and yagi antennas
3. Necessary wiring and assembly hardware

Construction:

The Contractor shall install the Controller and Cabinet required equipment, wiring, and assembly hardware, all assembled onto a single pole, at the designated pole location where shown on the plans, as detailed, in accordance with the specifications, and as may be directed by the Engineer.

The cabinet shall be installed at on the ADOT Type "R" pole designated on the project plans. Wiring connecting the controller and to other components shall not be left exposed and shall be run in a conduit.

System:

Emergency Vehicle Flashing Beacon Controller with Communication System installed in a Pole Hanging Cabinet shall meet the following requirements:

- The system shall send a signal to all of the beacons to initiate flashing per MUTCD standard wig-wag pattern upon receiving activation signal
- The controller shall meet NEMA TS5 2012 Standards
- The system shall consist of a warning indicator along with a controller and necessary radio and antennas to receive activation signal from hand-held/in-vehicle transmitter/remote controllers and activate the flashers
- Shall operate on AC power provided as part of this project
- Individual components shall be independently replaceable

Measurement and Payment:

Measurement for the 'EV SIGNAL CONTROLLER WITH COMMUNICATION SYSTEM IN A POLE HANGING CABINET' furnished and installed complete shall be on a lump sum (LS) basis. Payment shall be at the lump sum (LS) amount for the controller system complete and in place.

The following pay item is included in this project:

PAY ITEM 7: EV SIGNAL CONTROLLER WITH COMMUNICATION SYSTEM IN A POLE HANGING CABINET (LS)

- BID ITEM 8 INSTALL TRAFFIC SIGN, 'W11-12P'**
- &**
- BID ITEM 9 INSTALL TRAFFIC SIGN, 'W11-8'**
- &**
- BID ITEM 10 INSTALL TRAFFIC SIGN, 'R8-10'**
- &**
- BID ITEM 11 INSTALL TRAFFIC SIGN, 'R10-14'**
- &**
- BID ITEM 12 SIGN POST, TYPE 'T', 2-1/2" SQUARE GALVANIZED POST PER ADOT S-3**
- &**
- BID ITEM 13 SIGN POST SLIP BASE FOUNDATION PER ADOT S-3**
- &**
- BID ITEM 14 STREET NAME SIGN ASSEMBLY, D3-1**

Description:

Standard Traffic Control Signs: Install Traffic Sign shall include new sign foundations, posts, and sign panels, of the type and size, and at the locations shown on the plans. This work includes all materials, supplies, hardware, equipment, and labor needed to install the new sign post with a new sign base and foundation where shown on the plans; attach the new sign panel; and all other related and incidental work to make a complete sign installation; all in accordance with the MUTCD and applicable ADOT Specifications including: Section 607, Roadside Sign Supports, and Section 608, Sign Panels, and all applicable ADOT Traffic Details.

General Signing Guidelines:

1. All signing shall conform to the most recent editions of the publications shown above with regard to size, color, shape and placement.
2. All signs shall be new (other than those shown to be relocated). All new and relocated signs shall be mounted on new posts with new hardware. Signs designed for installation on existing street light poles shall be mounted with new hardware.
3. Traffic sign dimensions, colors and lettering shall conform to the MUTCD Specifications, latest revision.
4. Traffic sign size shall be standard unless otherwise specified here or on the plans.
5. All non-mountable curb section signs shall be located at least 2 feet from the curb face to the nearest edge of the sign. All other roadway signs shall be mounted from 6 feet to 12 feet from the edge of the pavement to the nearest edge of the sign, unless otherwise noted in the sign summary table or on the plans.
6. Roadways with guardrail signs shall be located at least 6 feet from the face of the guard rail to the nearest edge of the sign, unless otherwise noted in the sign summary table or on the plans.
7. All signs installed in areas where parking or pedestrian movements occur shall typically be erected at a height of 7 feet above the normal edge of pavement or sidewalk to the bottom of the sign or to the lowest sign in a multiple sign installation assembly with the following exceptions:

- a. The height to the bottom of a secondary sign mounted below another sign may be up to 2 feet less than the height specified above.
 - b. If the bottom of a secondary sign that is mounted below another sign is mounted lower than 7 feet above a pedestrian sidewalk or pathway, the secondary sign shall not project more than 4 inches into the pedestrian facility.
 - c. Object markers shall be installed at least 4 feet above the normal edge of pavement.
8. All R1-1 "STOP" signs and pedestrian warning signs shall be reflective with all reflective sheeting material to be diamond grade.
 9. All other signs are to be reflective with all reflective sheeting material to be high intensity prismatic meeting or exceeding ASTM D4956-04.
 10. Sign blanks shall be 5052-H38 alloy treated aluminum with Alodine 1200 conversion coating, 0.080 inch thick with rounded corners.

Sign Posts:

1. Sign posts and slip base foundations shall be installed per ADOT Detail S-3.
2. Sign posts shall be Telspar, Uni-Strut or approved equal 12 gauge, galvanized steel, 4 sided perforated square tubing is required. Two inch tubing shall be used for smaller signs while 2½ inch tubing shall be used for the larger signs.
3. The post shall be tall enough to provide the minimum clearances specified herein and on the plans.
4. The base and sleeve system for the sign shall be anchored in a minimum of a 24 inch deep, 12 inch diameter foundation of concrete. The base shall have a breakaway slip base system.
5. Signs over 48 inches wide shall be mounted on two, 2½ inch posts with a horizontal support frame.
6. Street name sign assemblies shall be per ADOT Detail D3-1.
7. All station locations are approximate. The Contractor shall verify actual sign locations with the Engineer prior to the installation of all signs.
8. The Contractor shall verify post lengths and elevations prior to installation.

Sign Mounting Brackets:

For signs to be mounted on signal/streetlight poles, the Contractor shall provide and install the appropriate brackets manufactured for that specific purpose per the manufacturer's instructions and recommendations.

Removal of Existing Signs:

The Contractor shall remove existing fire station advance warning signs along with their posts and foundations where note on the plans. The sign panel salvage shall be offered to ADOT. The removed post and foundation shall be properly disposed of at a legal site. The Contractor shall backfill the holes and finish grade the disturbed area. This work is a non-pay item and is considered incidental to the project.

Measurement and Payment:

Measurement for 'INSTALL TRAFFIC SIGN' and 'STREET NAME SIGN ASSEMBLY, D3-1' shall be based on each (EA) new traffic sign or street name sign assembly, furnished and installed complete, as determined by the Town Inspector. Payment will be made at the bid unit price per each (EA) based on the measured quantity. All work, supplies, materials, hardware, equipment, and labor related to the installation of new sign panels and street name signs, either attached to a square tube sign post or attached to a signal/streetlight pole per the specifications, and as shown on the plans, shall be included in the bid unit price for this construction item, all inclusive.

Measurement for 'SIGN POST, TYPE 'T', 2-1/2" SQUARE GALVANIZED POST PER ADOT S-3' shall be based on each (EA) new sign post installed, regardless of length, as determined by the Town Inspector. Payment will be made at the bid unit price per each (EA) based on the measured quantity. All work, supplies, materials, hardware, equipment, and labor related to the installation of new sign posts per the specifications and as shown on the plans shall be included in the bid unit price for this construction item, all inclusive.

Measurement for 'SIGN POST SLIP BASE FOUNDATION PER ADOT S-3' shall be based on each (EA) new sign post slip base foundation constructed, complete, as determined by the Town Inspector. Payment will be made at the bid unit price per each (EA) based on the measured quantity. All work, supplies, materials, hardware, equipment, and labor related to the construction of new sign post slip base foundations per the specifications and as shown on the plans shall be included in the bid unit price for this construction item, all inclusive.

The following pay items are included in this project:

PAY ITEM 8 INSTALL TRAFFIC SIGN, 'W11-12P' (EA)

PAY ITEM 9 INSTALL TRAFFIC SIGN, 'W11-8' (EA)

PAY ITEM 10 INSTALL TRAFFIC SIGN, 'R8-10' (EA)

PAY ITEM 11 INSTALL TRAFFIC SIGN, 'R10-14' (EA)

PAY ITEM 12 SIGN POST, TYPE 'T', 2-1/2" SQUARE GALVANIZED POST PER ADOT S-3 (EA)

PAY ITEM 13 SIGN POST SLIP BASE FOUNDATION PER ADOT S-3 (EA)

PAY ITEM 14 STREET NAME SIGN ASSEMBLY, D3-1 (EA)

BID ITEM 15 INSTALL SCHEDULE 40 PVC CONDUIT, 3" DIA, DIRECTIONAL DRILLING

Description:

The work under this section shall conform to the requirements of Section 732, Electric Underground Materials, of the ADOT Standard Specifications for Road and Bridge Construction, 2008 Edition. This work shall consist of furnishing and placing conduits as shown on the plans.

Materials:

PVC conduit and materials shall be in accordance with Section 732-2.02, of the ADOT Standard Specifications. All electric conduit used for this project shall be 2.5-inch diameter Schedule 40 PVC.

Unless otherwise shown on the plans, bends, conduit fittings, expansion joints, 36-inch sweeps and other conduit accessories not specifically mentioned shall be from a material similar to the connecting conduit. Conduit elbows used shall be a minimum of 24- inches.

Construction Requirements:

Conduit shall be placed in accordance with the lines, grades, details and dimensions as shown on the plans. Unless otherwise shown on the plans, underground conduit shall be installed with a minimum cover depth of 30-inches.

The Contractor shall follow the blue stake requirements and provide sufficient vertical and horizontal clearances from existing utilities as described in ADOT Standard Specification Section 107.

The proposed Directional Drill (DD) profile shall be submitted to the Engineer, after the contractor has completed the necessary potholing, and approved prior to beginning the Directional Drill operation at each location. All DD conduit installations shall be in accordance with ASTM F 1962.

The contractor's DD operations shall utilize the "walkover" locating system or other Engineer approved equivalent for determining the location of the bore head. A sonde, behind the bore head shall register the depth, angle, rotation and directional data. At the surface, a receiver compatible with the sonde shall be used to gather the data and relay the information to the DD equipment operator. All final bore profiles shall be submitted to the Engineer.

No more than 1 week prior to installation of cable, all new and existing conduit runs in which cable is to be installed shall be cleared/cleaned by pulling through a metal-disc mandrel with a diameter of 90 percent of the conduit diameter, or a ball mandrel with a diameter of 80 percent of the conduit diameter. The conduit may be brushed or swabbed, if deemed necessary, prior to pulling the mandrel through the conduit. No direct measurement or payment will be made for this work, as it is considered included in payment for conduit.

Conduit warning tape shall be a four-mil inert plastic film specially formulated for prolonged use underground. All tape shall be highly resistant to alkalis, acids, and other destructive agents found in the soil. Tape shall have a continuous printed message warning of the location of underground conduits. The message shall be in permanent ink specifically formulated for prolonged underground use and shall bear the words, "CAUTION - ELECTRIC LINE BURIED BELOW" in black letters on a red background.

Measurement & Payment:

Measurement will be based on the linear feet (LF) of new electric conduit installed by directional drilling as measured on the ground by the Town Inspector. Payment will be made at the bid unit price per linear feet (LF) based on the measured quantity.

The following pay item is included in this project:

PAY ITEM 15 INSTALL SCHEDULE 40 PVC CONDUIT, 3" DIA, DIRECTIONAL DRILLING (LF)

BID ITEM 16 INSTALL SCHEDULE 40 PVC CONDUIT, 2-1/2" DIA, IN TRENCH WITH PULL CORD

Description:

The work under this section shall conform to the requirements of Section 732, Electric Underground Materials, of the ADOT Standard Specifications for Road and Bridge Construction, 2008 Edition. This work shall consist of furnishing and placing conduits as shown on the plans.

Materials:

PVC conduit and materials shall be in accordance with Section 732-2.02, of the ADOT Standard Specifications. All electric conduit used for this project shall be 2.5-inch diameter Schedule 40 PVC.

Unless otherwise shown on the plans, bends, conduit fittings, expansion joints, 36-inch sweeps and other conduit accessories not specifically mentioned shall be from a material similar to the connecting conduit. Conduit elbows used shall be a minimum of 24- inches.

Construction Requirements:

Conduit shall be placed in accordance with the lines, grades, details and dimensions as shown on the plans. Unless otherwise shown on the plans, underground conduit shall be installed with a minimum cover depth of 30-inches.

The Contractor shall follow the blue stake requirements and provide sufficient vertical and horizontal clearances from existing utilities as described in ADOT Standard Specification Section 107. ABC slurry or half-sack slurry shall be used to install the conduits to meet utility company requirements and ADOT requirements.

Backfill compaction shall be in accordance with Section 203-5.03(B)(4) of the ADOT Standard Specifications.

The contractor shall rake the existing DG back away from the work area of conduit, pullbox, and foundation installations and removals to prevent mixing (to remain clean) with native earth and replaced after installation. The use of dirty DG in landscape restoration will not be allowed and the contractor will replace any dirty DG with clean DG of like kind and color at no additional cost to the Department.

No more than 1 week prior to installation of cable, all new and existing conduit runs in which cable is to be installed shall be cleared/cleaned by pulling through a metal-disc mandrel with a diameter of 90 percent of the conduit diameter, or a ball mandrel with a diameter of 80 percent of the conduit diameter. The conduit may be brushed or swabbed, if deemed necessary, prior to pulling the mandrel through the conduit. No direct measurement or payment will be made for this activity, as it is considered included in payment for conduit.

Conduit warning tape shall be a four-mil inert plastic film specially formulated for prolonged use underground. All tape shall be highly resistant to alkalis, acids, and other destructive agents found in the soil. Tape shall have a continuous printed message warning of the location of underground conduits. The message shall be in permanent ink specifically formulated for prolonged underground use and shall bear the words, "CAUTION - ELECTRIC LINE BURIED BELOW" in black letters on a red background.

Measurement & Payment:

Measurement will be based on the linear feet (LF) of new electric conduit installed in a trench (with pull cord) complete as measured on the ground by the Town Inspector. Payment will be made at the bid unit price per linear feet (LF) based on the measured quantity.

The following pay item is included in this project:

PAY ITEM 16 INSTALL SCHEDULE 40 PVC CONDUIT, 2-1/2" DIA, IN TRENCH WITH PULL CORD (LF)

BID ITEM 17 INSTALL CONDUCTORS, COMPLETE

Description:

The work under this section shall conform to the requirements of Section 732, Electrical Underground Materials, of the ADOT Standard Specifications for Road and Bridge Construction, 2008 Edition. This work shall consist of furnishing and installing electric conductors to provide electric power from the APS electric meter to the street light luminaires. All electrical work associated with the new street light system shall be in accordance with the National Electric Code, APS Electric Service Requirements, and all other applicable electric codes and standards.

Electrical Conductors:

Installation of electric conductor shall be per ADOT Standard Specifications Section 732, Electric Underground Service. Electrical conductors shall be stranded or single conductor, thermoplastic insulated electrical wire or cable. Conductors shall conform to the specifications of the NEC, UL, and other applicable industry standards.

Wire and cable for lighting electrical systems shall be UL listed and rated for 600-volt operation. The UL label shall be present on each reel, coil or container of wire or cable. When requested, the contractor shall submit to the Engineer the manufacturer's written certification that the product conforms to the requirements of these specifications.

All single conductors, except detector lead-in cables, shall have plain, distinctive and permanent markings on the outer surface throughout the entire length showing the manufacturer's name or trademark, insulation type letter designation, conductor size, voltage rating and the number of conductors in the cable.

The wire shall be annealed copper and shall be uncoated unless otherwise specified. The wire shall be solid for number 10 AWG and smaller, conforming to the requirements of ASTM B 3 for annealed bare copper wire. Conductors for sizes number 8 AWG and larger shall be stranded and shall conform to ASTM B 8 for Class B stranding. Unless otherwise specified, the conductors shall be insulated with THW grade thermoplastic compound and shall meet the requirements of UL 83. Insulation colors shall be permanent and an integral part of the insulation and shall not be applied as a surface treatment or coating. The insulation thickness shall conform to the requirements of the NEC. Conductor insulation shall solid black in color. The color shall be continuous over the entire length of the conductor.

Measurement & Payment:

Measurement shall be on a lump sum (LS) basis for all new electric conductor (wiring) installed complete for the entire project. Payment shall be at the lump sum (LS) amount for the electric conductors installed complete and in place.

The following pay item is included in this project:

PAY ITEM 17 INSTALL CONDUCTORS, COMPLETE (LS)

BID ITEM 18 INSTALL PULL BOX, NO. 7, LIGHT DUTY, PER ADOT TS 1-1

Description:

The work under this section shall conform to the requirements of Section 732, Electric Underground Materials, of the ADOT Standard Specifications for Road and Bridge Construction, 2008 Edition. This work shall consist of furnishing and installing electric junction (pull) boxes where shown on the plans. Junction boxes shall be precast reinforced concrete pull boxes, covers, and extensions and shall be installed and located as shown on the project plans and shall be the size appropriate for the conduit and conductors involved. Chipped or cracked pull boxes, covers, and extensions will not be accepted. Covers shall be marked as follows: "ELECTRICAL HIGH VOLTAGE". Markings shall be clearly defined and uniform in depth and shall be placed parallel to the long side of the cover. Letters shall be one inch high. The finished pull box installation includes all materials, equipment, and labor costs to install the pull box where required and where shown on the plans including excavation, backfill, and setting the box cover to finished grade to match the adjacent ground surface. J-box installation shall be per ADOT Standard Specification Section 732, Electrical Underground Materials.

Measurement & Payment:

Measurement will be based on each (EA) electric junction (pull) box installed and completed as confirmed by the Town Inspector. Payment will be made at the bid unit price per each (EA) based on the measured quantity.

The following pay item is included in this project:

PAY ITEM 18 INSTALL PULL BOX, NO. 7, LIGHT DUTY, PER ADOT TS 1-1 (EA)

BID ITEM 19 INSTALL LUMINAIRES WITH PHOTO CELL CONTROL

Description:

The work under this section shall consist of furnishing and installing street light LED luminaires with photo cell control at the locations shown on the project plans and in accordance with ADOT Standard Specifications, Section 731, Structural Supports and Foundations for Traffic Signal and Highway Lighting, and applicable ADOT Standard Details, to make a complete and fully functional street lighting system.

Luminaires: LED, 258W, color temperature - 3000K, distribution - Type III, output – 20,000 lumens

The Contractor shall provide all labor, equipment, materials, and supplies needed to furnish and install the complete street light luminaire with photo cell control as described herein and per the project plans, in place, and fully functional for the purpose intended.

Measurement & Payment:

Measurement will be based on each (EA) street light led luminaire satisfactorily installed and tested as confirmed by the Town Inspector. Payment will be made at the bid unit price per each (EA) based on the measured quantity.

The following pay item is included in this project:

PAY ITEM 19 INSTALL LUMINAIRES WITH PHOTO CELL CONTROL (EA)

BID ITEM 20 TRAFFIC CONTROL

Description:

Effective and safe traffic control is critically important for this project. The Contractor shall coordinate closely with ADOT and Town officials throughout the duration of the project to ensure safe passage of pedestrian, bicycle, and vehicular traffic through and around the construction work zone. Traffic control shall conform to ADOT Standard Specifications, ADOT Arizona Supplement to the MUTCD, MAG Section 401, City of Phoenix Traffic Barricade Manual, and the Manual on Uniform Traffic Control Devices, and the, whichever is stricter.

This bid/construction item includes any and all traffic control supervisors, flaggers, barrels, cones, barricades, lights, signage, directional routing, and the development and implementation of an approved traffic control plan. This bid/construction item also includes the routine and daily maintenance of all traffic control devices to safeguard all travelers for the full duration of the project construction.

Vehicular traffic passing through the construction zone shall be routed over a uniform durable driving surface at all times with no drop offs adjacent to traffic travel lanes greater than 2" at any time.

At least one traffic lane shall be provided during construction with appropriate flagging and traffic control for safe passage of vehicles, pedestrians, and bicyclists through the work zone.

Access to residences must be maintained at all times unless a minimum of 7 calendar days written notification is given to property owners and residents including an estimated length of time for the entire duration of the planned closure; and all closures must be pre-approved by the Town. The Contractor shall be responsible for individual notification to residences and property owners within the construction area whenever they are impacted by access restrictions, road closures, and construction activities impacting their properties. The Contractor shall construct temporary driveway access ramps of aggregate base course material and maintain the ramps as needed to allow reasonable, continuous access to properties to the greatest extent possible.

Traffic Control Plan:

Prior to the start of work, **the contractor shall submit a detailed "Traffic Control Plan" to ADOT as part of the Contractor's application for an Encroachment Permit** and to the Town for approval. The Contractor shall comply with all ADOT requirements of the Encroachment Permit.

The traffic control plan, at a minimum, will address and include:

1. A schedule for shutting down and reopening of streets/roads, residential driveways, and/or sidewalk access with durations
2. Proposed signage indicating any applicable highway, street, and driveway closures or sidewalk detours
3. Signage and lighting layout and design in compliance with ADOT and the MUTCD

4. Overall total length (distance and duration) of street, driveway, and/or sidewalk access closures due to construction activities at any point in time during the overall project schedule
5. Construction staging and phasing to limit total length of any lane closures at any time

Measurement and Payment:

Measurement shall be on a lump sum (LS) basis for all labor, equipment, materials, rentals, and supplies involved in full time traffic control for the total duration of construction activities as required. Payment shall be a partial lump sum (LS) amount for the previous month based on the prorated percentage completion of the total contract amount and schedule duration.

The Contractor shall apply for and obtain an **Encroachment Permit** prior to performing any work within ADOT's right of way. This includes providing an acceptable traffic control plan and a Certificate of Insurance to ADOT for their review and approval. All work associated with applying for and securing an ADOT Encroachment Permit for the project is to be included in this bid item and will not be measured or paid for separately.

The following pay item is included in this project:

PAY ITEM 20 TRAFFIC CONTROL (LS)

BID ITEM 21 MOBILIZATION

Specifications:

Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Part 100, Section 109, and other related sections.

Description:

The work under this item shall consist of preparatory work and operations, including but not limited to, the movement of personnel, equipment, materials, supplies, and incidentals to the project site; the establishment and on-going maintenance of restroom facilities; establishment and on-going maintenance of storage/staging facilities necessary for the prosecution of the work; project site restoration; and for all other work and operations that must be performed and costs incurred prior to beginning work and during the course of construction of the various items of work at the project site. The mobilization work shall also include demobilization including the movement of personnel, equipment, materials, supplies, tools, and other items from the site following completion of construction activities and restoration of any overall project site and the Contractor storage and staging yard.

Project Site Restoration and Clean-up – Fine grading of disturbed surfaces; replacing in kind any landscape vegetation (trees, bushes, shrubs, succulents, flowers, etc.) damaged or removed during the construction of the new roadway and related work; spreading new decomposed granite on disturbed surfaces where it existed prior to construction; returning all project areas and surrounding disturbed areas to their original condition (or better), and including reseeding, if necessary. Trees and shrubbery within the project right of way that conflict with the proposed improvements shall not be removed without prior approval from the Town. Prior to final approval and acceptance of the work, the Contractor shall clean and repair nearby off-project roadways used or damaged during the course of construction for this project. The Contractor shall clean up and re-open individual roadway segments as soon as practical following construction on that roadway segment.

Contractor Storage and Staging Yard – The Contractor shall obtain approval of the property owner(s) and the Town when using vacant private property to park and service equipment, and/or to store materials for use on this project. The following conditions apply:

1. The Contractor shall notify adjacent property owners/residents of this proposed use.
2. Any use of vacant property adjacent to or near the project for parking or servicing equipment and/or storing of material will require the Contractor to obtain written approval from the property owner. This approval shall contain any requirements which are a condition of this approval.
3. A copy of the property owner's approval shall be submitted along with the Contractor's request to the Town for approval for the use of the marshaling yard in connection with the project. An appropriate distance from adjacent properties will be set by the Town on a case by case basis based on the size and type of equipment to be used on the project.
4. The yard shall be fenced and adequately dust-proofed in a manner such as to preclude dirt and dust blowing off the site and tracking of mud onto paved or unpaved Town streets.

5. Work in the yard shall be scheduled so as to comply with the Town's Noise Ordinance and other applicable ordinances, rules, and regulations pertaining to construction activities.
6. Equipment, materials, supplies, etc., shall be located so as to minimize impact on adjacent properties. A sound barrier may be required if deemed necessary by the Town.
7. The Contractor shall clean up the property promptly upon completion of use and shall provide a signed property release as a condition of final acceptance.

The Contractor's request for approval of the storage and staging yard shall specify in detail how the Contractor proposes to comply with 1 through 7 above.

Storage and staging areas shall be provided with security fencing, scrubber pad to keep from tracking dirt/mud onto street surfaces, frequent housekeeping cleanup, and restoration of site to a condition as good if not better than found prior to construction. Storage and Staging Yard Clean-Up shall include fine grading of disturbed surfaces; spreading new decomposed granite on disturbed surfaces where it existed prior to construction; returning staging areas and surrounding disturbed areas to their original condition (or better), and including reseeding, if necessary.

Dust and Pollution Control – This bid item includes all costs associated with routine street sweeping as necessary to eliminate tracked dirt, mud, and debris from the project sites onto paved surfaces via construction vehicle traffic and domestic traffic as a storm water management, pollution, and sediment control mitigation measure. Sweeping and dust control shall be monitored and performed daily as needed and as may be directed by the Town Inspector. Dust control measures (including spraying water and/or dust palliatives on disturbed ground surfaces) are to be employed as needed to minimize fugitive dust from project activities.

Measurement and Payment:

'MOBILIZATION' will be measured as a complete lump sum (LS) item of work. Payment will be made at the lump sum (LS) price indicated on the Bid Schedule, which amount shall be considered full compensation for the work as described herein and necessary for complete mobilization to the site and demobilization and clean-up when leaving the site. The lump sum amount shall be considered full compensation for the all work associated with this bid item, whether specifically stated or not. Include in the lump sum price all costs to mobilize for the project such as moving equipment, trucks, and personnel, both to the site and off the site upon completion of the work. Also include expenses for bonds, licenses, permits, project insurance, project coordination, materials, quality control testing, testing coordination, submittals, storage of materials, removal and disposal of construction debris, and the temporary supplies, power, and telephone, all necessary for the execution of the work.

Payment will be made in two equal portions:

1. The first half of the payment shall be made with the Contractor's initial billing invoice and shall be 1/2 (50%) of the contract lump sum amount for mobilization and site restoration.
2. The final half of the payment shall be made as part of the Contractor's final close-out billing invoice once the project has been fully completed and accepted by the **Town of Huachuca City** and shall be 1/2 (50%) of the contract lump sum amount for mobilization and site restoration.

The following pay item is included in this project:

PAY ITEM 21 MOBILIZATION (LS)

INCIDENTAL ITEMS

Any and all items of work to be provided by the Contractor that are not specifically listed in the Bid Schedule will not be measured or paid for separately as they are considered “incidental” and “subsidiary” to the overall project. The cost associated with each incidental item of work shall be applied to its associated bid schedule line item or across all applicable bid schedule line items as most appropriate in the judgment of the Contractor.

The following is a list of some, but not all, construction or related work that shall be provided, but are considered “incidental” to the construction project. This work will not be paid for separately as a bid item.

- **Water Used by the Contractor for Construction Purposes**

The Contractor shall establish an account with the Town to purchase water used at a nominal rate for construction purposes so the Town has a record of water usage. The Town will provide a meter for this purpose. The Contractor shall reimburse the Town for the cost of water used for this project, if required. The cost of associated work to obtain water for the project’s construction and the cost of water used are incidental to the overall project.

- **Construction Staking of all Improvements**

Cost for all labor, materials, and equipment associated with construction surveying and staking including, but not limited to, information gathering of existing elevations and the staking of storm sewer lines, fixtures and appurtenances, utilities, removals and new paving, and all other associated improvements for construction purposes. Any survey monuments that are disturbed during construction activities shall be replaced at the Contractor’s expense.

- **Quality Control Testing**

The Contractor is responsible for quality control testing per General Conditions Section 5.0, Inspection of Work, Paragraph 3, “The Contractor shall provide the testing and inspection services required by the Contract Documents and other such test necessary to assure the quality of the work.”

Contractor shall provide all pre-construction, during-construction, and post-construction testing required by the MAG standards and the project’s contract documents. Testing frequency minimums shall be governed first by current the Maricopa Association of Governments, Uniform Standard Specifications and Details for Public Works Construction, and second by the Arizona Department of Transportation Materials Testing Manual-Series 900, Appendix C, and third by accepted industry standards.

The Contractor shall provide all test results to the Town, the Engineer of Record, and the Inspector within 24 hours of completion of the testing.

The Town may provide quality assurance testing as needed to verify the quality of the work and to satisfy themselves that the work has been constructed in compliance with the plans, specifications and contract documents.

- **Record drawings**

Accurate red-lined “as-built” drawings of all pavements, street reconstruction, sidewalk and driveway construction, installed and constructed storm drain lines, fixtures (including valves and fittings), appurtenances, signs, markings, utilities, services, other improvements, and any encountered existing utility not already shown, shall be provided to the Town Engineer upon completion of the construction. The location of all installed features shall be dimensioned, with the location based on identifiable surface features. Two weeks prior to final settlement, full record (as-built) drawings and data will be required from the Contractor.

- **Controlling Fugitive Dust and Eroded Materials during Construction**

The Contractor shall apply reasonably available fugitive dust control measures and storm water pollution prevention best practices as appropriate and as needed.

- **Other Items**

There may be other items of work shown and called for on the plans. Some of these items may specifically be labeled “No Pay Item – Incidental”. Regardless, any items of work required to complete the bid items of work shall be performed and the costs thereof are incidental to the associated bid item(s) and project.

End of Special Provisions-Specifications Section



PRODUCT SHEETS FOR REFERENCE

Emergency Vehicle Warning System

- Activated by push button in firehouse, hand held transmitters and/or optical receiver
- Available with BlinkerSign® LED signs, dual or single BlinkerBeacon™ LED beacons
- Solar powered systems eliminate the need for concrete cutting and trenching
- MUTCD compliant signs and plaques: choice of standard and custom legends



Features

- Alerts approaching drivers when emergency vehicles depart or return to your facility
- Can be activated by push button and hand held transmitters or optical receiver, and can operate warning devices continuously with toggle switch until switched off
- BlinkerSign® LED signs may be installed onto new or existing sign posts, and offer significant savings in installation and operating costs
- High intensity Day-Viz® LEDs command attention, both day and night
- Proprietary TAPCO AutoBright™ circuitry automatically adjusts LED light output to optimize visibility and battery efficiency

Applications

- Firehouse and hospital locations
- Emergency vehicle entrance/egress
- Advance truck egress warning
- Evacuation systems



Visit **Traffic and Parking** on YouTube for videos on our product and more.



Smart Activation Options

Push Button Station (requires 120VAC power source)

Hand Held Transmitters with Receiver Board

Optical Receiver (*with your compatible transmitters)

24/7 continuous LED flash with toggle switch override

BlinkerBeam® Wireless Communication



BlinkerBeam® Wireless Communication

LED Warning Devices can be activated synchronously using BlinkerBeam® wireless transceivers, up to 1000 feet with direct line of sight and even further with long-range Omni and Yagi antennas. Activated from a push button located conveniently in your facility or by other devices shown below, these compact controllers generate immediate actuation of warning, emergency and evacuation systems.



Push Button Activation

Located indoors and cabled to outdoor antenna. Used in conjunction with BlinkerBeam® Radios and antennas, it wirelessly activates BlinkerSign® LED signs and/or BlinkerBeacon™ LED Beacons synchronously. May be used for warning of vehicle departure and return.

- LEDs to indicate power (from your 120VAC source) and activation
- Rugged, commercial-grade push button
- Can be integrated with existing EMS systems



Hand Held Transmitters with Receiver Cabinet

TAPCO's cabinet-mounted digital receiver board and hand held transmitters provide reliable, remote activation by multiple users. Keep transmitters on your person and/or in vehicles.

- Operates with unique rolling code each time the switch is activated
- Multiple applications with delay or no delay programming
- Up to 40 transmitters can be programmed to activate a single receiver
- Up to 4 separate wireless receivers can be activated by multi-button transmitters
- Red LED indicator on transmitter confirms transmission and battery life



Optional Optical Emergency Vehicle Activation

Optical receiver is compatible with optical signals from all Tomar StrobeCom and GTT OPTICOM® emitters to automatically activate BlinkerSign® LED signs or BlinkerBeacon™ LED beacons.

For more information visit tapconet.com | (800) 236-0112 | blinkersales@tapconet.com



Traffic & Parking Control Co, Inc. 5100 West Brown Deer Road, Brown Deer WI 53223 U.S.A. Phone (800) 236-0112 FAX (800) 444-0331 www.tapconet.com Printed in the U.S.A. Copyright 2017, Traffic & Parking Control Co, Incorporated

PATENT NUMBERS 6,943,698 AND 6,693,556. OTHER PATENTS PENDING

1005-00010 (04/18/17)



EMERGENCY VEHICLE HYBRID BEACON

ELTEC's efficient, wireless Mikrós EIC provides a solar powered DC controller solution for Emergency Vehicle Hybrid Beacons.

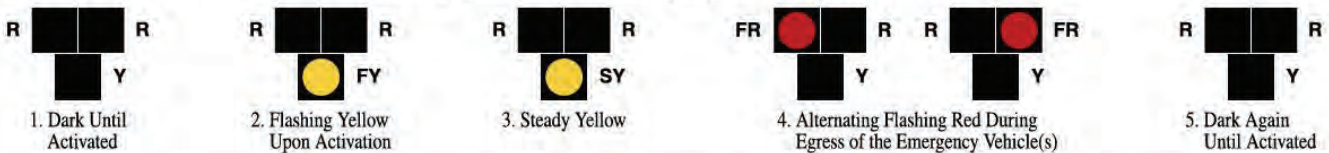
An emergency vehicle hybrid beacon is a special type of beacon that assigns the right-of-way to authorized emergency vehicles. It may be installed at a location that does not meet other traffic signal warrants such as at an intersection or other location to permit direct access from a building housing the emergency vehicle. Emergency vehicle hybrid beacons shall be used only in conjunction with signs to warn and control traffic at an unsignalized location where emergency vehicles enter or cross a street or highway.



MUTCD (2009 Chapter 4G) requires at least two emergency vehicle hybrid faces and a stop line to be installed for each approach of the major streets.

An EVHB face consists of three signal sections, with a circular yellow signal indication centered below two horizontally aligned circular red signal indications. The beacon is in a dark mode during periods between actuations. Upon activation by authorized emergency personnel, the beacon cycles through the sequence shown below.

Flash Sequence for an Emergency Vehicle Hybrid Beacon



FY-Flashing Yellow • SY-Steady Yellow • FR-Flashing Red OPTION: A "Steady Red" clearance interval may be used after a "Steady Yellow."

FEATURES and BENEFITS

Solar Powered

- No Power Interruption
- No Electrical Bills/Self-Contained
- Electrical Contractors/Technicians Not Required for Installation
- Maintenance-Free AGM Battery Performs Better in Cold Climates 5 Year Pro-Rated Warranty

Low Voltage, Low Wattage Signal Heads and Controller

- Efficient, Low-Power DC Controller (less than 2 watts) 10 Times Lower Power Consumption Than Comparable Products
- LEDs Consume No More Than 5 Watts
- Automatic Dusk to Dawn Night Dimming

Meets MUTCD Standards

25 Month System Warranty

State-of-the-Art Controller with Conflict Monitor

- Wireless Communication (can be hard-wired) Military Quality Radio: 900 MHz Spread Spectrum Trenching and Boring Not Required
- Continuous Conflict Monitor Communication Failure Signal Outputs: Current Monitor Absence of Signal Signal Conflicts Low Battery Voltage Fail Mode Stays On Until Conflict Resolved
- Adjustable Cycle Timing
- Simple User Interface for Status and Programming
- Meets and Exceeds NEMA TS5 2012 Standards

Flexible System: Tailored for Project Requirements

- Solar Panels: Site-Specific Mounting Options
- Available in AC or Solar Powered



ELECTROTECHNICS CORPORATION

1310 Commerce Street, Marshall, TX 75672 • 800-227-1734 903-938-1901 Fax 903-938-1977 sales@elteccorp.com

EMERGENCY VEHICLE CAUTION SYSTEMS

ELTEC's Emergency Vehicle Caution System (EVCS) is designed to alert motorists approaching a station access point when an emergency vehicle is departing.

When an emergency vehicle is preparing to emerge from its station and enter traffic, the EVCS provides either a CAUTION (yellow) or STOP (red) flashing beacon(s). The pole can be configured with one or two signals. The power source may be either AC or solar powered (DC).

Each system is designed to match the project requirements and street layout. Hard-wired systems are available, but wireless radio activation is less complicated; no trenching or boring to connect signals to the activation point. Multiple sites can be triggered simultaneously. There are several ways to activate the flashing beacons wirelessly:

- Wall-mounted Transmitter with Push Button.
- On Board/Console Mounted Push Button Transmitter.
- Hand-held Transmitter.
- Emitter (Light or Infrared Signal) to Receiver.

Once activated, the signal(s) remain ON for a preset period of time. The flashing duration is user adjustable (from 1 second to 100 hours).

For wireless radio systems, each receiver and transmitter are programmed with a unique address code for system isolation. Any number of receivers can be set to a single address code. Advanced warning signal poles can be positioned further down the road from the station exit.

A typical installation consists of a central activation device within the station. Outside, two or more poles support a small cabinet that houses the electronic controls. The components consist of a flasher, receiver and timer. If the unit is solar powered, a charge controller and battery are added inside the cabinet, and a solar panel with a rack is mounted on each pole.



Wall-mounted push button cabinet.



Typical solar powered EVCS.



Three 3-section signal heads (solar powered). Lights are green until fire station activates.

INTERSECTION PRE-EMPTION SYSTEM

ELTEC can provide a receiver that's integrated into an intersection controller cabinet interrupting the normal signal cycle giving a 'green' priority in the direction that the emergency vehicle is traveling.

STANDARD SYSTEM FEATURES

A standard system includes a transmitter to activate the system, poles, flashing beacon(s) with visor, and electronics cabinet with pre-assembled wiring for easy installation.

- AC or Solar Powered.
- System Flexibility: Tailored to Meet Project Requirements.
- Programmable Timed Vehicle Exit.
- CAUTION (amber) or STOP (red) Alerts: No Price Difference.
- 8" or 12" LED Signal Heads: No Price Difference.
- AC: Optional Battery Back-up.
- Solid State Flasher.
- Meets MUTCD and ITE Standards.

When AC power is not available or practical to power the signals, solar power is the answer. ELTEC's solar powered Emergency Vehicle Caution System is sized by geographical location and electrical load for optimal effectiveness guaranteeing sufficient power during the long winter months. Daytime dimming of any signal is not in compliance with FHWA standards.

SOLAR POWERED FEATURES and BENEFITS

- Self-contained: No Electrical Bills.
- No Power Interruption.
- No Trenching or Boring Cable.
- Electrical Contractors: Technicians Not Required for Installation.
- High Efficiency Self-cleaning Solar Modules with 20 Year Warranty.
- Choice of Side-of-Pole or Post Top Panel Mounting Rack.
- Controller with LCD Display Showing: Battery Voltage, Solar Amps, Load Amps.
- Solid State Flasher (FS-2).
- No Maintenance AGM (Absorbed Glass Matt) Battery. Performs better in cold climates.
- 5 Year Pro-rated Warranty.
- Sized by Computer Program: Insures Power Generated Meets/Exceeds Load Requirements.
- Flash Rate is Constant at Selected Rate: Does Not Vary as a Function of Battery Voltage.

ELTEC's EVCS systems meet the Federal Highway Administration's MUTCD (Manual on Uniform Traffic Control Devices) and ITE (Institute of Transportation Engineers) standards.

For more information or a price quote, contact ELTEC or your local ELTEC Dealer.

ELECTROTECHNICS CORPORATION
1310 Commerce Street
Marshall, TX 75672

800-227-1734 903-938-1901 Fax 903-938-1977

sales@elteccorp.com

Rev 031513

PV System Summary

ELTEC Corp
 1310 Commerce St
 Marshall, Texas
 USA

(903) 938-1901
 www.elteccorp.com
 by: Steven Canan



Site Summary

Site Name: WHETSTONE, AZ - 1 CLUSTER EMER. HAWK
Location: TUCSON, AZ, USA
Latitude: 32.12N **Longitude:** 110.93W **Elevation:** 779 m
Comments: NREL : 23160

Load / System Summary

Design Load: 5.6 Ah Day @ 12.0 VDC
Tilt: 60S **Azimuth:** 0E **Tracking:** Fixed
Min ALR: 1.70 **Avg ALR:** 2.02
LOLP: 0.000 % **Avail:** 100.000 % **Avg BSOC:** 99 %

System Summary

PV (Module / Array)

Model: IS40J
Rating: 40W / 40Wp
Modules: 1
Config: 1 S x 1 P
Vmpp: 17.20 / 17.2
Imp: 2.32 / 2.3
Voc: 21.60 / 21.6
Isc: 2.57 / 2.6
Volts: 12.0V Battery

Battery (Unit / Total)

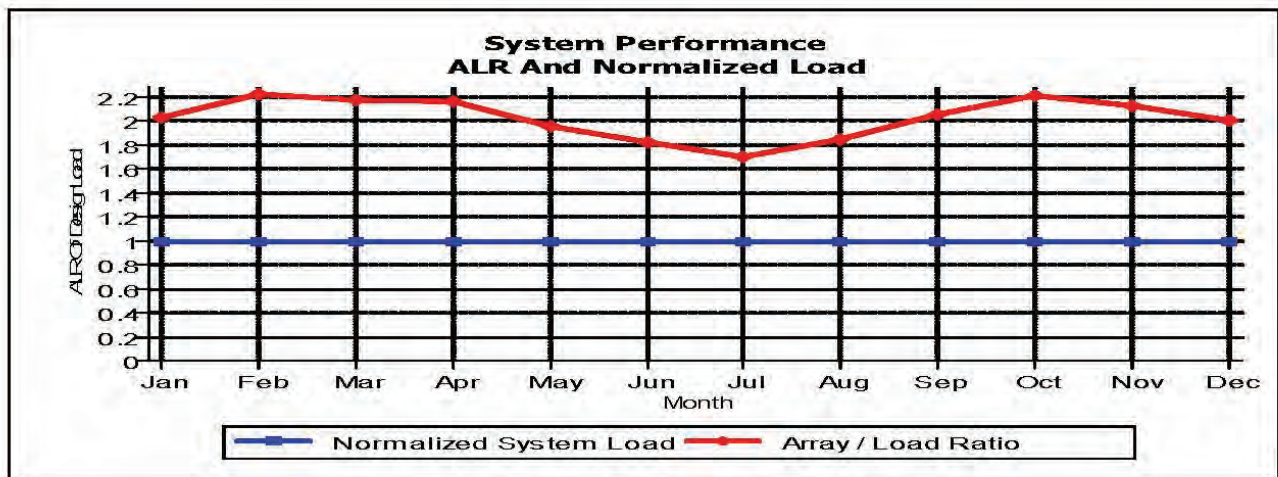
Model: 110AH #864507
Rating: 1.32
Units: 1
Config: 1 S x 1 P
Voltage: 12.0 / 12.0
Amp-hr: 110.0 / 110.0
Rating: 15.7 days

Controller:

Model: PS-15
Type: Standard
Voltage: 12
Rating: 15
Quantity: 1
Inverter:
Model: n/a
Voltage: n/a
Rating: n/a
Quantity: n/a

System Performance Summary

Month	Array Insol (kWh/m ² /d)	Avg Temp (deg C)	Array (Ah/day)	Sys Losses (%)	Load (Ah/day)	Batt Size (days)	Array/Load Ratio	Avg BSOC (%)	LOLP (%)
Jan	5.43	10.7	11.3	10	5.6	15.0	2.02	99	0.000
Feb	5.95	12.4	12.4	10	5.6	15.1	2.22	99	0.000
Mar	5.82	14.8	12.1	10	5.6	15.3	2.17	99	0.000
Apr	5.78	18.8	12.1	10	5.6	15.5	2.16	99	0.000
May	5.24	23.3	10.9	10	5.6	15.7	1.96	99	0.000
Jun	4.88	28.8	10.2	10	5.6	15.7	1.82	99	0.000
Jul	4.55	30.3	9.5	10	5.6	15.7	1.70	99	0.000
Aug	4.93	29.2	10.3	10	5.6	15.7	1.84	99	0.000
Sep	5.50	26.9	11.5	10	5.6	15.7	2.05	99	0.000
Oct	5.93	21.3	12.4	10	5.6	15.6	2.21	99	0.000
Nov	5.69	15.1	11.9	10	5.6	15.3	2.12	99	0.000
Dec	5.36	11.1	11.2	10	5.6	15.0	2.00	99	0.000



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PV Load Summary

ELTEC Corp
 1310 Commerce St
 Marshall, Texas
 USA

(903) 938-1901
 www.elteccorp.com
 by: Steven Canan



Site Summary

Site Name: WHETSTONE, AZ - 1 CLUSTER EMER. HAWK
Location: TUCSON, AZ, USA
Latitude: 32.12N **Longitude:** 110.93W **Elevation:** 779 m
Comments: NREL : 23160

Load / System Summary

Design Load: 5.6 Ah Day @ 12.0 VDC
Tilt: 60S **Azimuth:** 0E **Tracking:** Fixed
Min ALR: 1.70 **Avg ALR:** 2.02
LOLP: 0.000 % **Avail:** 100.000 **Avg BSOC:** 99 %

System Summary

PV (Module / Array)

Model: IS40J
Rating: 40W/ 40Wp
Modules: 1
Config: 1 S x 1 P
Vtyp: 17.20 / 17.2
Ityp: 2.32 / 2.3
Voc: 21.60 / 21.6
Isc: 2.57 / 2.6
Volts: 12.0

Battery (Unit / Total)

Model: 110AH #864507
Rated kWh: 1.32
Units: 1
Config: 1 S x 1 P
Voltage: 12.0 / 12.0
Amp-hr: 110.0 / 110.0
Rated Days: 15.7

Controller:

Model: PS-15
Type: Standard
Voltage: 12
Rating: 15
Quantity: 1

Inverter:

Model: n/a
Voltage: n/a
Rating: n/a
Quantity: n/a

Load Summary

Load No.	Load Description	Load Value	Load Type	AC / DC	Conversion Eff (%)	Load Usage (Hrs/d)	Daytime Load (%)
1	Mikros	2.00	Watts	DC	100	24.00	50
2	LED 1	5.00	Watts	DC	100	0.50	50
3	LED 2 and 3 Solid	20.00	Watts	DC	100	0.50	50
4	LED 2 and 3 wigwag	10.00	Watts	DC	100	1.00	50
5	0	0.00	Watts	DC	100	24.00	50
6		0.00	Watts	DC	100	24.00	50
7		0.00	Watts	DC	100	24.00	50
8		0.00	Watts	DC	100	24.00	50
9		0.00	Watts	DC	100	24.00	50
10		0.00	Watts	DC	100	24.00	50

Annual Load

Month	Design—	Seasonal Load Summary - % of Rated Load										Net Load (Ah/day)
	(Ah/d)	Load1	Load2	Load3	Load4	Load5	Load6	Load7	Load8	Load9	Load10	
Jan	6	100	100	100	100	100	100	100	100	100	100	6
Feb	6	100	100	100	100	100	100	100	100	100	100	6
Mar	6	100	100	100	100	100	100	100	100	100	100	6
Apr	6	100	100	100	100	100	100	100	100	100	100	6
May	6	100	100	100	100	100	100	100	100	100	100	6
Jun	6	100	100	100	100	100	100	100	100	100	100	6
Jul	6	100	100	100	100	100	100	100	100	100	100	6
Aug	6	100	100	100	100	100	100	100	100	100	100	6
Sep	6	100	100	100	100	100	100	100	100	100	100	6
Oct	6	100	100	100	100	100	100	100	100	100	100	6
Nov	6	100	100	100	100	100	100	100	100	100	100	6
Dec	6	100	100	100	100	100	100	100	100	100	100	6

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PV System Summary

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 Marshall, Texas
 USA

(903) 938-1901
 www.elteccorp.com
 by: Steven Canan



Site Summary

Site Name: WHETSTONE, AZ - 3 CLUSTER EMER. HAWK
Location: TUCSON, AZ, USA
Latitude: 32.12N **Longitude:** 110.93W **Elevation:** 779 m
Comments: NREL : 23160

Load / System Summary

Design Load: 9.2 Ah Day @ 12.0 VDC
Tilt: 60S **Azimuth:** 0E **Tracking:** Fixed
Min ALR: 1.69 **Avg ALR:** 2.01
LOLP: 0.000 % **Avail:** 100.000 % **Avg BSOC:** 99 %

System Summary

PV (Module / Array)

Model: IS65J
Rating: 65W / 65Wp
Modules: 1
Config: 1 S x 1 P
Vmpp: 17.20 / 17.2
Iimp: 3.78 / 3.8
Voc: 21.60 / 21.6
Isc: 4.08 / 4.1
Volts: 12.0V Battery

Battery (Unit / Total)

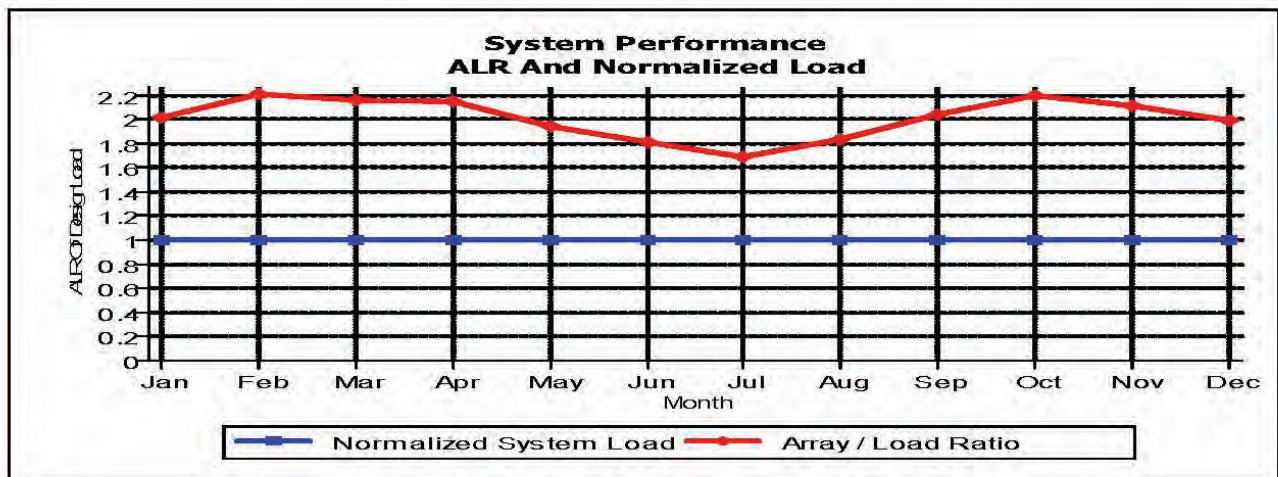
Model: 110AH #864507
Rating: 2.64
Units: 2
Config: 1 S x 2 P
Voltage: 12.0 / 12.0
Amp-hr: 110.0 / 220.0
Rating: 19.2 days

Controller:

Model: PS-15
Type: Standard
Voltage: 12
Rating: 15
Quantity: 1
Inverter:
Model: n/a
Voltage: n/a
Rating: n/a
Quantity: n/a

System Performance Summary

Month	Array Insol (kWh/m2/d)	Avg Temp (deg C)	Array (Ah/day)	Sys Losses (%)	Load (Ah/day)	Batt Size (days)	Array/Load Ratio	Avg BSOC (%)	LOLP (%)
Jan	5.43	10.7	18.5	10	9.2	18.3	2.01	99	0.000
Feb	5.95	12.4	20.2	10	9.2	18.5	2.21	99	0.000
Mar	5.82	14.8	19.8	10	9.2	18.6	2.16	99	0.000
Apr	5.78	18.8	19.7	10	9.2	18.9	2.14	99	0.000
May	5.24	23.3	17.8	10	9.2	19.1	1.95	99	0.000
Jun	4.88	28.8	16.6	10	9.2	19.2	1.81	99	0.000
Jul	4.55	30.3	15.5	10	9.2	19.2	1.69	99	0.000
Aug	4.93	29.2	16.8	10	9.2	19.2	1.83	99	0.000
Sep	5.50	26.9	18.7	10	9.2	19.2	2.04	99	0.000
Oct	5.93	21.3	20.2	10	9.2	19.0	2.20	99	0.000
Nov	5.69	15.1	19.3	10	9.2	18.7	2.11	99	0.000
Dec	5.36	11.1	18.2	10	9.2	18.4	1.99	99	0.000



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PV Load Summary

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Design Load: 9.2 Ah Day @ 12.0 VDC
Tilt: 60S **Azimuth:** 0E **Tracking:** Fixed
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LOLP: 0.000 % **Avail:** 100.000 **Avg BSOC:** 99 %

System Summary

PV (Module / Array)

Model: IS65J
Rating: 65W / 65Wp
Modules: 1
Config: 1 S x 1 P
Vtyp: 17.20 / 17.2
Ityp: 3.78 / 3.8
Voc: 21.60 / 21.6
Isc: 4.08 / 4.1
Volts: 12.0

Battery (Unit / Total)

Model: 110AH #864507
Rated kWh: 2.64
Units: 2
Config: 1 S x 2 P
Voltage: 12.0 / 12.0
Amp-hr: 110.0 / 220.0
Rated Days: 19.2

Controller:

Model: PS-15
Type: Standard
Voltage: 12
Rating: 15
Quantity: 1

Inverter:

Model: n/a
Voltage: n/a
Rating: n/a
Quantity: n/a

Load Summary

Load No.	Load Description	Load Value	Load Type	AC / DC	Conversion Eff (%)	Load Usage (Hrs/d)	Daytime Load (%)
1	Mikros	2.00	Watts	DC	100	24.00	50
2	LED 1	15.00	Watts	DC	100	0.50	50
3	LED 2 and 3 Solid	60.00	Watts	DC	100	0.50	50
4	LED 2 and 3 wigwag	30.00	Watts	DC	100	1.00	50
5	0	0.00	Watts	DC	100	24.00	50
6		0.00	Watts	DC	100	24.00	50
7		0.00	Watts	DC	100	24.00	50
8		0.00	Watts	DC	100	24.00	50
9		0.00	Watts	DC	100	24.00	50
10		0.00	Watts	DC	100	24.00	50

Annual Load

Month	Design—	Seasonal Load Summary - % of Rated Load										Net Load (Ah/day)
	(Ah/d)	Load1	Load2	Load3	Load4	Load5	Load6	Load7	Load8	Load9	Load10	
Jan	9	100	100	100	100	100	100	100	100	100	100	9
Feb	9	100	100	100	100	100	100	100	100	100	100	9
Mar	9	100	100	100	100	100	100	100	100	100	100	9
Apr	9	100	100	100	100	100	100	100	100	100	100	9
May	9	100	100	100	100	100	100	100	100	100	100	9
Jun	9	100	100	100	100	100	100	100	100	100	100	9
Jul	9	100	100	100	100	100	100	100	100	100	100	9
Aug	9	100	100	100	100	100	100	100	100	100	100	9
Sep	9	100	100	100	100	100	100	100	100	100	100	9
Oct	9	100	100	100	100	100	100	100	100	100	100	9
Nov	9	100	100	100	100	100	100	100	100	100	100	9
Dec	9	100	100	100	100	100	100	100	100	100	100	9

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GENERAL CONDITIONS

1. ABBREVIATIONS AND DEFINITIONS

- 1.1 SCOPE: Many commonly used abbreviations appear in these specifications and the project drawings. These abbreviations normally require no explanation of definition beyond that contained in standard dictionaries and many technical handbooks.

Abbreviations of technical and construction terms used in these specifications and the project drawings are explained or defined in Section 1.2.

Technical and construction terms used in these specifications and the project drawings are defined in Section 1.3.

- 1.2 ABBREVIATIONS: Wherever the following abbreviations are used in these specifications, standard details or on the plans, they are to be construed the same as the respective expressions represented.

Abbreviations of technical or construction terms not defined herein shall be construed as defined in the most recent addition of CONSTRUCTION DICTIONARY, published by Greater Phoenix, Arizona Chapter #98 of the National Association of Women in Construction.

AASHTO American Association of State Highway & Transportation Officials

ACI American Concrete Institute

ACPA American Concrete Pipe Association

ADOT Arizona Department of Transportation

AGC Associated General Contractors of America, Inc.

AIA American Institute of Architects

AIEE American Institute of Electrical Engineers

AISC American Institute of Steel Construction

ANSI American National Standards Institute

APA American Plywood Association

APHA American Public Health Association

APWA American Public Works Association

ASCE American Society of Civil Engineers

ASME American Society of Mechanical Engineers

ASTM American Society for Testing Materials

AWSC American Welding Society Code

AWWA American Water Works Association

IEEE Institute of Electrical and Electronic Engineers

NBS National Bureau of Standards

NCPI National Clay Pipe Institute

NEC National Electrical Code

NEMA National Electrical Manufacturer's Association

NFPA National Fire Protection Association

NIC Not in Contract
SAE Society of Automotive Engineers
USC&GS United States Coast and Geodetic Survey
USGS United State Geological Survey

- 1.3 DEFINITIONS: Technical and construction terms used in these specifications and the Project drawings shall have the meanings indicated, applicable to both the singular and plural thereof. The technical and construction terms that are not defined in this section shall have the meanings set forth in the most recent addition of GLOSSARY, WATER AND WASTEWATER CONTROL ENGINEERING, prepared by AIWA, AWWA and WPCE; or CONSTRUCTION DICTIONARY, published by Greater Phoenix, Arizona Chapter #98 of the National Association of Women in Construction.

ADDENDA: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by additions, deletions, clarifications or corrections.

AGREEMENT OR CONTRACT: The formal or written agreement or contract executed by the authorized representatives of the Contracting Agency and the Contractor for the complete performance of the Project in accordance with the Contract Documents.

AWARD: The formal action of the Contracting Agency in accepting a proposal.

BID: The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the work to be performed.

BIDDER: Any qualified individual, firm partnership, corporation or combination thereof, acting directly or through a duly authorized agent submitting a bid for the work.

BONDS: Bid, Performance and Labor or Material Payment Bonds and other instruments of security furnished by the contractor and his surety in accordance with the contract documents.

CHANGE ORDER: A written order to the contractor authorizing an addition, deletion or revision in the work within the general scope of the contract documents, or authorizing an adjustment in the contract price or contract time.

CONTRACT DOCUMENTS: All of the integral documents of the contract, including but not limited to, Advertisement for Bids, Information for Bidders, Plans, Drawings, Construction Standards and Standard Details, Special Provisions, Proposal/Bid, Bid Bond, Agreement, Labor and Material Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Certificates of Insurance, Change Order, and Addenda or other documents incorporated therein.

CONTRACT PRICE: The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

CONTRACT TIME: The number of calendar days stated in the Contract Documents for the completion of the work.

CONTRACTOR: The individual firm, partnership, corporation or combination thereof with whom the Contracting Agency has executed the agreement.

CONTRACTING AGENCY (CITY): The legal entity that has contracted for the performance of the work, or for whom the work is being performed.

DRAWINGS (PLANS): The part of the contract documents which show the characteristics and scope of the work to be performed and which have been prepared or approved by the engineer.

ENGINEER: The person, firm or corporation named as such in the contract documents and licensed to perform such services in the State of Arizona.

FIELD ORDER: A written order effecting a change in the work not involving an adjustment in the contract price or an extension of the contract time, issued by the Engineer to the contractor during construction.

NOTICE OF AWARD: The written notice of the acceptance of the bid from the contracting agency to the successful bidder.

NOTICE TO PROCEED: Written communication issued by the contracting agency to the contractor authorizing and directing him to proceed with the work and establishing the date of commencement of the work.

CITY (CONTRACTING AGENCY): A public or quasi-public body or authority, corporation, association, partnership or individual for whom the work is to be performed.

PROJECT: The undertaking to be performed as provided in the Contract Documents.

RESIDENT PROJECT REPRESENTATIVE: The authorized representative of the contracting agency who is assigned to the project site or any part thereof.

SHOP DRAWINGS: All drawings, diagrams, illustrations, brochures, schedules and other data, which are prepared by the contractor, a subcontractor, manufacturer, supplier, or distributor, which illustrate how specific portions of the work shall be fabricated or installed.

SPECIAL PROVISIONS: The special conditions, requirements, additions and/or revisions to the construction standards, applicable to the work, to cover conditions or requirements peculiar to the project under consideration.

SPECIFICATIONS (CONSTRUCTION STANDARDS): A part of the contract documents consisting of these General Conditions, special conditions and written descriptions of a technical nature relating to materials, equipment, construction systems, standards and workmanship.

SUBCONTRACTOR: An individual firm or corporation having a direct contact with the contractor or with any other subcontractor for the performance of a part of the work at the site.

SUBSTANTIAL COMPLETION: The date as certified by the engineer when the construction project or a specified part thereof is sufficiently completed, in accordance with the contract documents, so that the project or specified part can be utilized for the purposes for which it is intended.

SUPPLIER: An individual, firm or corporation having a direct contract with the contractor or with any subcontractor for the manufacture or furnishing of any part of the supplies and/or materials to be used at or incorporated in part of the work at the site.

WORK: All labor necessary to produce the construction required by the contract documents, and all materials and equipment incorporated in the project.

WRITTEN NOTICE: Any written notice from one party of the agreement to any other party of the agreement relative to any part of the contract documents, which notice shall be deemed to have been properly served and delivered when posted by the sending party by Certified or Registered Mail to the receiving party at the receiving party's last given address or when delivered in person to the receiving party or to his or its authorized representative.

2. BIDDING REQUIREMENTS AND CONDITIONS

2.1 ELIGIBILITY AND PREFERENCE

The employment of contractors and subcontractors on this work shall be governed by these General Conditions and Specifications and any applicable provisions included in the Special Provisions.

2.2 CONTENTS OF PROPOSAL

The prospective bidder may examine and/or obtain plans, specifications, and proposal documents at the location specified in the advertisement.

The proposal document will state the location of the contemplated construction; give the description of the various quantities of work to be performed or materials to be furnished, and have a Bid Schedule of pay items for which unit bid prices are invited. The proposal documents shall also state the form and amount of the proposal guarantee, the time in which the work shall be completed and may include additional instructions not included in these specifications.

The Plans, Construction Standards, Standard Details, Special Provisions, and all supplementary documents are essential parts of the contract documents 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 or conflict, Plans shall govern over both Standard Details and Construction Standards. Special Provisions will govern over standard specifications, standard details and plans.

Each and every provision of law and clause required by law to be inserted in the Contract Documents shall be deemed to be inserted herein, and the Contract Documents shall be read and enforced as though they were included herein.

2.3 INTERPRETATION OF QUANTITIES IN PROPOSAL

The quantities appearing in the proposal are approximate only and are to be used for the comparison of bids. Payment to the contractor will be made only for the actual quantities of work performed and accepted, or for materials furnished in accordance with the Contract Documents at the unit bid price in the Proposal.

Any or all items in the signed agreement may be increased or decreased not more than 20% at the discretion of the Contracting Agency without invalidating the unit price in any way. Changes greater than 20% shall be considered to be an alteration to the work and shall be paid for in accordance with the provisions of Section 9.4.

2.4 EXAMINATION OF PLANS, SPECIAL PROVISIONS AND SITE OF WORK

The Contracting Agency shall prepare plans and special provisions in accordance with acceptable engineering standards, giving such direction as will enable the contractor to carry them out.

The Bidder shall examine the site of the proposed work and all documents pertaining to the work. It is mutually agreed that the submission of a proposal shall constitute an acknowledgement that the Bidder has made such examination and is familiar with the character, quality and quantity of the work to be performed and material to be furnished.

If a part of the Contract Documents, logs of test holes, ground water levels and accompanying soil reports furnished by the Contracting Agency are furnished for their general information only. Field conditions so set forth shall not constitute a representation or warranty, expressed or implied, that such conditions are actually existent. Bidders shall make their own investigations and form their own estimates of the site conditions.

No complaint or claim that there was any misunderstanding as to the quantities, conditions or nature of the work will be entertained after submission of the proposal, except as set forth in Section 004.2.

2.5 PREPARATION OF PROPOSAL

The Bidder shall submit his proposal on the forms provided by the Contracting Agency. The Bidder shall specify a unit bid price for each pay item where units and approximate quantities are given.

The Bidder shall specify a lump sum price for each pay item where a lump sum price is requested by the Contracting Agency.

The total proposal will be obtained by adding the amount bid on the individual pay items.

All information shall be in ink or typewritten. In case of a conflict between unit prices and total prices, unit prices shall govern.

The following shall also become a part of the Bidder's proposal:

- (A) Acknowledge receipt of the agreement that the proposal is based on, list addenda received with and/or after the receipt of the proposal documents.
- (B) Complete all portions of the bid proposal and bid schedule documents.
- (C) Bidders' signatures will be in ink on the Bid Form.

2.6 SUBCONTRACTORS' LIST

A list of Subcontractors shall be attached to the proposal. The Bidder shall submit this list showing each specialty Subcontractor to whom he proposes to subcontract any portion of the work.

2.7 IRREGULAR PROPOSALS

Proposals shall be considered irregular and may be rejected for any one of the following reasons:

- (A) If the proposal is on a form other than that furnished by the Contracting Agency; or if the form is altered or any part thereof is detached.
- (B) If there are unauthorized additions, statements, conditional or alternate bids, or irregularities of any kind.
- (C) If the Bidder adds any provisions reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award.
- (D) If the proposal does not contain a unit price for each pay item listed except in the case of authorized alternate pay items.
- (E) If the Bidder fails to submit the List of Subcontractors.
- (F) If more than one proposal for the same work is submitted by an individual, partnership or corporation under the same or different names.
- (G) If there is evidence of collusion among Bidders or assistance from any officer of the Contracting Agency or of any department thereof.

2.8 BID BONDS

No proposal will be considered unless accompanied by Bid Bond or certified check in the form and amount stated in the Advertisement for Bids. The bond or certified check shall be made payable to and shall be acceptable to the Contracting Agency as a guarantee that the Bidder shall execute the contract documents upon award of the Contract.

2.9 SUBMISSION OF PROPOSAL

The proposal and Bid bond or certified check shall be submitted in a sealed envelope. The outside, lower left hand corner of which shall be marked as follows:

Bid of _____,
(Contractor)
For: _____
(Project)
Bids Due: _____

Contracting Agency: _____ City of Eloy, Arizona

Envelopes shall be mailed or delivered to the office of the Contracting Agency and must be received before the time and date specified in the Information for Bidders or any Addenda.

Proposals received after the time and date specified will be returned, unopened, to the Bidder.

2.10 WITHDRAWAL OR REVISION OF PROPOSAL

Any Bidder may withdraw or revise a proposal after it has been deposited with the Contracting Agency, provided his request is received by the Contracting Agency, in writing or by telegram, before the time specified for opening proposals as stipulated herein.

2.11 PUBLIC OPENING OF PROPOSALS

Proposals will be opened and read publicly at the time and place specified in the Advertisement for Bids, or any Addenda. Bidders, their authorized agents and other interested parties are invited to be present.

Should proposals for more than one project be scheduled to be opened at the same time, and Bidder may, after the time set for opening proposals, request to withdraw his second or succeeding proposal prior to the opening of proposals for that project. Should this occur, there will be a brief delay in the opening of Proposals for the second project to permit the Bidder to submit his request. The Contracting Agency shall return the unopened Proposal for the second project of any Bidder submitting a personal or written request.

3. AWARD AND EXECUTION OF CONTRACT

3.1 CONSIDERATION OF PROPOSALS

All proposals received shall be publicly opened and read, as provided for in these specifications. After reading, the respective totals shall be checked and compared by the Contracting Agency. The accuracy of the total proposal shall be checked by verifying the extensions and additions. The Unit Bid Price shall govern in all cases. The results of such comparison shall be considered public information. The right is reserved to award the Contract to the lowest responsible Bidder, or to reject all proposals and re-advertise for any reason the Contracting Agency determines.

Should all proposals be rejected, any and all subsequent changes, additions, addenda, or new sets of plans and Special Provisions shall be provided to all purchasers of the first issue of the plans and Special Provisions at no additional charge, except that out of City bidders will pay shipping charges.

3.2 RETURN OF BID BONDS

Bid Bonds or certified checks submitted by the three lowest responsible Bidders shall be retained by the Contracting Agency until the Contract has been executed by all parties. Retained Bid Bonds or certified checks shall be returned to Bidders upon execution of the Agreement.

All other Bid Bonds or certified checks shall be returned to Bidders immediately following the Bid opening and the checking of the proposals submitted has been completed.

3.3 AWARD OF CONTRACT

The Contracting Agency shall award the Contract or all proposals will be rejected within 90 days after bid opening. The Contracting Agency's award of Contract shall be considered an acknowledgement that funding appropriations exist.

No proposal shall be withdrawn for a period of 90 days after opening without consent of the Contracting Agency.

The successful Bidder shall execute and deliver the prescribed Agreement to the Contracting Agency within 15 days after receipt of notice of award, provided that acceptance of the proposal is delivered to the Bidder within the time limit prescribed and prior to withdrawal of the proposal. Required Bonds shall be delivered with the executed Contract. Otherwise the Bidder's Bid Bond or certified check shall be forfeited.

3.4 REVOCATION OF AWARD

The Contracting Agency reserves the right to revoke the Award at any time prior to execution of the Contract without liability to the Contracting Agency.

3.5 CONTRACT SECURITY

The Contractor shall furnish the Contracting Agency a Performance Bond and a Labor and Material Payment Bond, each in penal sums equal to the amount of the Contract. Bonds shall be furnished with the executed Contract. The expense of the Bonds shall be borne by the Contractor.

Bonds shall be executed by the Contractor and a Corporate Bonding Company licensed to transact such business in the State of Arizona and named on the current "Surety Companies Acceptable on Federal Bonds" as published in the U.S. Treasury Department Circular #570. Bonds acceptable to the Contracting Agency shall be substituted in the event the original surety loses its right to transact business in the State of Arizona, is declared bankrupt, or is removed from U.S. Treasury Department Circular #570. Substitute Bonds shall be furnished within 10 days after notice from the Contracting Agency. Substitute Bonds shall conform to all requirements and sums established for the original Bonds. All premiums for the substitute Bonds shall be borne by the Contractor.

All payments due the Contractor may be deferred until the substitute bonds have been delivered to the Contracting Agency.

3.6 CONTRACTOR'S INSURANCE

- (A) The Contractor agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the Contractor pursuant to Section 7.15 of this Contract. Such insurance shall be in addition to any other insurance requirements imposed by this Contract or by law. The Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to Section 7.15 of this Contract by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.
- (B) Contractor shall procure and maintain, and shall cause any subcontractor of the Contractor to procure and maintain, the minimum insurance coverages listed below. Such coverages shall be procured and maintained with forms and from insurers licensed by the State of Arizona and acceptable to the Contracting Agency. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by the Contractor pursuant to Section 007.15 of this Contract. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.
 - (1) Worker's Compensation insurance to cover obligations imposed by applicable laws for any employee engaged in the performance of work under this Contract, and Employers' Liability insurance with minimum limits of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) each accident, FIVE HUNDRED THOUSAND DOLLARS (\$500,000) disease - policy limit, and FIVE HUNDRED THOUSAND DOLLARS (\$500,000) disease - each employee. Evidence of qualified self-insured status may be substituted for the Worker's Compensation requirements of this paragraph. If the Contractor elects to provide coverage through self-insurance,

the Contracting Agency may require financial statements to assure that the Contractor has sufficient financial capability, as determined by the Contracting Agency in its sole discretion, to underwrite such self-insurance. If the Contracting Agency determines that the Contractor's financial capabilities are insufficient, contractual insurance coverage shall be required of the Contractor.

- (2) General Liability insurance with minimum combined single limits of ONE MILLION DOLLARS (\$1,000,000) each occurrence and TWO MILLION DOLLARS (\$2,000,000) aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, independent contracts, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a Severability of Interests provision.
 - (3) Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than ONE MILLION DOLLARS (\$1,000,000) each occurrence and ONE MILLION DOLLARS (\$1,000,000) aggregate with respect to each of Contractor's owned, hired, or non-owned vehicles assigned to or used in performance of the services. The policy shall contain a Severability of Interests provision.
- (C) The policy required by this Section shall be endorsed to include the Contracting Agency and its officers and employees as additional insureds. Every policy required shall be primary insurance, and any insurance carried by the Contracting Agency, its officers, and its employees, or carried by or provided through any insurance pool of the Contracting Agency, shall be excess and not contributory insurance to that provided by Contractor. No additional insured endorsement to the policy required by this Section shall contain any exclusion for bodily injury or property damage arising from completed operations. The Contractor shall be solely responsible for any deductible losses under any policy required.
- (D) The Certificate of Insurance shall be provided to the Contracting Agency and completed by the Contractor's insurance agent as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be reviewed and approved by the Contracting Agency prior to commencement of the contract. The certificate shall identify this contract and shall provide that the coverages afforded under the policies shall not be cancelled, terminated, or materially changed until at least 30 days prior written notice has been given to the Contracting Agency. The completed certificate of insurance shall be sent to the City Clerk, 628 North Main Street, Eloy, Arizona 85131
- (E) Failure on the part of the Contractor to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of contract upon which the Contracting Agency may immediately terminate this contract or, at its discretion, the Contracting Agency may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in

connection therewith, and all monies so paid by the Contracting Agency shall be repaid by the Contractor to the Contracting Agency upon demand, or the Contracting Agency may offset the cost of the premiums against any monies due to the Contractor from the Contracting Agency.

- (F) The Contracting Agency reserves the right to request and receive a certified copy of any policy and any endorsement thereto.
- (G) The parties hereto understand and agree that the Contracting Agency is relying on, and does not waive or intend to waive by any provision of this contract, the monetary limitations or any other rights, immunities, and protections provided by Arizona Revised Statute, as from time to time amended, or otherwise available to the Contracting Agency, its officers, or its employees.

3.7 EXECUTION AND APPROVAL OF CONTRACT

The Contractor shall execute and deliver the Agreement to the Contracting Agency within 15 calendar days following receipt of the Notice of Award from the Contracting Agency.

The Contracting Agency shall approve and execute the Agreement within fifteen (15) calendar days following receipt of signed Agreement and acceptable Bonds and Certificates of Insurance.

No Contract shall be considered in effect until the Agreement has been fully executed by all parties concerned.

3.8 FORFEITURE OF PROPOSAL GUARANTEES

Failure of the Contractor to execute the Agreement, within the time stated, shall be just cause for revocation of the Award and the forfeiture of the proposal guarantee which shall become property of the Contracting Agency, not as a penalty, but as liquidation of damages sustained.

4. SCOPE OF WORK

4.1 WORK TO BE DONE

The Contractor shall perform all work as may be necessary to complete the Contract in a satisfactory and acceptable manner in full compliance with the plans, specifications and terms of the Contract.

The Contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities required to perform all work for the construction of the project within the time specified.

4.2 ALTERATION OF WORK

The Contracting Agency may order changes within the scope of the work without invalidating the Contract. Such changes may be made without notice to the Surety and the Surety shall not be released therefrom. An increase or decrease in the unit cost or completion time requiring an equitable adjustment and a Change Order shall be authorized by the Engineer.

Payment for work occasioned by these changes shall be made in accordance with provisions of Section 009. Completion time adjustment required by these changes shall be made in accordance with the provisions of Section 8.

4.2.1 SUBSURFACE CONDITIONS

4.2.1.1 The Contractor shall promptly notify the Contracting Agency or the Engineer in writing of any subsurface or latent physical condition at the site that differs materially from that indicated in the Contract Documents. Notification shall precede disturbing such conditions.

4.2.1.2 The Contractor shall promptly notify the Contracting Agency in writing of any unusual physical conditions at the site which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents. Notification shall precede disturbing such Conditions.

4.2.1.3 The Contracting Agency shall promptly investigate the conditions. An equitable adjustment shall be made and the Contract Documents modified by a Change Order should the investigation reveal that the conditions do differ materially and cause an increase or decrease in the cost or time required for performance of the work.

4.2.1.4 Adjustment in compensation because of a change or changes resulting from one or more of the conditions described shall be made in accordance with the provisions of Section 009. Adjustment in Contract time because of such change or changes shall be made in accordance with the provisions of Section 008.

4.3 EXTRA WORK

The Contractor shall perform unforeseen work, for which there is no unit price included in the Contract, whenever it is deemed necessary or desirable in order to fully complete the work as contemplated. Such work shall be governed by all applicable provisions of the Contract documents and payment shall be made in accordance with the provisions of Section 9.5.

The Contractor may claim that instructions received involve extra work under the Contract. If so, he shall give the Contracting Agency written notice thereof within 48 hours after receipt of such instructions. In any event, written notice shall precede execution of the work, except in emergencies endangering life or property. No claim shall be valid unless such written notice is given.

4.4 CHANGES AT CONTRACTOR'S REQUEST

The Contractor may request changes in the plans or specifications which do not materially affect the work or the interests of the Contracting Agency. Requests shall be in writing and submitted to the Contracting Agency for approval. Such requests may be granted to facilitate the work. The Contracting Agency reserves the right to receive an equitable adjustment in the contract price or contract time for authorizing change.

4.5 MAINTENANCE OF TRAFFIC

The Contractor shall insure the only portion of the project being used by the public be maintained in such condition that vehicular and pedestrian traffic shall be adequately accommodated. He shall also provide and maintain safe temporary approaches, crossings and intersections with Agencies and facilities that provide emergency services to the public.

The Contractor shall not interfere with traffic on streets adjacent to off-street projects. Traffic upon street projects shall be maintained in accordance with the Special Provisions. Detours to by-pass traffic shall be used only after approval by the Contracting Agency.

4.6 CLEAN UP AND DUST CONTROL

Throughout all phases of construction, and until final acceptance of the project, the Contractor shall keep the work area clean and free from rubbish, excess materials and debris.

Failure of the Contractor to comply with the Engineer's cleanup orders may result in an order to suspend work until the condition is corrected. No additional compensation or time will be allowed as a result of such suspension.

The Contractor shall take whatever steps, procedures or means are required to prevent abnormal dust conditions due to his construction operations. The dust control measures shall be maintained at all times, to the satisfaction of the Engineer.

4.7 FINAL CLEANING UP

All private or public property and grounds occupied by the Contractor in connection with the work shall be cleaned of all rubbish, excess materials, temporary structures and equipment, and, all parts of the work area shall be left in a condition acceptable to the Contracting Agency.

5. CONTROL OF WORK

The Contractor will be held strictly to the intent of the Contract Documents in regard to the quality of materials, workmanship and execution of the work.

5.1 AUTHORITY AND RESPONSIBILITY OF THE ENGINEER

The Engineer shall be the Contracting Agency's representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and work performed. He shall interpret the intent of the Contract Documents in a fair and unbiased manner. The Engineer shall make visits to the site and determine if the work is proceeding in accordance with the Contract Documents.

The Engineer shall not be responsible for the construction means, controls, techniques, sequences, procedures or construction safety nor shall he direct the Contractor's operations in any manner.

The Contractor shall be furnished additional instructions and detail drawings, by the Engineer, as necessary to carry out the work required by the Contract Documents.

The additional drawings and instructions thus supplied shall become a part of the Contract Documents. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions.

The Engineer may suspend the work, wholly or in part, for any of the following reasons:

- (A) For such period of time deemed necessary due to unsuitable weather conditions.
- (B) Contractor's failure to perform according to the provisions of the Contract.
- (C) Contractor's failure to provide safe working conditions.
- (D) For reasons deemed to be in the public interest.

5.2 DRAWINGS AND SPECIFICATIONS

Drawings will show details of all structures, utilities, lines, elevations, grades, typical cross sections and location and design of all work.

The intent of the specifications and drawings is that the Contractor shall furnish all labor, materials, tools, equipment and transportation necessary for the proper execution of the work in accordance with the Contract Documents and all incidental work necessary to complete the project in an acceptable manner, ready for use, occupancy or operation by the Contracting Agency.

In case of conflict between the drawings and Specifications, the drawings shall govern. Figure dimensions on drawings shall govern over scale dimensions and detailed drawings shall govern over general drawings.

Discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported, in writing, to the Engineer. The Engineer shall promptly correct such inconsistencies or ambiguities in writing. Any work performed by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk, until or unless authorized by the Engineer.

5.3 SHOP DRAWINGS

The Contractor shall provide shop drawings as may be necessary for the prosecution of the work as required by the Contract Documents. The engineer shall promptly review all shop drawings. The engineer's approval of any shop drawing shall not release the Contractor from responsibility for deviations from the Contract Documents. The approval of any shop drawing which substantially deviates from the requirements of the Contract Documents shall be evidenced by a Change Order.

When submitted for the Engineer's review, Shop Drawings shall bear the Contractor's certification that he has reviewed, checked, and approved the Shop Drawings and that they are in conformance with the requirements of the Contract Documents.

Portions of the work requiring a shop drawing or sample submission shall not begin until the shop drawing or submission has been approved by the Engineer. A copy of each approved shop drawing and each approved sample shall be kept in good order by the Contractor at the site and shall be available to the Engineer.

The number of shop drawings required by the Contracting Agency will be six (6) unless otherwise specified in the special provisions. The cost of furnishing all shop drawings shall be considered as included in the amount bid for one or more of the pay items.

5.4 CONFORMITY WITH DRAWINGS AND SPECIFICATIONS

All work performed and all materials furnished shall comply with the lines, elevations, grades, cross sections, dimensions and material requirements, including tolerances, shown on the plans or indicated in the specifications.

Materials or finished products incorporated in the work that do not conform to the plans and specifications may be accepted and remain in place. However, the engineer shall determine if reasonably acceptable work has been produced or that the finished product substantially complies with the Contract Documents. Acceptance shall be documented by a Change Order providing for an appropriate adjustment in the Contract price.

5.5 COOPERATION OF CONTRACTOR

The Contractor shall be supplied with two (2) sets of Contract Documents. The Contractor shall keep one set available at the work site at all times.

The Contractor shall have on the work site at all times his agent, a competent superintendent capable of reading and understanding the plans and specifications. The superintendent shall have full authority to stop or delay work as directed by the Engineer for testing or inspection or for any reason as specified in Section 5.1.

Emergencies may arise during the progress of the work which may require special effort or require extra shifts of men to continue the work beyond normal working hours. The Contractor shall be prepared to do all such work promptly in case of such emergencies arising. If such emergencies arise out of or as a result of any improper or negligent act or omission of the Contracting Agency, the Contractor shall not be paid for all of his work costs actually incurred in excess of normal working hours and normal equipment use.

5.6 COOPERATION WITH UTILITIES

The Contracting Agency will notify all municipal agencies, utility companies, all pipeline Citys, or other affected parties, and have all necessary adjustments made of the public or private utility fixtures, pipelines, and other appurtenances within or adjacent to the limits of construction as soon as practical.

Water lines, gas lines, wire lines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cable ways, signals and all other utility appurtenances within the limits of the proposed construction which are to be relocated or adjusted are to be moved by their Citys at their expense, except as otherwise provided for in the Special Provisions or as noted on the plans. Existing services found to be in a location different than shown on the plans which require additional cost on the part of the Contractor, shall require issuance of a Change Order in accordance with the proposal Section 009.5

It is understood and agreed that the Contractor has considered in his proposal all of the permanent and temporary utility appurtenances in their present or relocated positions as shown on the plans and that no additional compensation will be allowed for any delays, inconvenience or damage sustained by him due to any interference from the said utility appurtenance or the operation of moving them. If delays are encountered because utility Citys fail in their responsibility to relocate or adjust their facilities, the contract time will be adjusted in accordance with Section 8.

The Contractor has considered the location of all permanent and temporary utilities and has included allowance for any delay, inconvenience or damage sustained by the operation of moving of said utility.

Delays encountered due to utility City's failure to relocate or adjust their facilities shall result in an extension of the Contract time in accordance with Section 008.7.

5.7 SEPARATE CONTRACTS

The Contracting Agency reserves the right to let other contracts in connection with this project. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work with his. If the proper execution or results 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 engineer any defects in such work that render it unsuitable for such proper execution and results.

The Contracting Agency may perform additional work related to the project itself. The Contractor will afford the Contracting Agency reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly coordinate his work with theirs.

The Contracting Agency will not honor any claim for extra compensation due to delays, extra work or extensions of time caused by any other contractors working within the limits of the same project.

Performance of additional work by other Contractors or the Contracting Agency that was not noted in the Contract Documents prior to the execution of the Contract shall be subject to written notice to the Contractor prior to starting any such additional work.

The Contractor shall give all utility companies, all pipeline Cities and other parties affected the maximum notice possible when their underground or overhead services interfere with his work. The Contractor shall resolve all problems with the utility Cities concerned.

5.8 SURVEYS

The engineer shall establish all base lines for locating the principal component parts of the work, together with a suitable number of bench marks adjacent to the work. The contractor shall develop and make all detail surveys needed for construction, such as staking all proposed improvements for construction, slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations and cut sheets.

The Contractor shall carefully preserve bench marks, reference points and stakes and in case of willful or careless destruction, shall be charged with the replacement expense.

5.9 INSPECTION OF WORK

Inspection of the work by the Engineer or his authorized representative shall not be considered as direct control of the work. The direct control of the work shall be the sole responsibility of the Contractor's supervisor.

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.

The Contractor shall provide the testing and inspection services required by the Contract Documents and other such tests necessary to assure the quality of the work. The Contracting Agency will provide independent inspection of the work, and the Contractor shall provide 24 hour notice for required witness testing and prior to covering work to be inspected.

Any law, ordinance, rule, regulation or order of a public authority having jurisdiction may require inspections or tests by someone other than the Contractor. If so, the Contractor will give the Engineer timely notice of readiness for such inspections or tests. The Contractor will furnish the Engineer copies of certificates of inspection, testing or approval resulting from such inspections or tests within 24 hours of completion when practical, or as soon as they are available.

Inspections, tests or approvals by the Engineer shall not relieve the Contractor from his obligations to perform the work in accordance with the requirements of the Contract Documents.

The Engineer and his representatives will at all times have access to the work.

Authorized representatives or agents of a participating local, federal or state agency shall be permitted to inspect the work. The Contractor will provide access to the work for inspection or testing thereof.

The Engineer may order that portions of the work be uncovered, exposed or made available for observation, inspection or testing. The Contractor shall provide all necessary labor, materials, tools and equipment to comply with the Engineer's order. If such portion of the work is determined to be defective, the Contractor shall bear all costs involved, including the cost of reconstruction. If such portion of the work is determined to be in substantial compliance with the Contract Documents, the Contractor shall be compensated in accordance with Section 9.5(B). The Contract time shall be extended in accordance with Section 8.6.

5.10 DUTIES OF INSPECTOR

Inspectors employed by the Contracting Agency will be authorized to inspect all work done and materials furnished. Such inspection may extend to all or any part of the work and the preparation, fabrication or manufacture of the materials to be used.

The inspector will not be authorized to alter or waive the provisions of the Contract. The inspector will not be authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

The inspector will have authority to suspend acceptance of work or materials until any disagreement between the Contractor and the inspector can be referred to and decided upon by the Engineer.

5.11 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

The Contractor shall remove from the premises all work rejected by the Engineer for failure to comply with the Contract Documents, whether incorporated in the construction or not. The Contractor shall promptly replace or re-execute the work in accordance with the Contract Documents and without expense to the Contracting Agency. The Contractor shall also bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

All removal and replacement work shall be done at the Contractor's expense within the Contract period.

Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans, or any extra work done without authority, will be considered as unauthorized work to be removed and to deduct the costs for any monies due or to become due the Contractor.

5.12 MAINTENANCE OF PUBLIC ROADWAYS DURING CONSTRUCTION

The Contractor shall maintain the work during construction and until the project is accepted. This maintenance shall require continuous and effective work prosecuted day by day, with adequate equipment and forces so that the roadway or structures are kept in satisfactory condition at all times.

The Contractor shall maintain the previous course or subgrade during all construction operations. All cost of maintenance work during construction and before the project is accepted shall be included in the unit bid price on the various pay items.

5.13 FAILURE TO MAINTAIN PUBLIC ROADWAY OR STRUCTURE

If the contractor fails to perform maintenance during construction, the Engineer will immediately notify the Contractor of such noncompliance. If the Contractor fails to comply within 24 hours after receipt of such notice the Engineer may immediately proceed to maintain the project at the expense of the Contractor. The entire cost of this maintenance will be deducted from monies due to the Contractor on this or other contracts with the Contracting Agency.

5.14 PARTIAL USE OR OCCUPANCY

Should an urgent or unforeseen need occur, the Contractor agrees to let the Contracting Agency use or occupy a unit or portion of the project, such as a structure, utility service or a section of road or pavement prior to final acceptance.

The Contracting Agency will prepare a written agreement with the Contractor and accomplish a partial acceptance inspection. The written agreement will include a revised construction schedule; responsibilities for maintenance of the portion of the project partially accepted and continued construction of the original project to final acceptance, payments, and insurance and bond requirements.

5.15 ACCEPTANCE

- (A) **PARTIAL ACCEPTANCE:** During the prosecution of the project, the Contractor may substantially complete a unit or portion of the Project. The Contractor may request the Engineer to make final inspection of that portion of the work. If the Engineer finds, upon inspection, that the work has been satisfactorily completed in compliance with the Contract, he shall accept the work as being completed and the Contractor shall be relieved of further responsibility for that work. Such partial acceptance shall in no way void or alter terms of the Contract.
- (B) **FINAL ACCEPTANCE:** Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer shall make an inspection. If all construction provided for by the Contract is found completed, that inspection shall constitute the final inspection and the Engineer shall make the final acceptance. The Contractor shall be notified in writing of acceptance as of the date of the final inspection.

If the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer shall give the Contractor the necessary instructions for correction of same, and the Contractor shall comply with and execute such instructions within the same contract period. Upon correction of the work, another inspection shall be made which shall constitute the final inspection provided the work has been completed. In such event, the Engineer shall make the final acceptance and notify the Contractor in writing of acceptance as of the date of the final inspection.

6. CONTROL OF MATERIALS

6.1 SOURCE OF MATERIALS AND QUALITY

All construction materials to be used on the work or incorporated into the work shall be subject to the inspection and approval or rejection of the Engineer.

The materials shall meet all quality requirements of these specifications. The Contractor shall notify the Engineer of his proposed source of materials prior to delivery. The Engineer may approve materials at the source of supply or point of manufacture prior to movement to the job site. Such approval does not waive the Engineer's right to inspect the materials at the job site or to reject materials that do not conform to specifications.

6.2 MATERIALS, SERVICES AND FACILITIES

The Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction and all other services and facilities necessary to execute, complete and deliver the work within the specified time.

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as recommended by the manufacturer.

Materials, supplies and equipment shall be substantially equal to samples submitted by the Contractor and approved by the Engineer.

Materials, supplies or equipment to be incorporated into the work shall not be purchased by the Contractor or the Subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

6.3 SAMPLES AND TESTS OF MATERIALS

All materials to be incorporated into the work may be subject to sampling, testing and approval. Samples furnished shall be representative of the materials to be used. The Engineer may select samples, or may require that samples be delivered by the Contractor to a certified laboratory.

The procedures and methods used to sample and test materials will be determined by the Engineer. Unless otherwise specified samples and tests will be made in accordance with the standard methods of Quality Standards which were in effect and published at the time of advertising for Bids. Copies of tests accomplished by the Contracting Agency will be furnished the Contractor at his request.

The Engineer may permit the use of some manufactured materials prior to sampling and testing provided they are delivered with either a Certificate of Compliance or a Physical and Chemical Analysis conforming to Quality Standards requirements, stating that the materials comply with the requirements of the specifications. The certificates shall clearly identify each delivery of materials to the work area. The certificates shall be signed by a person having legal authority to bind the supplier or manufacturer. Copies of the certificate shall be delivered to the Engineer.

6.4 PLANT INSPECTION

The Engineer may authorize inspection of materials at the source, point of storage or point of manufacture. The following conditions shall apply in all cases:

- (A) The Contractor shall submit a written request for the plant inspection. The request shall include a list of the materials to be inspected, detailed locations of inspection point and listing of responsible persons at location of inspection.
- (B) The Contractor shall also insure that the Engineer shall have access to any part of the plant engaged in the manufacturing, production or assembly of the material to be inspected. Access shall be subject to normal work schedules, safety procedures and security of the plant.

Materials delivered to job site that have been damaged or altered subsequent to the plant inspection may be rejected by the Engineer.

6.5 TRADE NAMES AND SUBSTITUTIONS

Plans and specifications may contain references to equipment, materials or patented processes by manufacturer, trade name, make or catalog number. Such references shall be regarded as establishing a standard of quality, finish, appearance, performance or as indicating a selection based upon compatibility with existing equipment or materials. Such reference shall not be construed as limiting the selection to a specified item or source, unless specifically designated.

The use of an alternate item or source may be permitted, subject to the following:

(A) No consideration will be given a request for an alternate prior to bid opening.

(B) The Contractor may submit a written request for approval of an alternate item or source after Notification of Award of Contract. The request shall include all information necessary for evaluation of quality and suitability for purpose intended. The Contractor shall submit samples when required.

(C) The Engineer shall evaluate the information, perform tests when necessary and make a final decision as to the acceptability of the proposed alternatives. The Engineer shall give the Contractor written notification of his decision within 10 days after receipt of request.

6.6 PATENTS

The Contractor shall pay all applicable royalties and license fees. He shall defend all lawsuits or claims for infringement of any patent rights and save the Contracting Agency harmless from loss on account thereof. The Contracting Agency shall be responsible for any loss when a particular manufacturer or manufacturers is specified in the Contract documents.

6.7 STORAGE OF MATERIALS

The Contractor shall provide storage facilities and exercise such measures as will insure the preservation of the quality and fitness of all materials and/or equipment approved for storage. Stored items shall be located so as to facilitate their prompt inspection. Portions of the right-of-way easements not required for public travel may be used for storage purposes when approved by the Engineer. Any additional storage area required must be provided by the Contractor. Private property shall not be used for storage purposes without written permission of the City or lessee. The Engineer may request copies of such written permission. All storage sites shall be restored to their original condition by the Contractor at his expense.

6.8 HANDLING MATERIALS

Materials and/or equipment shall be handled in such a manner as to preserve their quality and fitness for the work. Manufacturers' written requirements shall be followed if different than accepted local practice.

6.9 UNACCEPTABLE MATERIALS

All materials and/or equipment not conforming to the requirements of the specifications, in place or not, may be rejected. Rejected materials and/or equipment shall be removed immediately from the site of the work otherwise permitted by the Engineer. No rejected materials and/or equipment, the defects of which have been subsequently corrected, shall be used until approved in writing by the Engineer.

Materials which may have been rejected for failure to comply with accepted national standards on any other project shall not be incorporated into this project without written approval of the Contracting Agency.

6.10 CONTRACTING AGENCY FURNISHED MATERIALS

Materials and/or equipment furnished by the Contracting Agency will be delivered to the Contractor as indicated in the Special Provisions. The cost of handling and placing shall be included in the appropriate Contract pay sum. The Contractor shall be held responsible for any shortages, deficiencies and damages which may occur after his acceptance.

7. LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

7.1 PROTECTION OF WORK, PROPERTY AND PERSONS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He shall take precautions necessary to provide for the safety of the employees on the work. He shall protect materials and equipment that are to be incorporated into the work. He shall provide protection to prevent damage to other property at or adjacent to the site.

Property to be protected shall include pavements, roadways, structures, utilities, trees, lawns, shrubs and walks designated to be incorporated into the completed project.

The Contractor shall comply with all legally applicable laws, orders, ordinance, rules or regulations enacted by the public body having jurisdiction over the work. He will erect and maintain all necessary safeguards for safety and protection as required by the progress of the work. He shall notify Citys of adjacent utilities at such time as progress of the work may directly affect them. The Contractor shall remedy all damage, injury or loss to any property caused directly, in whole or in part, by the Contractor, his Subcontractors, or anyone directly employed by any of them.

The Contractor shall act promptly in emergencies to prevent threatened damage, injury or loss to the work or persons or property at, or immediately adjacent to the site. The Contractor is expected to act promptly and without special instruction or authorization from the Contracting Agency or Engineer. The Contractor shall submit prompt written notice to the Engineer defining significant changes to the work or to the Contract Documents that resulted from the emergency. The Engineer shall promptly issue a change order covering the changes and deviations involved.

7.2 SUPERVISION BY CONTRACTOR

The Contractor will supervise and direct the work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction.

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Engineer, his inspectors and other Contractors in every way possible.

All phases of the Project such as concrete work, pipe work, etc. shall be under the direct supervision of a foreman or the superintendent's designated representative on the site who shall have authority to accept instructions with respect to that particular phase of the project, and take action required to properly carry out the work.

The Engineer may require the Contractor to stop work on a specific part of the project until the required supervision is present.

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 on short notice.

7.3 PERMITS

Permits and licenses of a temporary nature and necessary for the prosecution of the work shall be secured and paid for by the Contractor unless otherwise stated in Special Provisions. Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Contracting Agency.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance therewith, he shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in Section 009.4.

The Contractor shall notify the appropriate permit agencies of actions undertaken as required by the permit.

7.4 TAXES

The contractor is responsible for any and all taxes due for materials incorporated into the work, as well as any sales or use taxes. All taxes and fees are to be included in the bid prices.

7.5 ARCHAEOLOGICAL REQUIREMENTS

When the Contractor's excavating operations encounter remains of prehistoric people's dwelling sites or artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. The Engineer will contact archaeological authorities to determine the disposition thereof. When directed, the contractor shall excavate the site in such manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper state authorities. Such excavation will be considered and paid for as extra work.

7.6 RESERVED -- ARCHAEOLOGICAL REPORTS

7.7 SAFETY, HEALTH AND SANITATION PROVISIONS

The Contractor shall provide and maintain neat, sanitary accommodations for his employees' use as may be necessary to comply with the requirements and regulations of the Arizona Department of Environmental Quality. Full use of the Contractor's accommodations shall be provided to the employees of the Contracting Agency or the Engineer who might be assigned to the project.

The Contractor shall provide all safeguards, safety devices and protective equipment and take any other actions reasonably necessary to protect the life and health of employees on the job, the safety of the public and to protect property in connection with the performance of the work covered by the Contract.

Precautions shall be exercised by the Contractor at all times for the protection of persons (including employees) and property. The Contractor shall comply with the provisions of all applicable laws pertaining to such protection, including all Federal and State occupational safety and health acts, standards and regulations promulgated thereunder.

7.8 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall at all times conduct his work so as to assure the least possible obstruction to traffic and adjacent residents. The safety and the protection of persons and property of the general public and residents along the street, highway and areas adjacent to the work shall be provided for by the Contractor.

7.9 BARRICADES AND WARNING SIGNS

The Contractor shall provide, erect and maintain all necessary barricades, sufficient lights, danger signals and other traffic control devices and shall take all necessary precautions for the protection of the work and safety of the public. Roads partially or fully closed to traffic shall be protected by effective barricades. Obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to properly control and direct traffic.

The Contractor shall erect warning signs in advance of any place where operations may interfere with the use of the road by traffic. Warning signs shall be placed at all intermediate points where the new work crosses or coincides with an existing road.

All barricades, lights, control devices, signs and warning devices shall conform in all respects to the provisions of the Manual on Uniform Traffic Control Devices for Streets and Highways, which is hereby made a part of these Specifications.

7.10 USE OF EXPLOSIVES

The use of explosives will be permitted only when authorized in writing by the Engineer and after the Contractor has obtained the necessary permit from the Contracting Agency.

The Contracting Agency reserves the right to order the discontinuance of blasting operations at any time.

Explosives shall be transported, stored, handled and used in accordance with the provisions and requirements of all applicable laws, ordinance and regulations. Work shall be done in accordance with the recommendations of the AGC Manual of Accident Prevention in Construction and Institute Makers of Explosives.

The approval by the Engineer for the use of explosives shall not relieve the Contractor from his responsibilities. When explosives are used the Contractor will:

- (A) Exercise the utmost care not to endanger life or damage property.
- (B) Be responsible for any and all damages resulting from their use.
- (C) Furnish and erect special signs to warn the public of his blasting operations. They shall be located and maintained so as to be clearly evident to the public during all critical periods of blasting operations.
- (D) Notify each public utility company having structures adjacent to the work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies to advise the Contractor of any precautions that should be taken to protect their structures from damage.
- (E) Make a survey of adjacent properties, before commencing blasting operations, locating on drawings and by photographs all existing cracks and damages to structures. A copy shall be filed with the Engineer, including a report of any property Citys who refused to cooperate and permit entry and inspection.

7.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

The Contractor shall be responsible for the preservation of all public and private property within the limits of the work. He shall protect and prevent disturbance or damage to all land monuments and property marks until the Engineer has witnessed, or otherwise referenced their location, and shall not move them until directed.

Access to private property shall be maintained to minimize inconvenience to the property City or lessee. The Contractor shall notify the property occupant 24 hours in advance of any construction across driveways and sidewalks shall be minimized by restoring serviceability as quickly as possible.

7.12 CONTRACTOR'S RESPONSIBILITY FOR WORK

The Contractor shall protect and take all necessary precautions against injury or damage to all finished or partially finished work, including protection against action of the elements or from any other cause until the entire project is completed and accepted by the Engineer. Partial payment for completed portions of the work shall not release the Contractor from such responsibility.

The Contractor shall be responsible for the project in case the work is suspended. The Contractor shall take appropriate precautions to prevent or minimize damage to the project. Erection of temporary structures, signs or other facilities may be required to provide the necessary protection.

7.13 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

The Contractor shall cooperate with the City of underground or overhead utilities in order that the work may progress in a reasonable manner and that duplication of work may be minimized. The Contractor shall not commence work at points adjacent to the property, equipment or service facilities of utilities until arrangements for protection, removal or movement thereof have been made. The Contractor shall not undertake work adjacent to fire hydrants until the local fire authority has approved provisions for continued use and service.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any action, omission, neglect or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted

The Contractor shall immediately notify the proper authority if any utility service is interrupted as a result of the Contractor's operations. The Contractor shall assist and cooperate with the utility in the restoration of the service.

Utility service interruptions caused by the Contractor's negligence, carelessness or failure to utilize the utility's capabilities in locating services shall be the sole responsibility of the Contractor. If water service is interrupted, repair work shall be continuous until the service is restored.

In case of utility service interruptions caused by the failure or refusal of the utility to identify and/or locate existing utilities, the Contractor shall immediately provide the Engineer written notification of the utility's non-cooperation and proceed only as instructed by the Engineer.

7.14 RIGHT-OF-WAY

Prior to issuance of Notice to Proceed, the Contracting Agency shall obtain all land and rights-of-way necessary for carrying out and for the completion of the work to be performed pursuant to the Contract Documents.

7.15 INDEMNIFICATION

The Contractor agrees to indemnify and hold harmless the Contracting Agency, its officers, employees, insurers, and self-insurance pool, from and against all liability, claims, and demands, on account of injury, loss, or damage, including without limitation claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this contract, if such injury, loss, or damage is caused in whole or in part by, or is claimed to be caused in whole or in part by, the act, omission, error, professional error, mistake, negligence, or other fault of the Contractor, any subcontractor of the Contractor, or any officer, employee, representative, or agent of the Contractor, or which arise out of any worker's compensation claim of any employee of the Contractor or of any employee of any subcontractor of the Contractor. The Contractor agrees to investigate, handle, respond to, and to provide defense for and defend against, any such liability, claims, or demands at the sole expense of the Contractor. The Contractor also agrees to bear all other costs and expenses related thereto, including court costs and attorney fees, whether or not any such liability, claims, or demands alleged are groundless, false, or fraudulent.

7.16 NO WAIVER OF LEGAL RIGHTS

The Contracting Agency will expeditiously make a final inspection and notify the Contractor of acceptance, upon completion of the work. Such final acceptance shall not preclude or prevent the Contracting Agency from correcting any measurement, estimate or certificate made before or after completion of the work. Nor shall the Contracting Agency be precluded or prevented from recovering from the Contractor, his surety, or both, any overpayment made or for a failure by the Contractor to fulfill his obligations under the Contract. A Contracting Agency waiver on a single part of the work shall not be deemed to be a waiver on any other part of the work

The Contractor shall be liable to the Contracting Agency for any fraud or latent defects or gross mistakes as may amount to fraud and the Contracting Agency's rights under any warranty or guaranty.

8. COMMENCEMENT, PROSECUTION AND PROGRESS

8.1 NOTICE TO PROCEED

Neither the Contractor nor any Subcontractor shall commence work on the project prior to receipt of the written Notice to Proceed issued by the Contracting Agency. The Contractor shall commence work as soon as practicable after the starting date specified in the Notice to Proceed. All work under the Contract shall be completed within the number of calendar

days stated in the proposal, plus extensions stipulated in Change Orders, beginning with the day following the starting date specified in the Notice to Proceed.

The Contractor shall notify the Engineer 24 hours in advance of the time and place where work will begin. Two working days advance notice is required for surveying and staking.

8.2 SUBLETTING OR ASSIGNMENT OF CONTRACT

The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of all or any part of the Contract or Contracts, or of his right, title or interest therein, without prior written consent of the Contracting Agency.

The Contractor may utilize the services of specialty Subcontractors on those parts of the work, which under normal contracting practices, are performed by specialty Subcontractors.

The Contractor shall not award work to Subcontractor(s), in excess of fifty (50) percent of the Contract Price, without prior written approval of the Contracting Agency.

The Contractor shall be fully responsible to the Contracting Agency for the acts and omissions of his Subcontractors, and of persons directly employed by them, as he is for the acts and omission of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind Subcontractors to the Contractor by the terms of the Contract Documents and to give the Contractor the same power as regards terminating any subcontract that the Contracting Agency may exercise over the Contractor under any provision of the Contract Documents. All subcontracts shall be in writing.

8.3 SCHEDULES, REPORTS AND RECORDS

The Contractor shall submit information on the work to be performed to the Contracting Agency relating to quantities, progress schedules, payrolls, reports, estimates, records and other data as are required by the Contract Documents.

Prior to the commencement of construction, the Contractor shall submit construction progress schedules showing the order in which he proposes to carry on the work.

The progress schedules shall include starting and completion dates of the various parts of this project.

The Special Provisions shall detail requirements for submission of schedules and reports relating to Special Detail Drawings, Shop Drawings, manufacturing schedules, testing and/or inspection of materials purchased for the project and any other specific schedule, report or record.

8.4 LIMITATION OF OPERATIONS

The Contractor shall not perform any work after regular working hours, on weekends or legal holidays without written permission from the Engineer, except for emergencies. The Contractor and the Engineer shall arrange for continuous or periodic inspection of the work, surveys and tests when such work is necessary.

The Engineer may require the Contractor to increase his operations to insure that the construction schedule is attained, should the rate of construction fall behind schedule. The Contractor may be required to increase personnel, shifts and/or overtime operations as well as quantity of equipment until such time as the work is back on schedule. Increased operations required shall be at the Contractor's expense unless such increased operations arise out of or are as a result of any improper or negligent act or omission of the Contracting Agency in which latter event, the Contractor shall be paid for all of his or its costs actually incurred in excess of normal working hours.

8.5 CHARACTER OF WORKMEN: METHODS AND EQUIPMENT

The Contractor shall, at all times employ sufficient labor and equipment, for prosecuting the work to full completion in the manner and time required by the Contract Documents.

All workmen shall be competent and have sufficient skill, knowledge and experience their class of work and operation of equipment, to perform all work properly and satisfactorily.

The Engineer may provide the Contractor a written opinion that a specific person or persons are not performing in a proper and skillful manner. Further, the Engineer may request that such person or persons be removed from the work by the Contractor or Subcontractor. The request may also require that persons so removed shall not again be employed in any portion of the work without written approval of the Engineer. The Contractor shall hold the Contracting Agency harmless from damages or claims for compensation that may occur in the enforcement of this paragraph.

Should the Contractor 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 are complied with.

All equipment which is proposed to be used on the work 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 such that it will not damage property adjacent to the work area.

The Contractor shall be responsible for the construction means, methods, controls, techniques, scheduling, sequences, procedures, construction safety and operations throughout the term of the Contract. Should work so produced not conform to the Specifications, the Contractor shall remove the defective work and replace it with work of the specified quality or take such corrective action as approved by the Engineer. No change in basis of payment or Contract Time shall be authorized for defective work replaced or corrective work required.

When the Contract specifies that construction be performed by the use of certain methods and equipment, should work so provided not conform to the Specifications, the Contractor may be required to remove the defective work and replace it with work of the specified quality or take such corrective action as approved by the Engineer.

8.6 DETERMINATION AND EXTENSION OF CONTRACT TIME

The number of calendar days allowed for the completion of the work included in the Contract will be as stated in the proposal. The Contract time shall consist of the number of calendar days specified, including all weekends and legal holidays. All calendar days elapsing between the effective dates of any written notice from the Engineer to suspend work and to resume work following suspension shall be excluded. Completion date of the project shall be determined as the date of final inspection on which all deficiencies have been corrected.

The Contractor may submit a written request for an extension to the completion time. The request must set forth specific reasons or conditions beyond the control of or through no fault of the Contractor. The Engineer shall evaluate the request and may extend the time for completion as the conditions justify. If granted, the extended time for completion shall be in full effect the same as though it were the original time for completion.

8.7 WARRANTY

The Contractor shall warrant all materials and equipment furnished or installed, and work performed for a period of two (2) years from the date of final acceptance. The Contractor warrants that the completed system is free from all defects due to faulty materials or workmanship. The Contractor shall promptly make such corrections as may be necessary by reason of such defects, including the repair of any damage resulting from such defects. The Contracting Agency will give notice of observed defects with reasonable promptness. The Performance Bond shall remain in full force and effect through the warranty period.

Should any defects develop within two years from the date of final acceptance due to faults in workmanship or materials, the Contractor shall, within 14 calendar days of receipt of written notice from the Contracting Agency, begin making the necessary repairs to the satisfaction of the Engineer. Such work shall include the repair or replacement of other work or materials damaged or affected by making the above repairs or corrective work, all at no additional cost to the Contracting Agency.

In case of work, materials or equipment for which written warranties are required by the special provisions, the Contractor shall provide or secure from the appropriate Subcontractor or supplier such warranties addressed to and in favor of the Contracting Agency and deliver same to the Engineer prior to final acceptance of the work. Delivery of such warranties shall not relieve the Contractor from any obligation assumed under any other provisions of the Contract.

8.8 TIME FOR COMPLETION AND LIQUIDATED DAMAGES

The date of beginning and the time for completion of the work are essential conditions of the Contract Documents and the work embraced shall be commenced on the date specified in the Notice to Proceed.

The Contractor will proceed with the work at such a rate or progress to insure full completion within the Contract time. It is expressly understood and agreed, by and between the Contractor and the Contracting Agency, that the contract time for the 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.

Should the Contractor fail to complete the work within the Contract time, or extension of time granted by the Contracting Agency, the Contractor shall pay the Contracting Agency the amount of liquidated damages specified in the Bid or \$500 per day if not specified in the Bid for each calendar day the Contractor may be in default of the time stipulated in the Contract Documents.

8.8.1 The Contractor shall not be charged with liquidated damages provided the delay in completion of the work is due to the following and the Contractor has promptly given written notice of such delay to the Contracting Agency or Engineer.

(A) To any preference, priority or allocation order duly assigned by the Contracting Agency.

(B) To unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, or of the public enemy, acts of omission of the Contracting Agency, floods, epidemics, quarantine restrictions, strikes, material or fuel shortages due to governmental regulations or allocations, freight embargoes and abnormal or unusually severe weather.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time fixed for its completion may have been extended, will in no way operate as a waiver on the part of the Contracting Agency of any of its rights under the Contract.

8.9 SUSPENSION OF WORK, TERMINATION AND DELAY

8.9.1 The Contracting Agency may suspend all or any portion of the work for not more than 90 days by written notice to the Contractor. The notice shall include the date on which work shall be resumed, and the contractor, shall resume work on that date. The Contractor shall be allowed an increase in the Contract Price or an extension in time of completion, or both, directly attributable to any suspension.

8.9.2 The Contracting Agency may terminate the services of the Contractor, and take possession of the project and all materials, equipment, tools, construction equipment and machinery thereon that may be owned by the Contractor. The termination shall be effective ten days after the Contracting Agency has delivered written notice to the Contractor. The termination may be initiated for any of the following reasons and shall not prejudice any other right or remedy available to the Contracting Agency:

- (A) The Contractor is adjudged bankrupt or insolvent.
- (B) The Contractor makes a general assignment for the benefit of his creditors.
- (C) A trustee or receiver is appointed for the Contractor or for any of his property.
- (D) The Contractor files a petition to take advantage of any debtor's act or to reorganize under any bankruptcy law.
- (E) The Contractor repeatedly fails to supply sufficient skilled workmen, materials or equipment to maintain the construction schedule.
- (F) The Contractor repeatedly fails to make prompt payments to Subcontractors, or for labor, materials or equipment.
- (G) The Contractor disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the work.
- (H) The Contractor disregards the authority of the Engineer.
- (I) The Contractor violates any provision of the Contract Documents.

After termination notice is served, the Contracting Agency may proceed to finish the work by whatever method it deems most expedient.

The Contractor shall not be entitled to receive any payment from time of termination until the work is finished. All direct and indirect costs incurred in completing the project shall be assessed against the Contract Price. Any residue shall be paid the Contractor. Any unpaid balance shall be immediately paid to the Contracting Agency by the Contractor.

8.9.3 The Contracting Agency may elect to suspend or abandon the project and terminate the Contract. The action shall be effective ten days after the Contracting Agency has delivered written notice to the Contractor. This action may be initiated for any reason, without cause, and shall not prejudice any other right or remedy available to the Contracting Agency. The Contractor shall be paid for all work executed. No claim for loss of profits will be considered.

8.9.4 The Contractor may terminate the Contract for any of the following reasons. The termination shall be effective ten days after the Contractor has delivered written notice to the Contracting Agency.

- (A) The Contracting Agency has suspended the work for more than 90 days.
- (B) The work is suspended for more than 90 days under the order of the court or other public authority.
- (C) The Engineer fails to act on any request for payment within 30 days after its submittal.
- (D) The Contracting Agency fails to pay the Contractor within 30 days the sum approved by the Engineer or awarded by arbitrators.

The Contractor shall be entitled to payment for all work executed. The Contract will be terminated by the Contractor ten days after receipt of the Contractor's written notification.

9. MEASUREMENTS AND PAYMENTS

9.1 MEASUREMENT OF QUANTITIES

Measurement for pay items in the Contract shall be defined in the Special Provisions-Specifications section.

All work completed under the Contract will be measured by the Engineer according to United States standard measures. The methods of measurement and computation to be used in determination of quantities of materials furnished and of work performed under the Contract will be those methods generally recognized as conforming to good engineering practice.

Longitudinal and transverse measurement for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of one square yard or less. The neat dimensions shown on the plans or ordered in writing by the Engineer shall be used for area computation.

The term "lump sum," when used as a pay item, will mean complete payment for the work described.

Sundry items which are incidental to or required in the construction of the work but are not included as items in the bid schedule shall be considered an integral part of the Contract, and all labor, materials, etc. required for such items shall be furnished by the Contractor and included in the appropriate unit price bid.

9.2 SCOPE OF PAYMENT

Payment for pay items in the Contract shall be as indicated in the Technical Specifications.

Payment for the various items in the Contract shall be made at the unit price Bid in the proposal. Payment shall be compensation in full for furnishing all labor, materials, equipment, and appurtenances necessary to complete the work as shown on the plans and as required in the Specifications. Each item, fixture, piece of equipment, etc., shall be complete with all necessary connections and appurtenances, for the satisfactory use and operation of said item. No additional payment will be made for work related to any item unless specifically called for in the Contract.

Payment may be specified to be made on the basis of weight. The weighing shall be done on certified platform scales sealed by the State Inspector. The Contractor shall furnish the Engineer with duplicate Weigh master's Certificates showing the actual net weights. The Contracting Agency will accept the certificates as evidence of the weight delivered.

The Engineer and Contractor may agree to use a weight/volume factor in computing payment for materials to be measured by the cubic yard. An acceptable method of computing volumes of excavation is to determine a weight/volume factor and convert weights to volumes by means of the factor. The weight/volume factor shall be determined by test methods agreed upon by the Engineer and Contractor. The number of tests used to determine the material weight/volume factor shall be determined by the Engineer. The locations where the tests are taken shall be those locations specified in the "Method of Measurement" for the particular Bid item, i.e., Unclassified Excavation - in its original position: Fill Construction - in its final compacted position, or as agreed upon by the Engineer and the Contractor.

9.3 ASSIGNMENTS

Neither the Contractor nor the Contracting Agency shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

9.4 COMPENSATION FOR ALTERATION OF WORK

When the total quantity of the original Contract or the total quantity of any item increases or decreases more than 20 percent, either party may require an adjustment in payment as follows:

- (A) A quantity decrease in an item that is in excess of 20% of the quantity bid may require an adjustment when a reasonable cost analysis supports an increase in the unit cost of the fixed costs chargeable to that item.

- (B) A quantity increase in an item that is in excess of 20% of the quantity bid may be considered and will apply only to that quantity in excess of 120% of the Bid schedule quantity. Adjustment shall be made when a reasonable cost analysis supports a change in the pro rata share of the fixed costs chargeable to that item. The Engineer reserves the right to require increases in excess of 120% of the bid schedule quantity to be performed on the basis of extra work.

Adjusted unit prices shall include fixed costs as determined above an allowance of 15% of the fixed costs to cover applicable overhead and profit. No claim shall be made by the Contractor for any loss of anticipated profits because of such alterations. No claim shall be made for any variations between the approximate quantities and the quantities of work as completed.

9.5 EXTRA, ALTERED, OR FORCE ACCOUNT WORK

The value of Extra, Altered or Force Account work performed in accordance with the requirements and provisions of Section 4 shall be determined by the Engineer in one or more of the following ways:

- (A) By unit Bid prices or lump sum, either as set forth in the original proposal or as agreed upon by both the Contractor and the Engineer and stipulated in the Change Orders authorizing the work. Should both parties fail to agree on a basis of payment, the Engineer may order the work done on an actual cost basis.
- (B) By actual cost for which reimbursement will be based in the following manner:
 - (1) Labor. For all labor and foremen in direct charge of the specific operations, the contractor shall receive the rate of pay (or scale) agreed upon in writing before beginning work for each and every hour that said labor and foremen are actually engaged in such work.

An amount equal to 67% of the above rates will also be paid the Contractor to cover overhead, additional bond, property damage and liability insurance, workmen's compensation insurance premiums, unemployment insurance contributions and social security taxes

In addition to the wage plus 67% of the wage, the actual amount of fringe benefits will be paid to the Contractor for those work classifications which carry fringe benefits resulting from collective bargaining agreements or as required by U.S. Department of Labor Wage Schedules. (Fringe benefits are those payments made by the Contractor to a third party or trustee to cover such things as, but not limited to health and welfare, pensions, vacations, apprenticeship programs and industry advancement funds). Also, the Contractor shall receive the actual costs paid to or in behalf of workmen by reason of subsistence and travel allowances which are the result of a collective bargaining agreement or other employment contract generally applicable to the classes of labor employed by the work. The 67% factor shall not apply to fringe benefits, subsistence and travel allowances paid to the workmen, to a third party, or to a trustee.

(2) Materials. For materials accepted by the Engineer and used, the Contractor shall receive the actual cost of such materials delivered on the Work, including transportation charges by him (excluding machinery rentals as hereinafter set forth), to which cost 15% will be added.

(3) When extra work on a force account basis is performed on the project by a Subcontractor or specialty firm including utilities and railroads, in accordance with the provisions, an extra work order on a percentage based on the following table will be allowed as additional to the total compensation due as calculated under this Subsection. This additional percentage is to reimburse the prime Contractor for the administrative expenses incurred in connection with the work. Bid items and any other work in the original Contract are not to be considered.

Percentages allowed will be applied to each individual billing for extra work not to exceed one billing per month.

To \$1,000	10%
Over \$1,000 to \$10,000	\$100 plus 5% of excess over \$1,000
Over \$10,000	\$550 plus 3% of excess over \$10,000

Approval of this additional percentage will be made after certified invoices are furnished by the Contractor.

(4) Equipment. For use of equipment which has been authorized by the Engineer, the Contractor shall be paid in accordance with rental rates specified in the most current issue of the Arizona Department of Transportation Construction Equipment Rental Rate Schedule or as agreed upon in writing before the work is commenced. Such rental rates shall exclude labor but shall include fuel and lubricants, to which will be added the cost of transporting such special equipment to the job site.

(5) Miscellaneous. Additional allowance will not be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

(6) Compensation. The Contractor's representative and the Engineer shall compare records and agree upon the payment for work done as ordered on a force account basis.

(7) Statements. Payment will not be made for work performed until the Contractor has furnished the Engineer with an itemized statement of the cost of such Extra, Altered or Force Account Work. Statements shall be accompanied and supported by certified invoices for all materials used. However, if materials used on the Extra, Altered or Force Account Work are not specifically purchased for such work but are taken from the Contractor's stock, then, in lieu of the invoices, the Contractor shall furnish a written statement certifying that such materials were taken from his stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

9.6 ELIMINATED ITEMS

Should any items contained in the proposal be found unnecessary for the proper completion of the work, the Engineer shall notify the Contractor in writing to eliminate the item. Such action will not invalidate the Contract. The Contractor, by Change Order, will be reimbursed for actual work done and all costs incurred, including mobilization of materials and equipment prior to the elimination of such items.

9.7 CHANGE ORDERS

The Contract Price may be changed only by a Change Order. The value of any work covered by a Change Order or of any claim for increase or decrease in the Contract Price shall be determined by one or more of the following methods in the order of precedence listed below:

- (A) Unit prices previously approved.
- (B) An agreed lump sum.
- (C) The procedure set forth in Subsection 9.5.

9.8 PAYMENTS TO THE CONTRACTOR

Payments will be made in the manner and at such times as set forth in the Special Provisions of the Contract Documents.

The Contractor will indemnify and save the Contracting Agency, its agents and employees harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, suppliers and furnishers of machinery, parts, equipment, tools and all supplies incurred in the furtherance of the performance of the work. The Contractor shall, at the Contracting Agency's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived (lien waiver). If the Contractor fails to do so, the Contracting Agency may, after having notified the Contractor, either pay undisputed unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged, whereupon payment to the Contractor shall be resumed in accordance with the terms of the Contract Documents. In paying undisputed bills of the Contractor, any payment so made by the Contracting Agency shall be considered as payment made under the Contract Documents by the Contracting Agency to the Contractor and the Contracting Agency shall not be liable to the Contractor for any such payments made in good faith.

9.9 ARBITRATION

Unless prohibited by local charter, ordinance or other law, all claims, disputes and other matters in question arising out of, or relating to, the Contract Documents or the breach thereof, and aggregating not more than \$50,000 or 10% of the original contract price, whichever is greater, except for claims which have been waived by the making and acceptance of final payment as provided by Section 9.8, shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. This provision to arbitrate shall be specifically enforceable under applicable statutes or laws. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

Claims, disputes or other matters in question and aggregating more than \$50,000 or 10% of the original contract price may be decided by arbitration, as defined above, provided both parties mutually agree in writing to submit such claims, disputes or other matters to arbitration.

Notice of the demand for arbitration shall be filed in writing with the other party to the Contract Documents and with the American Arbitration Association, and a copy shall be filed with the Engineer. Demand for arbitration shall in no event be made on any claim, dispute or other matter in question which would be barred by an applicable statute of limitations.

The Contractor will carry on the Work and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

9.10 ACCEPTANCE OF FINAL PAYMENT AS RELEASE

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Contracting Agency of all claims and all liability to the Contractor other than claims in stated amounts as may be specifically excepted by the Contractor for all things done or furnished in connection with this work and for every act and neglect of the Contracting Agency and others relating to or arising out of this work. Any payment, however, final or otherwise, shall not release the Contractor or his sureties from any obligations under the Contract Documents or the Performance Bond and Labor and Material Payment Bonds, as hereinabove more fully described.

End of General Conditions Section



**TOWN OF HUACHUCA CITY
IN PARTNERSHIP WITH THE
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