VICTOR VALLEY TRANSIT AUTHORITY

Representing the communities of Apple Valley, Adelanto, Barstow, Hesperia, Victorville, and San Bernardino County.

REQUEST FOR PROPOSAL
(RFP) 2020-06

BARSTOW CNG STATION UPGRADE

February 18, 2020

NOTICE INVITING PROPOSALS

1. Purpose of the Procurement and Period of Performance
Victor Valley Transit Authority (VVTA) is seeking to contract for the engineered design and upgrade of the existing liquefied / compressed natural gas (L/CNG) vehicle-fueling system at the VVTA Barstow Operations and Maintenance facility in Barstow, CA, in accordance with Attachment A – Scope of Work.

2. Obtaining Proposal Documents
Proposal documents may be obtained from Victor Valley Transit Authority, in person at 17150 Smoke Tree Street, Hesperia, CA 92345-8305 or electronically at www.vvta.org/procurement. Documents are also available via email request to cplasting@vvta.org. Proposals requested by courier or via USPS mail shall be packaged and sent only at the Proposers' expense.

3. Proposal Due Date and Submittal Requirements
Proposals must be received by ***3:00 PM (PDT) on Thursday, April 16, 2020 .***

3.1 Sealed Proposals shall be delivered to the following address:

Victor Valley Transit Authority
Attn: Christine Plasting
Procurement Manager
17150 Smoke Tree Street
Hesperia, CA 92345

3.2 Envelopes or boxes containing proposals shall be sealed and clearly labeled with VVTA's RFP number and the solicitation title: "VVTA RFP 2020-6 BARSTOW CNG STATION UPGRADE." **The Pricing Forms shall be in a separate sealed envelope clearly marked "Pricing Forms"**

3.3 Proposers are requested to submit to VVTA one (1) hard copy of the proposals marked "Original" and one (1) electronic copy via DVD/CD or thumb/flash drive. A Proposal is deemed to be late if it is received by VVTA after the deadline stated above. Late proposals shall be returned, unopened to the Proposer. It is the Proposer's sole responsibility to ensure that the Proposals are received by the Procurement Manager by the date and time stated above.

4. Bonds

4.1 ***UPON AWARD OF CONTRACT –*** Contractor will provide to VVTA a Performance Bond and a Payment Bond each not less than 100% the value of the contract.

5. Prevailing Wage
Minimum wage rates for this project have been predetermined by the Secretary of Labor. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the prevailing wage rates as determined by the State for similar classifications of labor, the Contractor and his/her subcontractors shall pay not less than the higher wage rate. In accordance with provisions of Section 1773.2 (amended 1977) of the California Labor Code copies of the prevailing rate of per diem wages as determined by the State Director of Industrial Relations and are available at the California Department of Industrial Relations' Internet web site at http://www.dir.ca.gov/oprl/DPreWageDetermination.htm. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed. Copies of the prevailing wage rates are on file with VVTA and available upon request.

6. Vendor Registration with the California Department of Industrial Relations
California SB 854 Compliance -VVTA will not accept a Bid from or enter the Contract with a Bidder, without proof that the Bidder and its Subcontractors are registered with the California Department of Industrial Relations (DIR) to perform public work under Labor Code Section 1725.5, subject to limited legal exceptions. The Bid shall enter DIR Registration Number on the Bid.

7. Validity of Bids.
Bids and subsequent offers shall be valid for a period of ninety (90) days. An award may be made without further discussion. VVTA reserves the right to withdraw or cancel this IFB at any time without prior notice and VVTA makes no representation that any contract will be awarded to a Bid responding to this IFB.

8. Pre-Proposal Meeting
There will be a Pre-Proposal meeting on Tuesday, March 17, 2020, at 11:00 AM (PDT) located at its Barstow Facility – 100 Sandstone Court, Barstow, CA 92311. The deadline for questions is Friday, April 3, 2020, at 5:00 PM (PDT). Prospective proposers are requested to submit questions, in writing, to the Procurement Manager at cplasting@vvta.org. Responses shall be shared with all known prospective proposers by written addenda only.

The successful Bidder will be required to comply with all applicable Equal Opportunity Laws and Regulations.

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1. INSTRUCTIONS TO PROPOSERS

A. PROPOSAL TIMELINE

Date of RFP:	February 18, 2020
Agency:	VICTOR VALLEY TRANSIT AUTHORITY
Address of Agency:	17150 SMOKE TREE ST., HESPERIA, CA 92345-8305
Contracting Officer:	Christine Plasting, Procurement Manager
Telephone No:	*(760) 948-4021, Ext. 152*
FAX No:	*(760) 948-1380*
Email Address:	cplasting@vvta.org
Pre-proposal Conference (Non-Mandatory)	11:00 a.m., PDT, Tuesday, March 17, 2020
Last Day for Questions	5:00 p.m. PDT, Friday, April 3, 2020
Addenda and Answers to questions	2:00 p.m. PDT, Thursday, April 9 2020
Proposals Due Date	3:00 p.m. PDT. Thursday, April 16, 2020
Anticipated Award Date	May 18, 2020

B. PURPOSE

Victor Valley Transit Authority (VVTA) is seeking to contract for the upgrade to its L/CNG facility located at its Barstow Maintenance and Operations facility. This project includes requirements for the engineered design and upgrade of the existing liquefied / compressed natural gas (L/CNG) vehicle-fueling system at Victor Valley Transit Authority (VVTA) Barstow bus maintenance facility in Barstow, CA. The awarded Contractor will prepare engineered and approved design-construction drawings for all required disciplines, add a new 250 HP / 500 SCFM CNG-compressor skid and appurtenances to the existing L/CNG fueling system, to include a new gas dryer, CNG dispenser, CNG-storage vessels, replacement priority-valve panel, (2) utility gas metersets, electric-utility upgrades, gas-fueled backup generator and appurtenances, and integrate with the existing LCNG pumps, CNG storage vessels, and dispenser for the purpose of adding redundancy to the existing station for CNG. The Contractor will be required to provide and install all equipment and materials needed to complete the upgrades, including design engineering, equipment, materials, labor, utility upgrades, structural work and other appurtenances and site work as required to deliver a complete, code-compliant and safe CNG-system upgrade.

C. BACKGROUND

Victor Valley Transit Authority (VVTA) is a public transit agency and Consolidated Transportation Services Agency (CTSA), providing bus, ADA paratransit, and vanpool service to California's High Desert. VVTA's service area spans nearly 1,000 square miles, featuring service to Adelanto, Apple Valley, Barstow, Hesperia, Needles, Victorville and unincorporated San Bernardino County, including Daggett, Helendale, Hinkley, Lucerne Valley, Newberry Springs, Oak Hills, Oro Grande, Phelan, Pinon Hills, Wrightwood, and Yermo. Commuter service to Fort Irwin National Training Center (NTC) and connecting service from the High Desert to the Inland Empire is also provided. Additional information and service alerts are available at VVTA.org and Twitter.com/VVTransit.

D. PERIOD OF PERFORMANCE

VVTA intends to award a Fixed Price contract for a period of not to exceed two hundred and eighty (280) calendar days. VVTA may award the contract at a time other than stated in the proposed schedule

E. EXAMINATION OF DOCUMENTS

By submitting a proposal, the Proposer represents that it has thoroughly examined and become familiar with the work required and documents included under the RFP.

F. REQUEST FOR CLARIFICATION / APPROVED EQUALS

1. Whenever any material, product or service is specified or indicated in the contract documents by brand name, trade, patent, or proprietary name or by the name of the manufacturer, the item so specified or indicated shall be deemed to be followed by the words, "Or Equal."

2. At any time during this procurement up to the time specified in the "Proposal Schedule" (Section A), proposers may request, in writing, a clarification or interpretation of any aspect, or a change to any requirement of the RFP or any addendum to the RFP. Requests may include suggested substitutes for specified items and for any brand names. Whenever a brand name is used in this solicitation it shall mean the brand name or "approved equal." Such written requests shall be made to the Contracting Officer and may be transmitted by facsimile or via email. The Proposer making the request shall be responsible for its proper delivery to VVTA per "Contracting Officer" (Section A) on the form provided (Attachment D) "Proposal Deviation, Pre-Offer Change or Approved Equal." VVTA will not respond to oral requests. Any request for a change to any requirement of the Contract Documents must be fully supported with technical data, test results, or other pertinent information evidencing that the exception will result in a condition equal to or better than that required by the

RFP, without substantial increase in cost or time requirements. Any responses to such written request shall be provided by VVTA in the form of addendum only. Only written responses provided as addendum shall be official and all other forms of communication with any officer, employee or agent of VVTA shall not be binding on VVTA**.**

3. VVTA, at its sole discretion, shall determine whether the substantiating data demonstrates that an "approved equal" item(s) is equivalent in all respects to the item specified in the contract documents.

G. VENDOR CONTACT

1. All correspondence, communication and/or contact with regard to any aspect of this solicitation is authorized only with the designated Contracting Officer identified in "A. Proposal Schedule" above, or their designated representative. Proposers and their representatives shall not make any contact with or communicate with any employees of VVTA, or its directors and consultants, other than the Contracting Officer regarding any aspect of this solicitation or offers. Ex parte' communications with members of VVTA's Board of Directors or any person responsible for awarding a contract, including the Contracting Officer is prohibited under California Public Contract Code Section 20216. All communications shall be in writing and will be made public.

2. If it should appear to a prospective Proposer that the performance of the Work under the contract, or any of the matters relating thereto, is not sufficiently described or explained in the **RFP** or Contract Documents, or that any conflict or discrepancy exists between different parts thereof or with any federal, state, local or Agency law, ordinance, rule, regulation, or other standard or requirement, then the Proposer shall submit a written request for clarification to VVTA within the time period specified above.

H. ADDENDA TO RFP

VVTA reserves the right to amend the RFP at any time. Any amendments to or interpretations of the RFP shall be described in written addendum. VVTA shall provide copies of Addendum to all prospective Proposers officially known to have received the RFP. Prospective Proposers, or their agents, shall be responsible to collect the addendum at the address provided in "Contracting Officer" (Section A. above) or receive the same otherwise. Notification of the addendum will also be mailed or delivered to all such prospective Proposers officially known to have received the RFP and to the address provided by each prospective Proposer. Failure of any prospective Proposer to receive the notification or addendum shall not relieve the Proposer from any obligation under its proposal as submitted or under the RFP, as clarified, interpreted or modified. All addendum issued shall become part of the RFP. Prospective Proposers shall acknowledge the receipt of each individual

addendum and all prior addenda in their proposals. Failure to acknowledge in their proposals receipt of addendum may, at VVTA's sole option, disqualify the proposal.

If VVTA determines that the addendum may require significant changes in the preparation of proposals, the deadline for submitting the proposals may be postponed by the number of days that VVTA determines will allow Proposer enough time to revise their proposals. Any new Due Date shall be included in the addendum.

I. FORMAT OF PROPOSALS

1. Proposals must be submitted and organized in the order listed below. The proposal shall include, at a minimum, the following:

    a. Cover letter – Proposer must include a letter of introduction.

    b. Title Page

    c. Table of Contents

    d. Profile of Firm (History, Experience, Changes) – This section should include details regarding the proposer's ability and experience to operate the project as specified in the RFP. The following information should be included:

        I. Corporate hierarchy – i.e. President, Vice President, Corporate Officers, etc…

        II. Corporate overview of services or activities performed.
            - History of firm – Include a brief history of the firm
            - Founding Date (month and year)
            - Firm size – staff and client base
            - Firm's vision and mission statement

        III. Employment practices – policies and procedures, training, including safety training and affiliation/accreditation.

        IV. Location of the office from which the work will be provided and the staff allocation at that office.

    e. Identify Project team including, but not limited to:

        I. Size of Project Team

        II. Education, qualifications, and specific experiences in performing the work that is being solicited in this RFP.

III. Project Organization Chart.

f. Resumes of Key Personnel (if applicable)

g. Commitment that key personnel will be available throughout contract and will not be removed without prior approval of VVTA (if applicable)

h. Proposer's approach to accomplish the Scope of Work Requirements.

I. Description of proposer's approach to performing services. Proposals must include a description of the services to be rendered per the scope of work including a detailed proposal.

II. Provide a work plan or description of how the work will be performed by the contractor. (e.g. – outline a proposed work plan and methodologies that will be employed to accomplish the work)

III. The name of the Project Manager / Liaison and a list of personnel to be assigned to the project and the roles and qualifications.

IV. Indicate whether or not your firm will be subcontracting portion(s) of the work. If so, indicate the name of the subcontractor, the portion of the work to be subcontracted, and their State of CA Contractor's License Number (if applicable).

V. Describe your firm's approach to resolving problems that may be encountered in the field.

i. Summary of Contracted Services

I. Proposer must identify all areas that will be subcontracted and name of the firms performing such work. List their key personnel and their qualifications.

II. Proposer must list all services, equipment and facilities that the proposer has provided and/or operated under contract during the past five (5) years. Include company name, address, phone number, and contact.

III. VVTA reserves the right to interview any organization and visit any of the facilities as listed as subcontractors.

j. Summary of Financial Stability.

Two (2) Years Audited Financial Statements, or tax returns (Including Schedules submitted with tax returns.)

k. Required Forms (See Attachment F)

l. Any other information required by this RFP or its addenda which may not be listed above.

m. Cost/Price Proposal – Proposers shall submit proposed pricing to provide the products/services for the work described in Attachment A – Scope of Work.

2. Firms may include additional information, however, do NOT attach terms and conditions that conflict with the RFP, as your firms' proposal may be deemed non-responsive.

J. PROPOSAL PACKAGING REQUREMENTS

1. Please note that **all addenda** must be acknowledged. Proposer is instructed to use Attachment E – Acknowledgement of Addenda – to acknowledge all addenda released during this solicitation.

2. **Sealed original proposal plus one (1) electronic copy,** must be received at the address shown in "Proposal Schedule" (Section A) not later than ***3:00 PM (PDT) on Thursday, April 16, 2020.*** All labor and materials shall be furnished in strict accordance with the delivery schedule and the Contract terms and conditions. All Proposals shall be valid for a period of ninety (90) days.

3. Proposer shall submit the Cost/Price Proposal (Attachment F) with the proposal. Prices are to be quoted exclusive of California State and Local Sales Tax. Proposer shall pay all taxes which are legally enacted at the time bid is submitted and shall secure and pay for all permits and government fees, licenses and inspections necessary for the proper execution and completion of the Contract. All invoices submitted by awarded contractor, shall itemize applicable California State and Local Sales tax, or state "sales tax included".

4. Proposals including all submittal documents and including price elements shall be submitted by the due date specified, in two sealed packages identified as **"VVTA RFP 2020-06 BARSTOW CNG STATION UPDATE – TECHNICAL PROPOSAL"** and **"VVTA RFP 2020-06 – COST/PRICE PROPOSAL"**

K. PRE-CONTRACTUAL EXPENSES

1. VVTA will not be liable for any pre-contractual expenses incurred by any Proposer in preparation of its proposal. Proposer shall not include any such expenses as part of their proposal.

2. Pre-contractual expenses are defined as expenses incurred by the proposer in:

   a. Preparing a proposal in response to this RFP;
   b. Submitting that proposal to VVTA.
   c. Negotiating with VVTA any matter related to this proposal; and
   d. Any other expenses incurred by proposer prior to date of award, if any, of the Agreement.

L. JOINT PROPOSALS

Where two or more firms desire to submit a single proposal in response to this RFP, they should do so on a prime-subcontractor basis rather than as a joint venture.

M. TAXES

Proposals are subject to State and Local sales taxes. However, VVTA is exempt from the payment of Federal Excise and Transportation Taxes. Firm is responsible for payment of all taxes for any goods, services, processes, and operations incidental to or involved in the contract.

N. MODIFICATION OR WITHDRAWAL OR PROPOSALS

1. A modification of a proposal already received will be accepted by VVTA only if the modification is received prior to the Proposal Due Date or is specifically requested by VVTA. All modifications shall be made in writing and executed and submitted in the same form and manner as the original proposal.

2. A Proposer may withdraw a proposal already received prior to the Proposal Due Date by submitting, in the same manner as the original proposal, to VVTA a written request for withdrawal executed by the Proposer's authorized representative. After the proposal Due Date, a proposal may be withdrawn only if VVTA fails to award the contract within the proposal validity period prescribed in "Due Date" or any agreed upon extension thereof. The withdrawal of a proposal does not prejudice the right of a Proposer to submit another proposal within the time set for receipt of proposals.

3. This provision for modification and withdrawal of proposals may not be used by a Proposer to submit a late proposal and, as such, will not alter VVTA's right to reject a proposal.

O. SUBCONTRACTORS AND ASSIGNMENTS

1. Pursuant to the provisions of the California Public Contract Code Section 4104 every proposer shall in the proposal set forth:

a. The name and location of the place of business (address) of each subcontractor who will perform work or labor or render service to the proposer in or about the work in an amount in excess of one-half of one percent of the proposer's total proposal; and

b. The portion of the work that will be done by each subcontractor. The proposer shall list only one subcontractor for each portion of work as defined by the proposer in its proposal.

c. The dollar amount of the work which will be done by each such subcontractor

2. Proposer shall complete form entitled "List of Subcontractors (Attachment G)" with the above requested information.

3. If the proposer fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent of the proposer's total Proposal, or if the proposer specified more than one subcontractor for the same portion of the work to be performed under the contract in excess of one-half of one percent of the proposer's total proposal, the proposer agrees to perform that portion.

4. The successful proposer shall not, without the express written consent of VVTA, either:

   a. Substitute any person, firm, or corporation as subcontractor in place of the subcontractor designated in the original Proposal; or

   b. Permit any subcontract to be assigned or transferred; or

   c. Allow it to be performed by anyone other than the original subcontractor listed in the Proposal.

5. Each proposer shall set forth in its proposal the name and location of the place of business (address) of each subcontractor certified as a disadvantaged business enterprise who will perform work or labor or render service to the prime contractor in connection with the performance of the contract.

6. Proposer shall not assign any interest it may have in any Agreement/Contract with VVTA, nor shall proposer assign any portion of the work under any such Agreement with a value in excess of one-half of one percent of Agreement price to be sub-contracted to anyone other than these subcontractors listed in the "List of Subcontracts," except by prior written consent of VVTA. VVTA's consent to any assignment shall not be deemed to relieve proposer of its obligations to fully comply with its obligations under its Agreement with VVTA. Proposer with its own forces shall perform a minimum of ten percent (10%) (Calculated as a

percentage of the total cost of the project) of the work under this Agreement. Proposer shall also include in its subcontract agreements the provisions of its Agreement with VVTA including the stipulation that each subcontractor shall maintain adequate insurance coverage compatible to the insurance coverage required of the proposer.

P. CONFIDENTIALITY AND PUBLIC RECORDS ACT

All Proposals and other material submitted become the property of VVTA and are subject to release according to the California Public Records Act (Government Code § 6250.) Except as otherwise required by state law, VVTA will exempt from disclosure proprietary information, trade secrets and confidential commercial and financial information submitted in the proposal. Any such proprietary information, trade secrets of confidential commercial and financial information, which a Proposer believes should be exempted from disclosure, shall be specifically identified and marked as such. VVTA will use reasonable means to ensure that such information is safeguarded but will not be held liable for inadvertent disclosure of the information. Proposals marked "Confidential" in their entirety will not be honored; blanket-type identification by designating whole pages or sections as containing proprietary information, trade secrets or confidential commercial and financial information will not assure confidentiality. The specific proprietary information, trade secrets or confidential commercial and financial information must be clearly identified as such.

Proposer fully understands the scope of work/specifications and has checked carefully all words and figures inserted in said RFP and further understands that VVTA will no way be responsible for any errors or submissions in the preparation of this proposal.

1. Exclusive Property

   a. Responses to this Proposal become the exclusive property of VVTA and are subject to the California Public Records Act.

   b. Those elements of each Proposal that are *trade secrets*, as the term is defined in California Civil Code section 3426.1 (d) or otherwise exempt by law from disclosure and which are not prominently marked as TRADE SECRET, CONFIDENTIAL or PROPRIETARY may be subject to disclosure.

2. Disclosure of Records

   a. Upon a request for records from a third party regarding this proposal VVTA will notify in writing the party involved. The party involved must respond within twenty (20) calendar days with the identification of any and all "proprietary, trade secret, or confidential commercial or financial" information and the party involved shall agree to indemnify VVTA for its defense costs,

(Including reasonable attorney fees) associated with its refusal to produce such identified information; otherwise, the requested information may be released and VVTA shall not be held liable for complying with the records request.

b. If disclosure is deemed to be required by law or by an order of the court, VVTA shall not, in any way, be liable or responsible for the disclosure of any such records including without limitation those so marked.

c. Any documents that are not marked “TRADE SECRET” or “CONFIDENTIAL” or “PROPRIETARY,” will be made available.

3. Exemption from Disclosure May Be Deemed Unresponsive

a. VVTA will take into consideration documents that the Proposer deems exempt from disclosure which must be marked “TRADE SECRET” or “CONFIDENTIAL” or “PROPRIETARY.”

b. Proposers who indiscriminately identify all or most of their proposals as exempt from disclosure without justification may be deemed non-responsive.

4. Indemnification of VVTA by Proposer

a. The Proposer agrees to indemnify, hold harmless and defend VVTA and each of its board members, officers, officials, employees and agents from any and all claims, demands and actions in law or equity (including attorney's fees and litigation expenses), arising or alleged to have arisen directly or indirectly out of a Public Records Act request for any of the contents of a Proposal labeled as protected information and identified as, among other things, “TRADE SECRET” or “CONFIDENTIAL” or “PROPRIETARY.” This obligation shall survive the RFP process, including the awarding of the Contract

b. Proposer agrees to absorb all costs and expenses, including attorneys’’ fees, in any action or liability arising under the California Public Records Act pertaining to protected information contained and labeled as such in the proposer’s proposal.

5. Public Interest

a. The public interest exemption of the California Public Records Act provides that an agency may withhold the disclosure of a record by showing that the public interest served by not making the record public clearly outweighs the public interest served by disclosure of the record.

b. To protect the integrity of the proposal process, in most instances, price

proposals and information regarding the contents of a Proposal, will not be released or made available to other Proposers or the public until contract award is made by VVTA's Board of Directors and after the conclusion of any protest.

c. VVTA shall employ sound business practices no less diligent than those used for VVTA's own confidential information to protect the confidence of all licensed technology, software, documentation, drawings, schematics, manuals, data and other information and material provided by Proposers and the Contractor pursuant to the Contract which contain confidential commercial or financial information, trade secrets or proprietary information as defined in or pursuant to the state law against disclosure of such information and material to third parties except as permitted by the Contract. The Contractor shall be responsible for ensuring that confidential commercial or financial information, trade secrets or proprietary information, with such determinations to be made by VVTA in its sole discretion, bears appropriate notices relating to its confidential character.

Q. ACCEPTANCE / REJECTION OF PROPOSALS

1. VVTA reserves the right to reject any or all proposals for sound business reasons, to undertake contract negotiations with one or more Proposers, and to accept that proposal, which in its judgment, will be most advantageous to VVTA, price and other evaluation criteria considered. VVTA reserves the right to consider any specific proposal, which is conditional or not prepared in accordance with the instructions and requirements of this RFP to be non-responsive. VVTA reserves the right to waive any defects, or minor informalities or irregularities in any proposal which do not materially affect the proposal or prejudice other Proposers.

2. If there is any evidence indicating that two or more Proposers are in collusion to restrict competition or otherwise engaged in anti-competitive practices, the proposals of all such Proposers shall be rejected and such evidence may be a cause for disqualification of the participants in any future solicitations undertaken by VVTA.

3. VVTA reserves the right to reject a proposal that includes unacceptable conditions, exceptions and deviations.

R. SINGLE PROPOSAL RESPONSE

If only one proposal is received in response to this RFP and it is found by VVTA to be acceptable, a detailed price/cost proposal may be requested of the single Proposer. A price or cost analysis, or both, possibly including an audit, may be performed by or for VVTA of the detailed price/cost proposal in order to determine if the price is fair and reasonable. The Proposer has agreed to such analysis by

submitting a proposal in response to this RFP. A price analysis is an evaluation of a proposed price that does not involve an in-depth evaluation of all the separate cost elements and the profit factors that comprise a Proposer's price proposal. It should be recognized that a price analysis through comparison to other similar procurements must be based on an established or competitive price of the elements used in the comparison. The comparison must be made to a purchase of similar quantity, involving similar specifications and in a similar time frame. Where a difference exists, a detailed analysis must be made of this difference and costs attached thereto. Where it is impossible to obtain a valid price analysis, it may be necessary to conduct a cost analysis of the proposed price. A cost analysis is a more detailed evaluation of the cost elements in the Proposer's Offer to perform. It is conducted to form an opinion as to the degree to which the proposed costs represent what the Proposer's performance should cost. A cost analysis is generally conducted to determine whether the Proposer is applying sound management in proposing the application of resources to the contracted effort and whether costs are allowable, allocable and reasonable. Any such analyses and the results therefrom shall not obligate VVTA to accept such a single proposal; and VVTA may reject such proposal at its sole discretion.

S. CANCELLATION OF PROCUREMENT

VVTA reserves the right to cancel the procurement, for any reason, at any time before the Contract is fully executed and approved on behalf of VVTA.

T. AVAILABILITY OF FUNDS

This procurement is subject to the availability of funding. VVTA's obligation hereunder is contingent upon the availability of appropriated funds from which payment for the contract purposes can be made. No legal liability on the part of VVTA for any payment shall arise until funds are made available to the Contracting Officer for this contract and until the Contracting Officer receives notice of such availability, by issuance of a written Notice to Proceed by the Contracting Officer. Any award of Contract hereunder is conditioned upon said availability of funds for the Contract

U. VVTA'S RIGHTS

1. Each Proposal will be received with the understand that acceptance by VVTA of the Proposal to provide services described herein shall constitute a contract between the proposer and VVTA which shall bind the Proposer on its part to furnish and deliver at the prices given and in accordance with conditions of said accepted Proposal and specifications.

2. VVTA reserves the right, in its sole discretion to:

a. Accept or reject any and all Proposals, or any item or part thereof, or to waive any informalities or irregularities in Proposals.

b. Withdraw or cancel this RFP at any time without prior notice. VVTA makes no representations that any contract will be awarded to any Proposer responding to this RFP.

c. Issue a new RFP for the project.

d. To postpone the Proposal opening for its own convenience.

e. Investigate the qualifications of any Proposer, and/or require additional evidence or qualifications to perform the work.

V. CONFLICT OF INTEREST AND CODE OF CONDUCT

Proposer agrees to avoid organizational conflict of interest. An organizational conflict of interest means that due to other activities, relationships or contracts, the Firm is unable, or potentially unable to render impartial assistance or advise VVTA; Firm's objectivity in performing the work identified in the specifications is or might be otherwise impaired; or the Firm has an unfair competitive advantage. Firm is obligated to fully disclose to VVTA in writing any Conflict of Interest issues as soon as they are known to the Firm. All disclosures must be disclosed at the time of Proposal submittal.

Proposer agrees to comply with VVTA's Code of Conduct as it relates to Third-Party contracts which is hereby referenced and is incorporated herein. Firm agrees to include these requirements in all its subcontracts. A copy of all Procurement Policies is posted on the VVTA.com/procurement page.

W. EVALUATION, NEGOTIATION AND SELECTION

The basis of award of the resulting contract shall be to the responsible and responsive Proposer whose proposal scores the highest based on the criteria listed below.

1. OPENING OF PROPOSALS

Proposal will be reviewed and evaluated in accordance with the criteria and procedures described in this document. Proposers determined to be within a competitive range and that have a reasonable chance of receiving a contract may be contacted to schedule a meeting with VVTA to carry out further negotiations and discussions. VVTA reserves the right to award to a proposer without further discussions, negotiations, or it may determine that no proposer meets the needs of VVTA.

2. **EVALUATION TEAM**

An evaluation team will be assembled by the VVTA Executive Director or designee. The team will be made up of staff of VVTA and may include representatives of other nearby government agencies affected by this procurement.

3. **PROPOSAL SELECTION PROCESS**

a. The following describes the process by which proposals will be evaluated and a selection made for a potential award. Upon receipt of the proposals, copies will be distributed to the evaluation team members, together with scoring sheets, which include the evaluation criteria, and the points assigned to each category.

b. Each team member will review the Proposers' submittals and in conjunction with the criteria contained in Section W .5., below. All Proposals shall be evaluated and ranked for the purpose of determining the competitive range and to select a proposal determined to be the most advantageous to VVTA.

c. Proposals that do not comply with the instructions contained in these RFP documents and do not include the required information shall be rejected as non-responsive and shall not be considered for the competitive range. VVTA reserves the right to waive technical defects, discrepancies and minor irregularities in an RFP and/or submitted proposal(s). VVTA reserves the right to award any alternatives set forth in the solicitation documents in its sole discretion. Submitted proposals may be rejected if there is any alteration of the RFP forms, additions not called for, conditional proposals, incomplete proposals, or irregularities of any kind. VVTA reserves the right to reject any proposal not in compliance with the solicitation documents or prescribed public contracting procedures and requirements. Written notice of rejection of all submitted proposals shall be sent to all Proposers. ALL UNSIGNED PROPOSALS SHALL BE REJECTED.

d. Submittal of a proposal shall mean that the Proposer has accepted the VVTA Contract Documents in their entirety without exception.

e. When the individual members of the evaluation teams have completed their evaluations, the entire team will meet to discuss and review the proposals. Once the discussions have been completed, members will

have an opportunity to revise their scores independently. A final consensus meeting shall be held to confirm the most technically qualified and best value proposal submitted for award. The VVTA Contracting Officer, or designee, shall serve as Chairman of the Evaluation Committee.

f. Proposals that have been determined not to be in the competitive range and cannot be reasonably made to be within the competitive range, will be notified in writing, that they are no longer under consideration.

4. QUALIFICATION REQUIREMENTS

a. The Proposers, whose proposals have been determined by the evaluation process to be in the competitive range, will be notified and scheduled to meet with VVTA for further discussions, clarifications and negotiations. Any Proposal deviations submitted by the Proposer will be discussed as part of the negotiations process. However, VVTA at its discretion may in its best interest, reject any and all such conditions, exceptions and deviations. Any proposal which fails to comply with the VVTA instructions and requirements listed in the solicitation documents shall be deemed non-responsive and their proposal shall be rejected.

b. As part of the negotiation process, VVTA reserves the right to conduct factory visits to inspect the Proposer's facilities. VVTA shall also have the right to contact other party with whom the Proposer has experience with this type of request, and other relevant references which the Proposer has listed.

c. At the conclusion of the discussion and negotiation processes, each of the Proposers still determined by VVTA to be within the competitive range will be afforded the opportunity to submit a revised proposal with a clear understanding that VVTA will then choose that proposal, which it finds to be most advantageous based upon the evaluation criteria and final scoring. The results of the evaluations and the selection of a proposal for any award will be documented in a report to the final acquisition approval authority within VVTA.

5. PROPOSAL EVALUATION CRITERIA AND SCORING

a. Listed below is the point scale system by which proposals from responsible Proposers will be evaluated and ranked for the purpose of determining any competitive range and to make any selection of a proposal for a potential award.

EVALUATION CRITERIA	**MAXIMUM POINTS**
RESPONSIVENESS – All documents have been received as requested, prior to the due date.	PASS/FAIL
RESPONSIBILITY – All requested documents include the required signatures and, if needed, required notary review, signature and stamp. All financial documents received represent that the Proposer has the financial capacity to perform this project.	PASS/FAIL
1. EXPERIENCE AND QUALIFICATIONS: Proposer's experience with similar projects as explained in Attachment A – SCOPE OF WORK	20
Quality of Proposed Staff	15
Demonstrated Technical Ability and Resources	15
2. PROPOSAL: Demonstrates understanding of the work to be done.	20
3. DISADVANTAGED BUSINESS ENTERPRISE (DBE): Proposer and/or Subcontractor(s) are certified DBE's. (Must provide proof of certification)	5
4. REFERENCES – Attachment F contains the document to be used for references (to be scored by the Evaluation Facilitator)	15
5. PRICE PROPOSAL	10
TOTAL POSSIBLE POINTS	**100**

b. The cost factor will be made up of two components, Technical scores up to ninety (90) base Technical points; and Price ten (10) Base Price points. The maximum 100 base points available will be awarded to the Proposer with the highest Technical score and the lowest Price. Price points will be calculated by dividing the lowest price offered by the

proposal price being scored and multiplying the quotient of the calculation by (10); (Low offer divided by next highest offer) times 10 points.

c. The balance of the evaluation criteria will be scored on the evaluator's assessment in the areas described in the Table above, based on the following system:

Exceptional: Fully compliant with the solicitation requirements and with desirable strengths or betterments; no errors, omissions, discrepancies, weakness or potential risks. Proposals judged to fall within these parameters will receive 90 to 100% of the points available for the category.

Good to Superior: Compliant with requirements of the solicitation; some minor errors, omissions, discrepancies, weakness or risks. Proposals in this range will receive 80 to 89% of the points available for the category.

Adequate: Minimally compliant with solicitation requirement; with errors, omissions, discrepancies, weakness or risks; which may be possible to correct and make acceptable. Proposals in this range will receive 70 to 79% of the points available for the category.

Poor to Deficient: Non-compliant with solicitation requirements; contains errors, omissions, discrepancies, weaknesses or risks which would be difficult to correct or make acceptable. Proposals in this range will receive 60 to 69% of the points available for the category.

Unacceptable: Totally deficient and non-compliant with requirements; contains major non-correctable errors, omissions, discrepancies, weaknesses or risks. Proposals in this range will receive 0 to 59% of the points available for the category.

6. EVALUATION PROCEDURES

a. All aspects of the evaluations of the proposals and any discussions and/or negotiations, including documentation, correspondence and meetings, will be kept confidential during the evaluation and negotiation process.

b. Proposals will be analyzed for conformance with the instructions and requirements of the RFP and Contract documents. Any proposal which fails to comply with the VVTA instructions and requirements listed in the solicitation documents shall be deemed non-responsive and their proposal shall be rejected. Proposers are advised that the detailed evaluation forms and procedures will follow the same proposal format and organization

specified in Section I. Therefore, Proposer shall pay close attention to and strictly follow all instructions and requirements. Submittal of a proposal means that the Proposer has accepted all of the Contract documents, except such conditions, exceptions, reservations or understandings explicitly, fully and separately stated on the forms and according to the instructions of "Form for Proposal Deviation" (Attachment D). Any such conditions, exceptions, reservations or understanding which do not result in the rejection of the proposal are subject to evaluation under the criteria of "Proposal Evaluation Criteria" (Section W.5.)

c. Evaluations will be made in strict accordance with all of the evaluation criteria and procedures specified in "Proposal Selection Process" (Section W.3.) above. VVTA shall select for any award the highest ranked proposal from a responsible Proposer, qualified under "Qualification Requirements" (Section W.4.), which does not render this procurement financially infeasible and is judged to be most advantageous to VVTA based on consideration of the evaluation "Proposal Evaluation Criteria" (W.5.).

7. **QUALIFICATION OF RESPONSIBLE PROPOSERS**

Proposals will be evaluated in accordance with requirements of "Qualification Requirements" (Section W.4.) to determine the responsibility of Proposers. Any proposals from Proposers whom VVTA finds not to be responsible and finds cannot be made to be responsible may ***not*** be considered for the competitive range. Final determination of a Proposer's responsibility will be made upon the basis of initial information submitted in the proposal, any information submitted upon request by VVTA, and information resulting from Agency inquiry of Proposer's references, and its own knowledge of the Proposer.

8. **DETAILED EVALUATION OF PROPOSALS AND DETERMINATION OF COMPETITIVE RANGE**

a. Each proposal will be evaluated in accordance with the requirements and criteria specified in "Proposal Selection Process" (Section W.3.)

b. The following are the minimum requirements that must be met for a proposal to be considered responsive for inclusion in the competitive range. All of these requirements must be met; therefore, they are not listed in any particular order of importance. Any proposal that VVTA finds not to meet these requirements and that cannot be remedied as part of the negotiation process will be determined to be non-responsive and will

not be included in the competitive range. The minimum requirements are as follows:

i. Proposer is initially evaluated as responsible in accordance with the requirements of "Qualification Requirements" (Section W.4.) Final determination of responsibility will be made through the evaluation process.

ii. Proposer has demonstrated its responsiveness by following the instructions of the RFP and included sufficient detail information, such that the proposal can be evaluated. Any informalities in regard shall be determined by VVTA to be either a defect and non- responsive or an informality that VVTA will waive in accordance with "Acceptance/Rejection of Proposals" (Section Q)

iii. Proposal price would not render this procurement financially infeasible, or it is reasonable that such proposal price might be reduced to render the procurement financially feasible.

c. VVTA will document its evaluations in accordance with the criteria and procedures of "Proposal Selection Process" (W.3.). Any proposal deficiencies which may render a proposal non-responsible and non-responsive will be documented. VVTA will make specific note of questions, issues, concerns and areas requiring clarification by Proposers and to be discussed through any contact with Proposers, which VVTA finds to be within the competitive range. Rankings and spreads of the proposals against the evaluation criteria will then be made by VVTA as a means of judging the overall relative spread between proposals and of determining which proposals are within the competitive range or may be reasonably made to be within the competitive range.

9. **PROPOSALS NOT WITHIN THE COMPETITIVE RANGE**

Proposers of any proposals that have been determined by VVTA as not in the competitive range will be notified in writing, including the shortcomings of their proposals.

10. **DISCUSSIONS WITH PROPOSERS IN THE COMPETITIVE RANGE**

a. The Proposers, whose proposals are found by VVTA to be within the competitive range, will be notified and any questions and/or requests for clarifications provided to them in writing. Each such Proposer may be contacted with VVTA to discuss answers to written or oral questions, clarifications, and any facet of its proposal.

b. In the event that a proposal, which has been included in the competitive range, contains conditions, exceptions, reservations or understandings to any Contract requirements as provided in "Form for Proposal Deviation" (Attachment D), said conditions, exceptions, reservations or understandings may be negotiated during contract negotiations. However, VVTA shall have the right to reject any and all such conditions and/or exceptions, which fail to comply with the VVTA instructions and requirements listed in the solicitation documents may be deemed non-responsive and their proposal to be outside the competitive range and rejected.

c. No information, financial or otherwise, will be provided to any Proposer about any of the proposals from other Proposers. Proposers will not be given a specific price or specific financial requirements they must meet to gain further consideration, except that proposed prices may be considered to be too high with respect to the marketplace or unacceptable. Proposers will not be told of their rankings among the other Proposers.

d. **Factory and Site Visits**. At its sole discretion, VVTA reserves the right to conduct factory visits to inspect the Proposer's facilities and/or other transit systems which the Proposer has supplied, including representative examples of the equipment and installation provided similar to the scope of this RFP.

e. **Best Offers**. VVTA expects that all responsible and responsive Proposers shall submit their Best Offer upon initial submission in response to this solicitation.

f. **VVTA reserves the right to make an award to a Proposer whose proposal it judges to be most advantageous to VVTA based upon the evaluation criteria, without conducting any written or oral discussions with any Proposers or solicitation of any BAFO.**

**** End of Instructions to Proposers ****

DESIGN AND CONSTRUCTION OF COMPRESSED NATURAL GAS FUELING FACILITY UPGRADES FOR VICTOR VALLEY TRANSIT AUTHORITY

SPECIFICATIONS FOR CNG FACILITY UPGRADES – SECTION 43 01 06

1 - GENERAL

1.01 SUMMARY OF WORK REQUIREMENTS

A. Summary Scope Description.

1. This Technical Specification includes requirements for the engineered design and upgrade of the existing liquefied / compressed natural gas (L/CNG) vehicle-fueling system at Victor Valley Transit Authority (VVTA) Barstow bus maintenance facility in Barstow, CA.

2. The project intent is to add a new CNG-compressor skid and appurtenances to the existing L/CNG fueling system at the Barstow facility, to include a new gas dryer, CNG dispenser, CNG-storage vessels, replacement priority-valve panel, (2) utility gas metersets, electric-utility upgrades, gas-fueled backup generator and appurtenances, and integrate with the existing LCNG pumps, CNG storage vessels, and dispenser. The base work specified herein is for the design and construction of upgrades to the CNG system.

3. Contractor shall provide and install all equipment and materials needed to complete the upgrades, including equipment, utility upgrades, structural work and other appurtenances and site work as required to deliver a complete, code-compliant and safe CNG-system upgrade.

B. Design Build. The CNG fueling system upgrade indicated in this specification and accompanying drawings shall be constructed on a design-build basis, which calls for the Contractor to prepare a set of engineered and approved construction drawings for all required disciplines, including mechanical, electrical and structural, as well as appropriate cover sheet. The Contractor's design and construction shall be approved by the Owner and by the City of Barstow Building Department, and the San Bernardino County Fire Department, and shall also comply with the project plans and specifications, except where deviations are approved by the Owner.

1. Contractor shall be responsible for constructing the facility per the listed codes and standards, and shall comply with the requirements of the Authorities Having Jurisdiction. Contractor shall provide all equipment, components, material, labor, documentation and warranties required to comply with the plans and specifications.

2. If the Contractor seeks to change any design elements as indicated in the drawings or specifications, the Contractor shall describe and request the changes to the Owner, in writing, and execute any such design changes only after the Owner approves of them, in writing. Contractor shall be responsible for design drawings and details for all such changes that deviate from the approved construction drawings. All drawings and details shall be sealed by a California-Registered Professional Engineer (PE). The design revisions shall be approved by the authorities having jurisdiction (AHJs), when warranted.

C. Other Contractor Responsibilities.

1. General. Contractor shall also be responsible for designing and constructing the facility per the listed codes and standards, and is subject to complying with the requirements of the AHJ. Contractor shall also be responsible for providing all equipment, components, material, labor, documentation and warranties required to comply with the plans and specifications.

2. Existing System. Contractor shall preserve the existing L/CNG system in place and maintain its function, until the upgraded system is installed and commissioned, as approved by the Owner. This includes anticipated transition period when both the existing and upgraded CNG systems are expected to be functional simultaneously where applicable. All service interruptions of the existing L/CNG system shall be scheduled with the Owner two workdays in advance of the interruption.

D. Additive Alternates. Pricing for each additive alternate shall be provided net and incrementally to the base work including credit for any items from the base scope that are replaced under the alternate, and shall be complete and turnkey for each listed item. Items shall be procured at the Owner's discretion, including the possibility of procuring none of the additive alternates.

1. Alternate #1: None.

E. Summary Contract Requirements. Work under this Technical Specification requires all construction drawings, site construction, furnishing, delivering and starting equipment as required to make the systems functional, and a one-year warranty covering all parts, labor, and travel, following acceptance by the Owner, except for consumable materials and parts. Consumable materials and parts are those items that are expected to be replaced or replenished within 12 months of normal operation, per the replacement schedules published by the respective component or system manufacturers.

F. Work Not Required By The Contractor.

1. Gas Meterset for CNG System. The Contractor shall connect the CNG-upgrade equipment to a new utility MSA, which will be provided at no cost to the Contractor. Coordinate exact flange-connection type and height with the gas utility.

2. Gas Meterset for Backup Genset. The Contractor shall connect the backup electrical generator to a new utility MSA, separate from the CNG-system MSA, which will be provided at no cost to the Contractor. Coordinate exact flange-connection type and height with the gas utility.

3. Utility Transformer. Coordinate provision of upgraded pad-mounted transformer on existing foundation with SoCal Edison. Transformer will be provided at no cost to the Contractor.

1.02 STANDARDS

A. The latest editions of the following listed codes, specifications and standards shall be considered an integral part of this specification. Compliance with the following documents is mandatory:

1. ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, latest edition with latest addenda.

2. ANSI/ASME B31.3 -2002- Process Piping.

3. ANSI/ASME B16.5 Steel Pipe Flanges and Fittings.

4. National Electrical Code (NFPA 70) with California amendments.

5. International Mechanical Code with California amendments.

6. International Fire Code with California amendments.

7. National Fire Protection Association (NFPA) 52, Compressed Natural Gas Vehicular Systems Code, 2013 Edition.

8. Title 8, Code of California Regulations (Industrial Relations), Division 1. (Department of Industrial Relations, Ch. 4. (Division of Industrial Safety), Subchapter 1 – Unfired Pressure Vessel Safety Orders

9. Occupational Safety and Health Act, Standards, 29 CFR - Occupational Noise Exposure, 1910.95

B. The following documents form a part of the Specification to the extent that their respective content is pertinent to the products and methods contained herein and to the extent that work required under this project applies to the documents.

1. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section V: Nondestructive Examination.

2. American Petroleum Institute (API) Specification 11P.

3. American Society for Nondestructive Testing (ASNT) SNT-TC-1A: Recommended Practice.

4. American Society for Testing and Materials (ASTM)
   a. ASTM A 36: Standard specification for structural steel.
   b. ASTM A213: Standard Specification for Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes.

5. American Welding Society (AWS) D1.1-88: Structural Welding Code - Steel.

6. National Electrical Manufacturers Association (NEMA) NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum), latest edition.

C. Other Scope. Comply with other electrical and building codes as required by the disciplines associated with all work shown in the project drawings.

1.03 SUBMITTALS

A. Design-Construction Drawing Package.

1. General. The Contractor shall prepare the design-construction drawings so that they are consistent with the general location and configuration of the equipment and systems shown on the conceptual CNG Fueling Facility Upgrade drawing set. Deviations shall be subject to approval by the Owner. Contractor's drawings shall including any procured alternates.

2. CAD Files. The Owner will provide the Contractor with all CAD files used to prepare the preliminary project drawings. The CAD will be provided as is, and shall be field verified by the Contractor.

3. Prepare the following drawings.
   a. Cover sheet showing drawing list, project information, and site map.
   b. Site Plans showing the location of gas meter sets, adjacent structures and property lines, existing and new L/CNG equipment, backup generator, electrical equipment and other pertinent site features.
   c. Piping and instrumentation diagram for entire CNG facility including new and existing equipment, including bill of materials. Indicate pipe/tubing diameters and materials.
   d. Piping plan showing routing of all new piping, tubing and related mechanical connections and systems.
   e. Electrical drawings, including a single-line diagram, load schedule, block wiring diagram, grounding-bonding plan, conduit and cable

schedule, electrical conduit plan, required utility details, and hazardous-area plan. Includes depiction of electrical upgrade, backup genset, transfer switch, motor starters and power distribution and wiring for all CNG, controls and lighting loads.

f. Structural drawings showing equipment foundation for all new equipment, including compressor skid, gas dryer, motor-starter panel, and storage vessels shown on the plans.
g. Specialty equipment drawings and details for vacuum system, fluid-service system and other maintenance equipment indicated on the 'Q' sub-drawing that are included in the drawing package.

4. Other Design Requirements.
   a. Stamping By Professional Engineer. All drawings called for under article 1.03.A. shall be stamped by an appropriate California-licensed Professional Engineer, in accordance with California law.
   b. Format. All drawings shall be prepared on 'D' sheets at 24" x 36". All plan drawings shall include a graphic scale, and a statement of the scale used.
   c. AHJ Corrections. Design revisions and corrections required by AHJ's shall be provided by the Contractor as part of the project scope.

B. Manufacturers' Warranties. All manufacturers' original warranties for material, components and assemblies shall be passed through to the Owner. These are in addition to the comprehensive Facility warranty that is the responsibility of the Contractor.

C. Approvals. Prior to shipping equipment to site, the Owner shall approve all information required under articles 1.03.C.1 and 1.03.C.2.

1. Submittals are required for all pre-packaged equipment listed in this Section, and are subject to approval by Owner. Submittals shall include, the additive alternates ordered by the Owner, and include all of the equipment listed below, if ordered:
   a. Automatic site-supply valve.
   b. 'MSB' electrical-distribution panel.
   c. Electric utility and service-upgrade equipment and materials.
   d. CNG-compressor skid and accompanying MCC.
   e. Master control panel / PLC.
   f. CNG storage vessels.
   g. Gas dryer.
   h. Communication module.
   i. Backup generator and transfer switch.
   j. Materials required electrical-utility service upgrade.
   k. Fast-fill CNG dispenser.

2. Submittals are required for all listed components and materials installed between packaged equipment and used in manufacture of prepackaged equipment, and are subject to approval by Owner. Submittals shall include, at a minimum:
   a. Actuated and manual valves.
   b. ESD buttons.
   c. Pressure relief valves.
   d. Stainless steel tubing and unions.
   e. CS piping, unions and joints for natural gas and CNG.
   f. Fencing and gates.
   g. Supports, brackets, and appurtenances.

D. Required documentation.

1. The following are required as applicable for each size or type of item listed in article 1.03 of this Section, as applicable.
   a. Manufacturers' data sheets with dimensional drawings, with pressure rating and testing data for dispenser and other hoses, piping, tubing and valves.
   b. Installation and operating instructions and test procedures.
   c. Recommended maintenance instructions and schedules.
   d. Listing of special tools required for maintenance and testing.
   e. Warranties, including those of the original manufacturer.
   f. Piping and instrumentation shop drawings.
   g. Electrical and wiring-termination schematics.
   h. Test data indicating compliance with all normal and specified functions and processes, including dispenser authorization, dispenser valve-flow control, dispenser pulse-count output for mass, compressor start-stop, compressor ESD, and faults for high dryer-heater temperature, low- and high-pressure compressor suction, high-pressure compressor discharge, high-temperature compressor discharge, low and high compressor-oil pressure.
   i. Documented compliance with Buy America requirements for all equipment and components as required.

2. Submittal books shall be grouped and tabbed by assembly or logical system, including index of contents. All data for a packaged system shall be grouped, i.e. Piping and Instrumentation Diagrams, required sub-component listings, shop drawings, test data, etc. Cut sheets or catalog sheets containing multiple product listings shall include marks to clearly indicate actual unit(s) proposed for use, and all submittals shall include a mark or reference indicating intended location of use or application, i.e. ‘3rd stage PRV, ‘compressor inlet manual ball valve’, etc. Submittals shall be provided in searchable PDF documents with logical file names.

1.04 QUALITY ASSURANCE

A. Provide all materials, components and services in accordance with a quality control program that assures compliance with the applicable codes, standards, and this specification.

B. Provide qualified test personnel to perform test and inspection functions. Personnel qualifications shall be made available to Owner upon request.

C. All instruments, controls, and other electrical equipment must be qualified for the hazardous area classification where the equipment is to be installed.

1.05 PREPARATION AND COORDINATION

A. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for a sound, secure and complete pre-packaged component.

B. Coordinate accepted equipment changes from those scheduled or specified with other equipment affected.

1.06 PRODUCT DELIVERY AND HANDLING

A. Materials shall be delivered in the manufacturer's original unopened packaging, labeled to indicate the manufacturer's name and product identification.

B. Delivered materials shall be handled to ensure that the packaging and labeling remain intact until installation of material. Materials shall be stored and protected from ground contact and from the elements.

C. All containers, including internal containers, shall be indelibly labeled with item description(s) per title.

D. Misdelivered equipment, material and packages shall be corrected at the Contractor’s expense.

1.07 PAINTING AND FINISH

A. All packaged and manufactured equipment shall be delivered to the work site with specified factory finish. Should the finish be damaged in transit or during the installation, it shall be finished to present a neat workmanlike appearance to the satisfaction of the Owner prior to acceptance.

B. All other materials and components installed or fabricated on site shall have a suitable multi-coat industrial-grade finish applied, as specified elsewhere in this Specification.

1.08 PROJECT COMPLETION

A. Submit test-record data as required under article 1.10.

B. (3) bound and (2) electronic PDF copies of operating and maintenance manuals, and similar final record information.

C. Deliver tools, spare parts, and similar physical items as applicable.

D. Complete onsite start-up testing of systems and instruction to the Owner's operating and maintenance personnel.

E. Document compliance with all of the safety, functional and performance requirements indicated in the project documents.

F. Complete punch list corrections from Owner.

1.09 RECOMMENDED SPARE PARTS LIST (RSPL)

A. Prepare a listing of all parts on a RSPL form for each individual piece of equipment or system that is of a maintenance significant nature and that is provided by the Contractor.

B. Submit the RSPL to the Owner for approval. Upon receipt of the approved RSPL, procure, expedite, receive, inspect, check, and store spare parts at a location designated by the Owner. Procurement of spare parts will be under a separate contract than the equipment procurement described herein.

1.10 INSPECTION, TESTING AND ACCEPTANCE

A. General. The Contractor shall be responsible for proving to the satisfaction of the Owner that the minimum specifications for the Equipment and installation work, as specified herein, have been met. The Owner will require the execution of various inspections and tests, including their documentation, prior to accepting the Facility as complete and in compliance with these specifications. Such inspections and tests shall be based on recommendations by the Contractor. If the Owner determines that such recommended inspections and tests are not adequate, the Owner shall require additional inspections and tests as needed. Inspections, witnessing of tests, or waiving of any such procedure by the Owner shall not release the Contractor, or other vendors from full responsibility for compliance with equipment, material and functional requirements according to the project specifications.

B. Contractor shall also provide test equipment, material and labor to conduct on-site testing and start-up procedures. Such procedures will be provided to the Owner to include each of the above components and systems. Tests shall be made available to be witnessed by the Owner to verify compliance.

C. Construction-Site Inspections. Inspections and tests will be performed at the construction site and in accordance with construction schedule as required by Contractor standards and jurisdictional building codes.

D. Additional Inspections. Additional inspections will be carried out by the Owner to determine compliance with performance, materials and component specifications that may be beyond the scope of jurisdictional inspections. The Owner will prescribe a final punch list as a result of start-up tests and end-to-end functional demonstrations.

E. Criteria. All design performance pass/fail criteria to be recommended by the Contractor and other vendors shall be submitted with the Contractor bid proposal as limits of acceptability for performance requirements of all equipment provided as required herein.

F. Acceptance. Owner will only accept facility as complete after Contractor provides compliance with the requirements under article 1.10, and article 3.08.

1.11 WARRANTY

A. General. The Contractor shall warrant that all components, systems, labor and materials specified herein shall be free from defects in design and manufacture for a period of one year, commencing with the acceptance of the Facility by the Owner as being complete. Contractor shall pay all costs for parts, labor & travel required to satisfy warranty claims.

B. Original Component Warranties. All manufacturers' original standard specifications and warranties for material, components and assemblies shall be forwarded to the Owner. These are in addition to the comprehensive Facility warranty that is the responsibility of the Contractor. Contractor shall design the system, and complete all work in such manner so as to not invalidate any applicable Original Component Warranties.

C. Warranty Enforcement. In case warranty is invoked, Contractor shall ensure that the appropriate installer, supplier, and/or manufacturer, i.e. component manufacturers and/or sub-vendors and suppliers(s), shall respond with suitable repair within 48 hours of notification.

2 - PRODUCTS

2.01 GENERAL

A. New Equipment. Equipment to be supplied by the Contractor shall be in new condition unless otherwise permitted by the Owner, in writing, and shall include all components and systems necessary to operate the respective system or component, fuel-management system, maintenance equipment, generator

equipment, safety systems, skid, frame and enclosure, and other related components and systems as described herein.

B. Pressure Ratings. All piping, tubing, unions, vessels, valves, filter bodies and appurtenances shall have a manufacturer's rated normal working pressure that is equal to or above its respective normal duty pressure, with a burst-safety factor as specified by either ASME B31.3, or the ASME Boiler and Pressure Vessel Code, as appropriate. Such ratings shall be indicated on component and material submittals to be approved by Owner.

C. Electrical Classifications. All electrical and electronic components shall be installed and configured appropriately for their respective service conditions and locations. All such installations shall comply with NFPA 70 standards for Class I, Group D, Divisions 1 and 2, and as stipulated in Table 8.4.2.9 of NFPA 52 or other requirements as called for by AHJs.

D. Material Compatibility. Contractor shall be responsible for providing and installing components and materials throughout the entire Facility that are compatible with, and do not adversely react to other component or material that could be expected to come in contact during normal operation.

E. Ball Valves. All ball valves shall use 3-piece construction. Ball valves smaller than NPS 2 shall include bodies, balls and stems fabricated from 304 or 316 stainless steel, and shall have a listed MAWP of not less than the highest service pressure normally existing in the process segment where it will be located. Ball valves in sizes NPS 2, or larger, may have carbon steel bodies, but otherwise shall otherwise meet the above specification for ball valves smaller than NPS 2. Actuated ball valves shall use pneumatic operators powered by a common control-air system. Actuators driven by electric motors or regulated CNG are not allowed.

F. Buy America. All equipment and materials provided for the project shall comply with Buy America provisions as required by the U.S. Department of Transportation for infrastructure projects.

2.02 CNG COMPRESSOR SKIDS

A. General. Furnish one complete compressor skid designed for use with natural gas and with a minimum discharge capacity of 500 SCFM at 4500 PSIG, at the specified inlet pressure. Indicate the maximum and minimum allowed skid-inlet pressure as needed to maintain proper operation of the equipment.

B. ESD Buttons. A button shall be located on the outside of skid enclosure. Button activation shall shut down the entire LCNG and CNG facility. Provide wiring and relay interconnect as required.

C. Enclosure. Skid shall be enclosed in a weather-resistant rain-tight lockable enclosure. Doors and panels shall be removable to facilitate servicing.

D. Enclosure Accessories.

1. Doors. Doors may be of either swing out, sliding, and/or rollup type, shall be lockable and if personnel can be closed in, design shall include a means to open at least one door from the inside, even if locked from the outside.

2. Interior Lighting. Install a manual wall switch inside each enclosure for skid lighting control. Luminaries, switch and conduit shall be listed for Class-1, Division-2 Group-D service. Furnish either of the following luminaries.

   a. (2) compact-fluorescent fixtures located to provide uniform lighting levels throughout the skid interior.

   b. (2) LED fixtures located to provide uniform lighting levels throughout the skid interior

3. Methane Detection. Ceiling-mounted infrared point methane detection shall be provided and shall interface with the skid controller. Detection of 20% to 40% LEL methane shall annunciate an alarm at the control panel. Detection of LEL methane greater than 40% shall annunciate an alarm at the control panel and shut down the compressor system equal to activation of the ESD. Methane detectors shall be Drager Polytron, Sierra Monitor, Sensor Electronics, MSA, Honeywell or General Monitors.

4. Sound Attenuation. Enclosure shall provide sound-attenuation features, including sound-absorbing interior-wall surface and sound-attenuated louvers for cooler-air intake and exhaust.

5. Vibration Speed. Sensor at the compressor shall set a Vibration Speed Warning at 0.6 IPS and shall set a shutdown fault at 0.8 IPS. The sensors at the cooler-fan assemblies shall set a Vibration Speed Warning at 0.8 IPS and shall set a shutdown fault at 1.0 IPS. Above criteria is for vibration lasting for 1 second or longer.

E. Control Air. Provide 1/2" tubing connection at skid edge for connection to remote 100 PSIG control-air supply header. Include pressure gauge scaled to 200 PSIG at line inlet.

F. CNG compressor skid manufacturers:

1. ANGI Energy Systems
   Janesville, WI
   Telephone: (800) 955-4626

2. No substitutions allowed.

2.03 CNG COMPRESSOR

A. General. These requirements apply to Ariel JGQ compressor, and related equipment mounted on a skid, intended for vehicular-use natural gas only, a design-maximum discharge temperature immediately downstream of each stage of compression of no more than 20° F greater than the design ambient temperature of up to 120ºF and outdoor un-shaded installation.

B. Required Capacity. Compressor shall be sized to produce not less than 500 SCFM of CNG at a discharge pressure of 4500 PSIG. The design capacity shall also allow for all pressure drops through filters, pulsation bottles, interstage devices, dryer, coolers and piping from the inlet flange to the discharge-tubing connection on the skid.

C. Compressor Size. The compressor frame shall be furnished with cylinders which, when operating at normal operating condition(s), shall, as closely as practical, load the electric motor to its full rated load.

D. Interstage Velocity. The velocity of gas from inlet to discharge shall not exceed 50 feet per second at the design conditions. All piping, coalescers, valves, unions etc. shall be sized appropriately.

E. Accessories. Compressors shall be provided with direct or belt drive assemblies, interstage and discharge coalescers, and interstage- and after-cooling. Each compressor shall be designed for automatic starting, unloading and captured blowdown and equipped with a normally-closed actuated inlet valve, suction check valve, discharge check valve, suction flex line, suction particulate filter, and discharge coalescing filter. The actuated inlet valve shall be controlled by the PLC.

F. Lubrication System. Compressor cylinders may be either be oil-lubricated or non-lubricated. Crankshafts shall be oil lubricated.

1. Lubricating Oil Consumption. Net carryover of lubrication oil from the compressor crankcases through to the dispensers shall be no greater than 0.5 pounds of oil per million SCF of compressed natural gas. Net carryover shall not include oil drained or recovered from the blowdown receiver and coalescers.

2. Piston Rings. All compressor piston rings shall be ferrous or synthetic, subject to approval by Owner.

3. Lube Oil. Compressor-lube oil for both crankcase lubrication and cylinder lubrication shall be a PAG-type synthetic oil, and as approved by the compressor-skid packager.

4. Day Tank. All force-lubricated compressors shall include a 5-gallon day tank with sight glass. Include low- or no-oil level switch in oil system.

G. Compressor Crankcase Ventilation. Compressor shall be equipped with means to prevent an accumulation of combustible gases in the crankcase. Vent exhaust shall be directed to a safe location inside or outside of the skid enclosure and shall be protected from rain and debris by a rain cap or similar means.

H. Interstage Coalescing Filters. Each oil-lubricated stage shall include an oil-coalescing filter downstream of the cooler outlet for that stage. Coalescing filters shall be fitted with automatic drainage to the compressor's blowdown-recovery vessel.

I. Loadings. Compressors, drive motors and auxiliary equipment shall be designed and constructed to operate under full load at normal operating conditions.

J. Pressure Rating For Controls. All gas controls shall have an MAWP equal to or greater than the maximum pressure to which they will be subjected during normal operation of the compressors.

K. Appurtenances. Each compressor stage shall include a surge chamber with enough capacity to adequately dampen the effects of compressor pulsation on adjacent components, and shall include a flexible inlet pipe section to protect against vibration and movement of the compressor vs. the suction-supply piping. Final discharge from each compressor shall be tied to a common tube/pipe to edge of skid. The MSA and each compressor discharge shall be protected by check valves.

L. Alignment. Direct compressor-drive alignment shall be set in the factory using a commercial laser alignment system, (e.g., Hamar Laser). Laser alignment shall verify rigidity of the motor mount (avoid excessive soft-foot alignment), and parallelism of the axes of rotation between the motor and compressor crankshaft prior to shipment. Alignment shall be mechanically field verified to factory tolerance following completion of all anchor connections but prior to any bump-over or startup on site, and alignment method shall adhere to the written instructions of the skid or compressor manufacturer.

M. Design Conditions. The compressor system shall be capable of operating within the full range of conditions specified below. Values listed as 'design' shall be used for sizing the compressors with respect to specified flow rate.

1. Gas Conditions. The incoming gas supply will have a design specific gravity of 0.59 and a temperature of 85ºF.

2. Ambient Temperature. The ambient temperature will range from 20ºF - 120ºF, with a design temperature of 90ºF.

2.04 CNG COOLING SYSTEM

A. Design. Forced draft or induced draft air circulation shall be used to cool the CNG from the heat of compression. Fan drive may be either derived from the prime mover or by its own electric drive motor.

B. Design Criteria. The criteria to be used for design shall include the following:

• Max. design ambient temperature	120° F.
• Site elevation above MSL	2200 feet.
• Max. compressor suction gas temperature	90° F.
• Max. allowable aftercooler gas discharge temp.	Ambient temp. plus 20°F.

C. Tube Material. Tube material for final-stage cooler shall be Type 316 or 304 stainless steel, seamless, and manufactured and labeled according to ASTM A213. Tube material for other cooler stages shall be either SS per above or A-103 grade B CS.

D. Cooler Configuration. Cooler intake and exhaust sections shall be oriented so as to minimize the introduction of exhaust air from existing and new adjacent skids into the intake of either skid. Coolers shall include sound-attenuating louvers at their intake and exhaust sections.

2.05 SKID-MOUNTED PRESSURE VESSELS

A. Stamping. All vessels requiring ASME stamping shall also be stamped with the following:

• MAWP.
• The water volume of the vessel.
• ASME U-stamp.

B. Suction Filter. Furnish particulate filter upstream of 1st stage compressor inlet.

1. Specification. This filter shall eliminate all suction gas particles (liquid and solids) with a diameter of 50 microns or greater. The filter shall be adequately sized for the maximum compressor throughput. The filter body design pressure shall not be less than the blowdown receiver relief valve set pressure.

2. Ancillary Equipment. Furnish the suction filter with:
   a. A drain line controlled by a manual valve.
   b. A differential pressure gauge for indicating pressure drop between filter inlet and outlet.

C. Pulsation/Volume Bottles. Pulsation bottles sufficient in capacity to adequately dampen the effects of compressor pulsation on adjacent components shall be included in the following locations: upstream of the first-stage inlet; downstream of final-stage discharge.

1. Compliance. Design of compressor system shall comply with the guidelines of the Compressed Air and Gas Handbook, fifth edition, chapter 10, published by the Compressed Air and Gas Institute, so as to minimize the effects of harmonics and pulsation. Pressure curves in Handbook (Figure 10.50, approximate bottle sizing chart) shall be extrapolated to pertinent working pressures of the relevant compression stages and systems.

2. Drains. Pulsation bottles shall be equipped with drains.

D. Interstage Oil Removal. Interstage coalescer downstream of each oil-lubricated cylinder between the interstage cooler and next-stage compressor inlet shall be provided.

1. Size. Coalescing filters shall be housed in Parker J4 housings, or larger, and shall be designed to eliminate 95 percent of entrained liquids and handle liquid accumulation, which may result from 12 hours of continuous compressor operation. Automated in-process blowdown to drain oil accumulations is allowed.

2. Drains. Drains shall be minimum 3/8-inch pipe and be fitted with a matching check valve. An automatic valve for each blowdown circuit shall be provided to allow liquid blowdown to the blowdown receiver vessel. Drain lines and the actuated valve shall be sized to handle compressor idling gas volumes.

E. Two-Stage Discharge-Coalescing Filtration (Force-Lube Compressors). Both pre-coalescer and coalescer filters shall be housed in a Parker J4SL housing at minimum and shall be located immediately downstream of the final stage aftercooler. Lesser filtration may be proposed for compressors that do not have force-lube injection on all cylinders.

1. Specification. Coalescer filter discharge shall contain no more oil or other liquid hydrocarbons, exclusive of non-condensables, than 50 part per million on a mass basis. The filters shall be sized for the maximum compressor gas flow rate over gas pressures ranging from 2,000 to 4,500 PSIG so that pressure drop does not exceed 2%. The first filter shall use a Parker Hannifin grade-10 coalescer element and the second filter shall use a Parker Hannifin grade-4 coalescer element.

2. Drains. The filter(s) shall have an automatic liquids purge to the blowdown receiver. An automatic valve shall be provided to allow liquid blowdown to the blowdown receiver vessel. Drain lines and the actuated valve shall be sized to handle compressor idling gas volumes.

F. Blowdown Receiver. Blowdown receiver of adequate capacity and pressure rating for the normal operation of each compressor shall be included. Design working pressure for each blowdown system shall be sized appropriately to accommodate the blowdown volume and pressure of the compressor and allow up to two start / stop cycles within five minutes.

G. Connections. The blowdown receiver(s) shall have the following connections:

1. Condensate drain. A 1/2-inch ball valve or needle valve and drain port shall be provided in a readily accessible location for manual draining of liquids accumulation in the blowdown receiver. Ball valve shall be piped to edge of skid exterior and shall include downward

2. Interstage separator blowdown. A manual ball valve shall be provided to isolate the blowdown receiver from the actuated blowdown valve, to facilitate servicing of the blowdown piping, without the need to depressurize the receiver.

3. Gas connection to compressor suction from the blowdown receiver and its regulator shall be upstream of suction filter and downstream of the suction check valve.

2.06 NATURAL GAS DRYER

A. General Requirements. A low-pressure, manually operated, temperature-swing absorber heat regenerative gas dryer shall be provided. The system shall include inlet and outlet particulate filters, and pressure gauges for measuring inlet pressure, differential pressure across the dryer-inlet and -outlet filters, and across the entire dryer assembly, i.e. flange to flange.

B. Configuration. Provide a manual-simplex design consisting of one desiccant vessel and 3” diameter connections and process lines.

C. Pressure Relief Valves. Full-port PRV’s shall protect the desiccant vessels and heater-vessel assemblies, and shall include lock-open ball valves at their inlets. PRVs shall be rated for the MAWP of the vessel that they are protecting and shall be by Mercer or Anderson Greenwood.

D. Maximum Allowable Discharge-Moisture Content. The discharge gas shall comply with SAE standard J-1616, based on inlet natural gas with 7 lb moisture per MMSCF, and a design low ambient temperature of 20º F.

E. Adsorbent. The adsorbent shall be 3Å molecular sieve and shall not affect the character and odor of the incoming gas. The dryer design shall be such that the adsorbent shall have a minimum useful life of five years.

F. Other Requirements.

1. Piping, vessels and valves shall be sized, configured and ported so that pressure drop between inlet and outlet flanges of dryer does not exceed 5 PSI at the design MSA supply pressure of 55 PSIG and a flow of 500 SCFM. Dryer shall be pre-assembled on a skid and shall include common connection at system inlet and outlet.

2. MAWP of vessels, piping and complete assembly shall be min. 150 PSIG.

3. Provide redundant thermocouples at all heater units. TC's may be internal or external to the heaters.

G. Capacity. The dryer shall be sized so that regeneration of the desiccant bed shall be required after no less than 150 hours of 500 SCFM gas throughput during the normal operation of the compressor system, based on an inlet gas-moisture content of 7 lb./MMSCF.

H. Instrumentation. An in-line dew-point sensor alarm shall be provided at the dryer-discharge port. The detector shall have two levels of alarm; one light shall be activated upon moisture at dryer discharge approaching maximum saturation and a second light be activated upon moisture upon dryer discharge reaching maximum saturation. Inlet and outlet connections shall each be equipped with a pressure gauge scaled to 125% of the dryer MAWP. Differential-pressure gauges shall be provided on the inlet and outlet filters, and across the entire dryer assembly.

I. Regeneration. Regeneration of any desiccant bed shall be by temperature swing with closed loop gas circulation, and shall be initiated manually and terminate automatically. Maximum regeneration and cooling time shall be eight hours. A design that requires burping to reduce the closed system pressure for regeneration is acceptable. Provide embossed placard or sign with basic regeneration procedure on dryer.

J. Bypass Capability. Dryer bypass and isolation manual ball or butterfly valves shall be provided so that the compressors may operate while the entire dryer is off line.

K. Recirculation Blower. Blower shall include pressure transducers to detect low and high differential pressures. Blower hose shall be reinforced with stainless steel braid or other equivalent means to resist kinking of the hose.

L. Regeneration Heater Assemblies. Each heating vessel shall include a PRV that cannot be isolated from its vessel, and a redundant thermocouple for detection of over-temperature.

M. Manufacturers:

1. ANGI Energy Systems
   305 W. Delevan Dr.
   Janesville, WI
   Telephone: (800) 955-4626

2. PSB Industries, Inc.
   1202 W. 12th Street
   Erie, PA 16501
   Telephone: (814) 453-3651

3. SPX/Pneumatic Products Corp.
   4647 S.W. 40th Avenue, Ocala, FL
   Telephone: (352) 873-5763; (352) 237-5500

4. Xebec Inc.
   730 Boulevard Industrial
   Laval, QC, H7L-3M5
   CANADA
   Telephone: (450) 979-8718

5. Or equal as stated in Section 1.01 A

2.07 INSTRUMENTS AND CONTROLS FOR COMPRESSOR SYSTEM

A. General. Compressor-system controls, including start and shutdown shall be electronic and shall operate automatically and unattended. Allen Bradley/ Centurion Remote I/O architecture or similar architecture is acceptable. If a master controller or PLC is provided, the compressor skid shall include a local touch-panel HMI for monitoring status of its skid, including typical pressures, temperatures and fault conditions.

B. Control System. A micro-processor based controller (controller) in a NEMA 3-R enclosure shall be provided for the compressor and mounted in an area consistent with its electrical classification. System shall be designed in accordance with the following:

1. Performance Specification. This controller shall be capable of controlling operations of its associated compressor skid as required, without reliance on any parallel controllers. All set points for this controller shall be modifiable at a local input/output display panel and shall also be modifiable remotely by IP connection.

2. Programmability. Owner shall have unimpeded access to modify set points and operating parameters upon completion of the Work. Vendor shall provide PC-host software (or similar) as required to modify controller

program, including providing training and any specialized PC-interface connector. Provide compiled and annotated source code for PLC program on USB flash drive.

3. Local Display. Master controller shall include an outdoor-rated 7” LCD touch HMI, Skid controllers shall be an outdoor rated 5” LCD touch HMI, viewing shall include backlight and be visible in bright sunlight for fault annunciation, display of operating conditions and interface for modifying set points. Modification of set points shall require a password. Display shall include a backlight and shall be rated for outdoor installation. Display shall be protected or oriented on site so that it is clearly visible in any day lighting condition.

C. Telecom. All set points for this controller shall be modifiable at a local input/output display panel and by remote IP connection via web-based interface. Controller system shall also provide automatic SMS and email-based notification to the Owner via IP connection in case of fault. Includes either cellular-data modem or wired LAN connection to local IP switch.

D. Performance Specification.

1. Compressor/Pump Starting. Controller shall facilitate incremental startup of new CNG compressor, existing LCNG pump-1 and existing LCNG pump-2 based on threshold-storage pressure. Incremental compressor-start sequence shall be associated with storage-bank pressure, i.e. the compressor starts when low bank falls to 3,600 PSIG, LCNG pump-1 starts when mid-bank falls to 3,600 PSIG, and LCNG pump-2 starts when mid-bank falls to 3,300 PSIG. All set points shall be adjustable. If any unit in the start sequence fails to start, the next unit in the sequence will automatically be started.

2. Start LCNG System. Controller shall interface with the existing LCNG control system and trigger start sequence for existing LNG boost pump, LCNG reciprocating pumps and associated subsystems needed to CNG from LCNG subsystem.

3. Storage Bypass. Controller shall control and prioritize compressor discharge to priority storage banks or fast-fill direct supply. Priorities and control-pressure set points shall be user adjustable via the controller.

E. Shutdowns, Alarms and Annunciators.

1. General. All shutdowns, alarms and annunciators shall be electronic and adjustable.

2. Specifications. The first column, below, lists the relevant component or system. The second column lists the corresponding required action (i.e. shutdown, alarm, indicator):

3. Compressor:

a.	Low suction pressure:	Shutdown
b.	High interstage pressure, all stages:	Shutdown
c.	High discharge pressure:	Shutdown
d.	Low lube oil pressure:	Shutdown
e.	High discharge temp., each cylinder:	Shutdown
f.	High compressor & cooler vibration:	Shutdown
g.	High vibration compressor:	Shutdown
h.	High vibration cooler:	Shutdown
i.	20% LEL methane detection level:	Alarm
j.	40% LEL methane-detection level:	Shutdown
k.	High storage pressure, each bank:	Shutdown
l.	Nearing low control-air pressure (header):	Alarm
m.	Low control-air pressure (air-supply header):	Shutdown
n.	High blowdown pressure (90% MAWP):	Shutdown

4. LCNG Pumps.

    a. Start fail.
    b. Run state.

F. Additional Requirements. In addition to the devices previously listed, the panel shall include:

1. Manual shutdown switch.

2. Key lockout.

3. Lights to indicate main power is energized, condition light for each compressor indicating “running”, “standby” or “fault.

4. Compressor automatic-start-cycle failure.

5. First-out fault annunciation.

6. An emergency shutdown switch shall be provided at the control panel. The ESD switch shall shut off the compressor motor power supply and close the actuated suction valve at each compressor. ESD system shall be expandable to other locations on a common 24VDC or 120VAC circuit.

7. Hourmeter. Each compressor shall have a non-resettable hour meter to record cumulative time of operation and may be part of a multi-functional digital display with a backup battery.

8. Motor overload. The annunciator need not specifically call out "compressor motor overload" or "cooler motor overload". Rather the annunciator may indicate a message such as "compressor motor failure".

9. Temperature for high interstage and discharge temperatures shall be measured at the outlet of each cylinder.

10. Design PLC for integration with up to four total compressor skids from the same skid packager, including allowance to control lead-lag starting, and limit number of compressors that can run based on time of day and storage pressure.

G. Instrumentation.

1. Temperature Measurement. Thermocouples or resistance thermometer devices (RTDs) shall be used to sense temperature for control functions.

2. Pressure Measurement.

• Required Pressure Gauges. Pressure gages shall be provided for compressor suction, interstage pressures, blowdown receiver and final compressor discharge for each compressor.

• Calibration Valve. All pressure switches and transducer/transmitters shall have a dedicated block-and-vent valve to facilitate pressure calibration. The block valve should be lockable with a wire and lead seal.

• Pressure Gauges. Manual pressure gauges shall monitor the following pressures:
+ Compressor lube oil
+ First-stage suction
+ Each stage discharge
+ Blowdown receiver

H. Timer Control. PLC system shall include ability to program the start/run of any compressor based on time of day (i.e., no start unit B between 5:30 AM and 6:00 PM daily).

I. Manufacturers.
1. Allen Bradley.
2. Horner.
3. Siemens.
4. Or equal as stated in Section 1.01 A

2.08 REMOTE COMMUNICATIONS PANEL

A. General. Remote communications may be provided by either a standalone panel or as part of an integrated PLC-control system. House NEMA 3R cabinet.

B. Requirements. Provide remote-communications package to facilitate remote web-based monitoring of PLC / status. Include automatic SMS messaging and emailing to four recipients in case of any fault, and ability to connect remotely via web-browser interface to monitor status and change control parameters with password protection. Communication may be either via cell or locally wired IP or connected to cellular-data modem.

2.09 VALVE-PANEL SYSTEM

A. General. Provide inlet connections for compressor skid and (2) existing LCNG pump discharge lines. The valve-panel system shall automatically direct the flow of CNG from skid/pump discharge to dispensing lines that supply the (2) public-CNG dispensers, or to the three-bank storage system. Panel shall include 1” process lines and valves throughout, shall be free standing, and shall be housed in a NEMA 3R cabinet.

B. Functional Requirements.

1. Provide three-bank priority fill to three-bank CNG-storage array.
2. CNG supply to public dispenser shall be three-bank configuration.
3. CNG supply to transit dispensers shall be one-bank configuration, supplied only by low bank.
4. Include back-pressure regulator or automatic buffer-bypass valve with pressure-transducer control that only allows the storage to be replenished when the dispenser-supply lines are all above 4000 PSIG (adjustable). Valve or regulator shall be sized to prevent excess backpressure to compressor discharge when storage is being replenished. This feature shall allow compressor discharge to flow to the dispensers as priority, maintaining full flow to each dispenser while on priority fill, unless they are not in use, in which case the compressor discharge will flow to CNG storage.
5. Provide fail-closed ball valves for each storage bank that automatically isolate all storage banks upon ESD activation.
6. Provide manual ball valves at each inlet and outlet connection. Provide 6000 PSI pressure gauge at each inlet and outlet connection and arrange so that gauges are visible with the cabinet closed.

C. Manufacturers:

1. ANGI Energy Systems
Janesville, WI
Telephone: (800) 955-4626

2. No substitutions allowed.

2.10 STORAGE VESSELS

A. General. (3) ASME-rated cylindrical CNG storage vessels shall be provided. Vessels shall have a minimum capacity of 11,500 SCF each at 4,500 PSIG, an MAWP of 5,500 PSIG, shall include framing and bracing suitable for IBC seismic classification-B. Vessels shall be fabricated in accordance with ASME Section VIII, Division 1, and shall be painted white.

B. Arrangement. Configure vessels as shown on plan or other arrangement approved by the Owner. Connect two new vessels to existing 'low bank' and one new vessel to existing 'mid bank'. Route 3/4" SS lines from each of three storage banks to valve new priority-panel.

C. Valves And Drains. Each vessel shall include a full-port 3/4" pressure relief valve (PRV) set at 5500 PSIG with a full-port 3/4" ball valve locked open between the PRV and the vessel. Each vessel shall include a 3/4" service ball valve, a drain port at its low point with a throttling plug valve and a pressure-rated discharge pipe or tube convenient for draining. Outlet of drain port shall be anchored and shall be directed away from servicing personnel. For cylindrical vessels, slope towards drain end.

D. Vent Riser. Furnish a 3/4" dia. sch 80 elbow and vent-riser pipe at each PRV outlet with opening min. 10' AFF.

E. Manufacturers and Packagers:

1. ANGI Energy Systems
   Janesville, WI
   Telephone: 800-955-4626

2. CP Industries
   Telephone: 412-664-6681

3. FIBA Technologies
   508-887-7162

2.11 PUBLIC FAST-FILL DISPENSER

A. General. (1) two-hose high-flow CNG dispenser with internal fill-control logic and integrated credit-card reader shall be provided. Dispenser shall be approved for sale of CNG to the public in California. Provide ANGI/Gilbarco model NZ1-CNG dispenser.

B. Specifications. Dispenser shall be capable of delivering two separate and simultaneous fills of 3600 PSIG, temperature compensated to 70°F, based on control logic housed in the dispenser. Dispenser shall include two MicroMotion CNG-050 meters, and mechanical vehicle pressure gauge for each hose at

exterior of cabinet and shall have a backlit data display. All CNG-product tubing and fittings shall be min. 3/4” x .104” wall. Vent tubing shall be min. 3/4” x .104” wall and shall be routed to 10’ AFF with support above dispenser body. A means of preventing the escape of CNG from the fast-fill system in case the dispenser is knocked off of its base shall be provided, such as a vibration switch inside the cabinet that is connected to the ESD circuit. Dispenser-control valves shall be solenoid valves. Each hose shall be protected by a full-port PRV set at 4500 PSI.

C. Filters. Dispensers shall include one inline oil-coalescing filter for each of the two dispenser lines and a block and bleed valve arrangement to facilitate servicing of filters. Grade-4 coalescer filters shall be provided for each hose. Filters shall be located upstream of the meter and control valves and may be located in the dispenser pit beneath or in the dispenser cabinet.

D. Hoses And Nozzles. Both hoses shall be 1/2” x 12 ft. long and nozzle shall be configured with CT1000 (NGV-1 type-1) nozzles with P36 profile. Both hoses shall include min. 1/4" vent hoses, retractors to keep hoses from contacting ground when nozzle is in its keeper, Snaptite or ILB1 breakaway fittings, and be conductive. The nozzle keepers shall be installed on a side of the dispenser cabinet that does not face toward the fueling lane and so that the nozzle cylinder is parallel with the fueling lane when it is in its keeper.

E. Operation. Dispenser shall be controlled by internal logic controller and shall include internal 3-bank sequencing with min. 3/4” tubing connections and flow path throughout. Dispenser shall generate 100 pulse-count per mass of CNG dispensed from each hose (i.e. 100 pulses per gasoline-gallon equivalent of CNG). Mass-calibration rate will be 5.660 lb. per GGE, or as otherwise coordinated with Owner.

F. Card Reader. Provide with integrated retail-type card reader for authorizing transactions. Configure to read MC, Visa, AMX, Voyager and Wright Express cards and include communication capability, connection and wiring to local existing ‘FuelForce’ fuel-management system, including coordination, startup and commissioning by Broadlux, Inc. (Laguna Niguel, CA, 949-707-5600).

G. Acceptable Manufacturers:

1. ANGI Energy Systems (Gilbarco based)
   Janesville, WI
   Telephone: (800) 955-4626

2. No substitutions allowed.

2.12 COMPRESSOR PRIME MOVER

A. General. The gas compressor prime mover shall be a 460V AC, 60 Hz, 3-phase squirrel cage induction motor. Prime movers shall be totally enclosed and fan-cooled (TEFC), having a minimum continuous rating of 50 HP (base specification), with a 1.15 service factor. Prime movers shall be designed, constructed and tested in accordance with NEMA Standard MG1-1998. Motors shall also comply with the applicable portions of the Energy Policy Act of 1992, and meet NEMA Premium Efficiency design and performance standards.

B. Ratings. Prime mover shall be rated for continuous duty at 60 HZ, single voltage with across-the-line full voltage start at 460 VAC. Prime movers shall have a 1.15 service factor. Torque characteristic shall be NEMA Design B. Motors shall have 4 poles, and a full load rated speed of 1,785 RPM. Motors shall be listed for use in Group D, Class 1, Division 2 hazardous atmospheres.

C. Service Conditions. Motors shall be suitable for continuous duty operation without de-rating under the following service conditions:

1. Exposure to ambient temperatures from 20ºF to 120ºF, plus temperature rise resulting from friction, compression and normal system operation.

2. Exposure to altitudes up to 2200 feet.

Electrical Design. Motor efficiency shall be evaluated in accordance with IEEE standard 112-1991, Subclause 6.4, Method B. The nominal efficiency, 3⁄4-load efficiency and guaranteed minimum efficiency shall be stamped on the motor's nameplate.

D. Motor Insulation. Motor insulation shall be a non-hygroscopic, chemical and humidity resistant system. The minimum thermal rating of the system shall be Class F, as defined in NEMA MG1-1998. The stator windings shall meet or exceed NEMA MG1-1998, Part 31. Stator shall be double dipped and baked in varnish to form a heavy build that exceeds the test criteria of moisture resistance per NEMA MG-1. When operated at rated horsepower, voltage and frequency, the temperature rise of the stator winding shall not exceed 80°C, when measured by winding resistance. Motor insulation shall be designed and tested to withstand 2000 Volt transients without premature motor failure, and have no cable limitations in motor application.

E. Service Factor. Motors shall be rated for a 1.15 service factor on sine wave power in a 40°C ambient temperature.

F. Mechanical Design. Motor shall be totally enclosed and fan cooled (TEFC). Motor bearings have a degree of protection of IP54, from moisture and foreign material. Motors shall be equipped with ball bearings or roller bearings. Ball bearings shall be the same size on both ends. Bearings shall be re-greasable

without disassembling the fan or fan cover and provide for the elimination of purged grease through fittings extending beyond the fan cover. Inner bearing caps shall be provided for bearing retention and to prevent harmful amounts of lubricant from entering the motor interior. For direct-coupled motors, stabilized bearing temperature shall not exceed a temperature rise of 45°C, as measured by a thermocouple on the surface of the bearing house.

1. Bearings shall provide for an L-10 life of at least 26,000 hours per ANSI/AFBMA 9-1990, based on NEMA belting application limits per NEMA MG1-1993, section 14.41. The insulation system and motor leads shall be compatible with mineral oil.

2. Condensation drain holes shall be provided at the low points in the end brackets and shall be supplied with corrosion resistant breather drain plugs.

3. Ventilating fans shall be of non-sparking conductive plastic material. The proper fan rotation direction shall be indicated by a permanent label on the outside of the motor.

4. The motor's conduit box shall be equipped with a ground lug. Gaskets shall be provided between the conduit box and frame, and between conduit box base and cover, to provide a moisture resistant barrier.

5. Shouldered eyebolts with a minimum safety factor or 10 shall be provided for motor lifting. All fastening hardware shall be hex-head bolts or socket head cap screws with zinc plating. Cast iron motor components shall be primed and painted to surpass a 250-hour salt spray test per ASTM B117-90.

G. Nameplate. Motor nameplate shall be stainless steel, and shall contain the following information in addition to that noted in section 10.40 of NEMA MG1-1993.
   1. AFBMA bearing ID.
   2. Manufacture date code.
   3. Motor weight.
   4. Guaranteed minimum efficiency.

H. Airborne Sound. Motor sound power level, when measured at a no load condition, shall not exceed 90 dBA, when determined in accordance with IEEE Standard 85-1973.

I. Vibration. Motor vibration measured in any direction on the bearing housing meets the levels listed below when tested per section 12.08 of NEMA MG1-1993:

   1. Unfiltered vibration at rated voltage and frequency shall not exceed 0.15 in/s peak velocity.

J. Production Tests. The motor manufacturer shall perform production tests according to NEMA MG-1-12 and ANSI/IEEE Standard 112, Method B.

1. The following test information shall be recorded and inserted in the motors' shipper.
   a. Winding Resistance.
   b. No load current and speed at rated line voltage and frequency.
   c. Current input at rated frequency with rotor at stand-still.
   d. High-potential test.
   e. The following five unfiltered vibration readings, measured as described above: drive end (horizontal, vertical, and axial) and opposite drive end (horizontal and vertical).

K. Warranty. Motor components shall have a full three-year performance warranty when operated on sine wave power and three year warranty on inverter power.

L. Manufacturers and Models.

1. TECO Westinghouse MAX-E1 Premium Efficiency Severe Duty TEFC.

2. Siemens – Medallion Motors, Premium Efficiency Severe Duty TEFC Type CZ.

3. WEG Severe Duty TEFC.

4. US Motors Catalog No. C50P2C.

5. Baldor TEFC.

2.13 MOTOR STARTER PANEL

A. General. Starters matched to the compressor prime mover, cooler-fan motor, and pre-lube pump motor as applicable shall be provided with the compressor system, shall be controlled by the programmable-logic control (PLC) system and shall be located in a non-hazardous area, or in a hazardous area if panel is listed for Class 1 Division 2 Group D service per NEC. For starter assemblies located outside of the hazardous area, house in NEMA 3R or NEMA 4 cabinet. All motor starters shall include TVSS protection.

B. Electromechanical Motor Control.

1. Compressor fan drive motors and pre-lube pump motors shall be controlled by Full-Voltage Non-Reversing (FVNR) magnetic starters, i.e. across-the-line starters.

2. Magnetic starters through NEMA Size 9 shall be equipped with double-break silver alloy contacts. The starter must have straight-through wiring. Each starter shall have one (1) NO auxiliary contact.

3. Solid-State Overload Relay.
   a. Provide a solid-state overload relay for protection of the motors. The relay shall be Cutler Hammer type CEP7 or approved equal.
   b. The overload relay shall be modular in design, be an integral part of a family of relays to provide a choice of levels of protection, and be listed under UL Standard 508.
   c. The overload relay shall have the following features:
      1) Be self-powered.
      2) Class 10 or 20 fixed tripping characteristics.
      3) Manual or automatic reset.
      4) Provide phase loss protection. The relay shall trip in 2 seconds or less under phase loss condition when applied to a fully loaded motor.
      5) Visible trip indication.
      6) One NO and one NC isolated auxiliary contact.
      7) Test button that operates the normally closed contact.
      8) Test trip function that trips both the NO and NC contacts.
      9) A current adjustment range of 3.2:1 or greater.
      10) Ambient temperature compensated.
      11) Ground fault protection. Relay shall trip at 50% of full load ampere setting.
      12) Jam/Stall protection. Relay shall trip at 400% of full load ampere setting, after inrush.
      13) FVNR Motor starters shall be Cutler-Hammer Freedom Series or approved equal.

C. Solid-State Reduced Voltage Motor Control. For this procurement, vendor shall provide either of the three following configurations:

   2x MCC + 1x MCC to drive three compressors and appurtenances specified under this procurement + ability to add a 4th future matching standalone MCC to drive 4th future compressor skid; or

   3x MCC to drive three compressors and appurtenances specific under this procurement + ability to add a 4th future matching standalone MCC to drive a matching 4th future compressor skid; or

   3x MCC’s to drive the three compressor and appurtenances specified under this procurement + the ability to add a 4th future matching standalone MCC to drive a matching 4th future compressor skid.

1. Controller for compressor prime mover shall be Cutler-Hammer type S811 or equal, and shall have PLC control unit complete with built-in 24VDC control power transformer or other similar programmable soft starter.

2. The solid-state reduced-voltage starter shall be UL and CSA listed.

3. The solid-state reduced-voltage starter shall be an integrated unit with power SCRs, logic board, paralleling bypass contactor, and electronic overload relay enclosed in a single molded housing. The SCR-based power section shall consist of six (6) back-to-back SCRs and shall be rated for a minimum peak inverse voltage rating of 1500 volts PIV.

4. Units using triacs or SCR/diode combinations shall not be acceptable.

5. Resistor/capacitor snubber networks shall be used to prevent false firing of SCRs due to dV/dT effects.

6. The logic board shall be mounted for ease of testing, service and replacement. It shall have quick disconnect plug-in connectors for current transformer inputs, line and load voltage inputs and SCR gate firing output circuits.

7. The paralleling run bypass contactor shall energize when the motor reaches 90 of full speed and close/open under one (1) times motor current.

8. The paralleling run bypass contactor shall utilize an intelligent coil controller to limit contact bounce and optimize coil voltage during varying system conditions.

9. The coil shall have a 10 year warranty.

10. Starter shall be provided with electronic overload protection as standard and shall be based on inverse time-current algorithm. Overload protection shall be capable of being disabled during ramp start for long acceleration loads via a DIP switch setting on the device keypad.

11. Overload protection shall be adjusted via the device keypad and shall have a motor full load ampere adjustment from 30 to 100% of the maximum continuous ampere rating of the starter.

12. Starter shall have selectable overload class setting of 5, 10, 20 or 30 via a DIP switch setting on the device keypad. Starter shall be capable of either an electronic or mechanical reset after a fault. Units using bimetal overload relays are not acceptable. Over-temperature protection (on heat sink) shall be standard.

13. Starters shall provide protection against improper line-side phase rotation as standard. Starter will shut down if a line-side phase rotation other than A-B-C exists. This feature shall be disableable via a switch on the device keypad.

14. Starters shall provide protection against a phase loss or unbalance condition as standard. Starter will shut down if a 50% current differential between any two phases is encountered. This feature shall be disableable by a switch on the device keypad.

15. Start shall provide protection against a motor stall or jam condition as a standard feature. Starter shall be provided with a Form C normally open (NO), normally closed (NC) contact that shall change state when a fault condition exists. Contacts shall be rated 60 VA (resistive load) and 20 VA (inductive load). In addition, a display on the device keypad shall indicate type of fault (Overtemperature, Phase Loss, Jam, Stall, Phase Reversal and Overload).

16. The following control function adjustments on the device keypad are required:
    a. Selectable Torque Ramp Start or Current Limit Start.
    b. Adjustable Kick Start Time: 0-2 seconds.
    c. Adjustable Kick Start Torque: 0-85%.
    d. Adjustable Ramp Start Time: 0.5-180 seconds.
    e. Adjustable Initial Starting Ramp Torque: 0-85%.
    f. Adjustable Smooth Stop Ramp Time: 0-60 seconds.
    g. Units enclosed in motor control centers shall be of the same manufacturer as that of the circuit breaker and motor control center for coordination and design issues.
    h. Maximum continuous operation shall be at 115% of continuous ampere rating.

17. Each starter shall be equipped with MOV surge protection on the line side of motor starter.
    a. Cutler Hammer model EMS39 or equal.
    b. Refer to plans for short circuit rating of starters or coordinate with electric utility as required.

18. Factory testing. Standard factory tests shall be performed on the equipment provided under this section.
    a. All tests shall be in accordance with the latest version of UL and NEMA standards.
    b. The manufacturer shall provide three (3) certified copies of factory test reports.

D. Transient Voltage Surge Suppression.

1. General. Furnish a surge suppression device or devices (SPD) to protect equipment serving the CNG skid and control system. SPD shall be listed in accordance with UL 1449, Second Edition, to include Section 37.3 - highest fault current category. SPD shall be listed under UL 1283.

2. SPD shall provide surge current diversion paths for all modes of protection; L-N, L-G, N-G in WYE systems, and L-L, L-G in DELTA systems.

3. SPD shall meet or exceed the following criteria:

   a. Minimum surge current capability (single pulse rated) per phase shall be 80kA per phase
   b. UL 1449 Listed Suppression Voltage Ratings for distribution shall not exceed the following:

VOLTAGE L-N	L-G	N-G	Max. Continuous Overvoltage (MCOV)
208Y/120V 330V	330V	330V	150V
480Y/277V	700V	700V	600V 320V

4. SPD shall have a minimum EMI/RFI filtering of –50dB at 100kHz with an insertion ratio of 50:1 using MIL-STD-220A methodology.

E. Appurtenances.

1. Provide single-phase transformer for controls and lighting and other single-phase loads directly associated with the compressor system.

2.14 CONTROL-AIR SYSTEM

A. General. Except as stated otherwise herein, any valves in the CNG system that require compressed gas to power the actuators shall utilize and connect to the existing compressed-air system that is routed in the existing L/CNG equipment compound.

B. Line Size and Type. Connect minimum 1/2" SS or type-K CU tubing and route to valve panel and compressor skid as required. Provide a full-port isolation ball valve and 200-PSIG pressure gauge at each new branch connection to the existing CA system. Support and protect lines as needed to protect from contact. New or modified CA lines shall be rated for and tested to 200 PSIG.

2.15 EMERGENCY SHUTDOWN SYSTEM

A. General. An emergency shutdown system shall be provided that, when activated, shall interrupt the power supply to the compressor motor, shut off the inlet natural gas supply valve to the compressor and shutoff the electrical power and the discharge of CNG to the dispensers. The system shall be controlled in the control panel, common to all compressors, be on a normally closed circuit and shall be expandable so that additional switches may be added. Buttons

shall be push-in mushroom-head type and appropriately rated as required by location.

B. Specification.

1. Circuit. ESD shall be 120VAC normally closed serial-type circuit, so that the opening (activation) of any ESD switch shall cause an ESD fault. Control panel shall require manual reset from ESD activation.

2. Buttons. ESD buttons shall be red mushroom-headed press-to-open type and must be pulled out to reset. Button shall have a protective fence flush with its face in order to minimize accidental pressing. Buttons shall be rated for class-1 division-2 service if located within a hazardous area.

3. Locations. Install one ESD button on fuel-management terminal, one on exterior wall of CNG-equipment compound, and as otherwise shown on the plans.

C. Interface With LCNG System. Provide relay control between ESD system at existing LCNG system and new CNG system such that activating either ESD circuit triggers a complete ESD shutdown of all LCNG and CNG process equipment. Fuel-management terminal and PLC's may remain energized during ESD event, if wired accordingly.

2.16 BACKUP GENERATOR

A. General. Provide natural gas-fueled generator sized to start and run the CNG compressor skid, the fuel-management system, both CNG dispensers and area lighting. Genset shall include weather-tight enclosure with muffler. Unit shall be rated for operation in ambient temperature of 120ºF.

B. Sizing Requirements. Minimum power rating for genset is 400kW. Genset shall otherwise be sized and configured to start and run (1) 250 HP CNG-compressor skid, skid accessories and all 1-phase power required to operate the CNG system, including public dispensers, fuel-management terminals, CNG communication module, and selected emergency lighting. Generator shall be sized to allow a maximum 15% voltage drop for connected loads, or as otherwise recommended by the manufacturer of the CNG-compressor skid. Contractor shall coordinate and document required starting loads for compressor skids with skid manufacturer prior to final sizing and selection of genset.

C. Approved Manufacturers.
1. Caterpillar.
2. Cummins.
3. Generac.
4. Other manufacturer as approved by the Owner.

2.17 AUTOMATIC TRANSFER SWITCH

A. General. Provide automatic transfer switch rated for connection to utility power as needed to operate (1) 250 HP compressor skid + all indicated accessory loads. Configure for automatic transfer to genset power per specification item 2.16. House in NEMA 3R or 4 enclosure and provide key lockout.

B. Contactor Signal. Include dry contact and wiring from MTS to CNG-control system to indicate when genset-power mode is engaged, for the purpose of reporting ATS engagement via the remote-communication module.

C. Approved Manufacturers.
   1. Eaton
   2. Square D
   3. Other manufacturer as approved by the Owner.

2.18 ACCESSORIES AND APPURTENANCES

A. Safety Signs. Contractor shall provide a complete safety sign package per NFPA 52 requirements needed for the new equipment. Signs shall be fabricated from metal and all materials and finished surfaces shall be listed for outdoor use and shall be UV resistant.

B. Fire Extinguishers. Provide (1) 4A:60BC fire extinguisher co-located at each new ESD button location.

C. Spare Conduits. Provide spare buried conduits in common trenches as listed below. Conduit shall be 1" sch 40 PVC UG. Conduit risers shall terminate 4"-6" AFF and shall be constructed of PVC-coated RGS and shall include a treaded galvanized-steel cap. Provide pull strings.

   1. Between CNG SWBD and main SWBD.

   2. Between CNG compressor control panel and the CNG SWBD.

   3. Between genset ATS and compressor skid.

D. Protection. See article 3.04.A for requirements for protection of equipment.

2.19 CATHODIC PROTECTION SYSTEM

A. General. Provide sacrificial-type cathodic protection system for all steel piping that is directly buried. Provide magnesium anodes with test stations as required. System shall be designed by a professional or firm that is experienced in the design of cathodic-protection systems, and as approved by the Owner.

B. Test Stations. Stations shall be contained in pre-cast hand holes or boxes set at grade, and lids shall be marked with ‘CP’. Test terminals shall be labeled.

C. Insulation. Transition of buried pipe to above-grade pipe shall include insulating kits at first available flange.

3 - EXECUTION

3.01 GENERAL

A. Execution is described in the respective Product description of this section, except as otherwise described within article 3 of this section.

B. All components and equipment shall be installed according to the respective manufacturers' instructions and recommendations. Industry-standard practices shall apply if no manufacturer instructions exist.

C. Contractor shall coordinate location and timing of all excavation and open trench work that may affect the normal movement of vehicles and personnel on the job site. Contractor shall also provide trench plates as required for the traffic they may be exposed to until trenches are repaired to match surrounding grade.

D. Contractor shall install all equipment, as listed herein and on project drawing M-501. This shall include the following work:

1. Facilitate and coordinate shipping, receive and offload equipment at the project site, including inspecting the equipment with the Owner at time of delivery and documenting its condition.

2. Set, anchor, wire, plumb, pipe, terminate and make all mechanical and electrical systems ready to initialize, as directed by the written instructions of the manufactures of all equipment.

3. Facilitate and coordinate the field-startup services of equipment manufacturers for all equipment that is provided by the Owner and the Contractor, though the field labor and travel expenses for the startup services of Owner-provided equipment will be paid by the Owner.

3.02 WORKMANSHIP

A. Labor shall be performed by mechanics skilled in their particular trade. Pipe and equipment shall be installed square and plumb accessible for proper operation and service. Installation shall be consistent with completeness and appearance whether concealed or exposed.

B. Seals and Sealants. Seals and sealants that are exposed to natural gas or CNG shall be compatible with natural gas as well as the diester-type compressor-lube oil as applicable.

3.03 SAWCUT AND REPAIR

A. Demolition. All concrete and AC pavement that is excavated shall be saw cut in neat and straight lines. No saw overcuts will be allowed.

B. AC Pavement Repairs. Repairs, including for trench work, shall be made to match pre-demolition conditions, including thickness and approximate color. Apply new pavement over 6-inch Class II aggregate base, 95% compacted.

C. Concrete Repairs. Repairs, including for trench work, shall be made to match pre-demolition conditions, including thickness and approximate color. Contractor shall install No. 5, 18” long smooth steel dowels at 18-inches on center, epoxy embedded in concrete pavement slab using epoxy compound. Replacement concrete pavement section shall be 8-inch PCC, 3000 PSI mix design, but no special inspection required, with #4 rebar at 18-inch on-center, each way over 6-inch Class II aggregate base, 95% compacted

3.04 PROTECTION OF EQUIPMENT

A. General. CNG compression, storage and dispensing equipment shall be protected against vehicular impact. The CNG equipment compound and dispensers shall be protected by steel fence, CMU wall, concrete-filled pipe bollards as located on the drawings, or by means otherwise required by the AHJ’s.

B. Fence and Gates. Provide 6’ tall chain-link fence with (1) 4’ swing gate and (1) 10’ rolling gate around upgrade CNG equipment compound. Gates shall be lockable. Abut and secure new fence to existing fence around LCNG compound. Match height, toping and style of existing fencing and provide posts at max. spacing of 10’ O.C., set into 12” dia x 24” deep concrete footers.

C. Bollards. Pipe bollards shall be set plumb then filled with concrete and painted safety yellow and have a finished ht. of at least 3’-6” AFF.

1. Fixed bollards shall be constructed from 6’-6” long x 6” diameter sch 40 CS pipe that is set into a poured concrete footer measuring 36” deep x 18” diameter.

2. Removable bollards shall be constructed from 6’-6” long x 6” diameter sch 40 CS pipe that is placed into an 8” dia sch 40 pipe sleeve. Provide steel lifting D-rings welded to top of two sides of removable bollards. Sleeves shall be 3’ long and set flush with grade, and be set into a poured concrete

footers measuring 36” deep x 18” diameter. Provide removable bollards along west side of compressor skid and aligned with 10’ rolling gate.

3.05 PIPING AND APPURTENANCES

A. General. Seamless stainless steel tubing, stainless steel pipe, or seamless carbon steel pipe shall be used to conduct CNG. Piping between the valve panel and each time fill CNG post shall consist of a stainless steel tubing manifold per drawings. Piping between the valve panel and fast fill dispensers shall be per drawings.

1. Service Pressure. Piping, tubing and appurtenances downstream of compressor discharge shall have a manufacturer-rated working pressure of 5,000 PSI, in accordance with ANSI B31.3, *Process Piping*.

2. Shipping. While in transit, all hose and flexible metal hose and tubing, including their connections, shall be protected from wear or injury and shall be capped.

3. Markings. Hose, metallic hose, flexible metal hose and tubing shall be distinctly marked either by the manufacturer's permanently attached tag or by distinct markings every 5 feet indicating the manufacturer's name or trademark, material grade, service and working pressure.

4. Dissimilar Metals. Connections between dissimilar metals shall include dielectric insulation. This includes piping and other metallic connections.

5. Blowdown Tees. Within specified equipment, piping and high-pressure tubing systems and sections shall be equipped with blocking ball valves and blowdown tees or needle valves to facilitate equipment maintenance. Blowdown valves shall discharge in a manner that directs the discharging gas safely away from the person using the blowdown valve. Discharge lines on blowdown valves shall be equipped with threaded end caps to seal the line in normal service, so as to prevent accidental line depressurization and gas release. Block valves and blowdown tees shall be provided at all filter locations for safe depressurization of filter housings.

B. Pipe Routing. All gas, CNG and control-air piping inside the CNG-equipment compound shall be located and routed aboveground, unless shown as dashed piping on the plan drawings. Piping may be installed below grade, if it is installed in a pre-cast concrete pipe trench that is covered and rated for traffic and loads to which it may be exposed. Piping shall be ganged on common runs, racks and carriers where appropriate and shall be insulated against cathodic action and contact with dissimilar metals. Piping and tubing outside of the compound shall be routed underground.

C. Piping.

1. Pipe Specification. Pipe containing flammable material shall be seamless carbon steel manufactured in accordance with ASTM A-106 Grade B. All pipe, fittings and other piping components shall be suitable for the full range of pressures, temperatures and loadings to which they may be subjected with a factor of safety of at least four (4). Any material used, including gaskets and packing, shall be compatible with natural gas and its service conditions.

2. Connections.

   a. Small Pipe Connections. For 2-inch or under nominal pipe size with maximum operation pressure greater than 15 PSIG, the connections shall be socket welded in accordance with ASME/ANSI B31.3, except that twenty five (25) percent random dye-penetrant examination and one hundred (100) percent visual examination is required. Each weld shall be de-scaled and internally cleaned from any welding slag. Documentation of examination shall be transmitted to the Owner within 5 working days of examination. One hundred (100) percent of pipe welds made outside of the CNG-equipment area shall be inspected via dye-penetrant examination.

   b. Large Pipe Connections. For over 2-inch nominal pipe size with maximum operation pressure greater than 15 PSIG, the connections shall be butt welded in accordance with ASME/ANSI B31.3 except that twenty five (25) percent random radiographic x-ray examination and one hundred (100) percent visual examination is required. Each weld shall be de-scaled and internally cleaned from any welding slag. Documentation of examination shall be transmitted to the Owner within 5 working days of examination.

   c. Flange Joint. Flanges shall be in accordance with ANSI B16.5. Weldneck raised face flanges shall be used unless specified otherwise. Ring-type joints or spiral-wound metallic gaskets with centering ring shall be employed for ANSI class 900 flanges or higher.

   d. Sealing. Threaded pipe joints shall be seal welded. However, seal welding is not required on instruments or where disassembly is required for maintenance.

   e. Pre-start Pipe Cleaning. All piping sections between packaged components that include piping or tubing shall be blown clean prior to connection to equipment. Blow out shall be achieved by closing the downstream end of pipeline with a 5,000 PSI-rated ball valve, connecting a minimum 1,650 PSI-source pressure vessel to the

upstream end of the pipeline, opening supply valve at source so that minimum 750 PSI accumulates in pipeline, then opening outlet ball valve to atmosphere. Procedure shall be repeated until no solid or particulate matter is discharged from the pipeline.

1) Personnel opening and closing ball valve at downstream end shall take care to keep clear of the discharge path of the blowout, and shall wear eye and ear protection during procedure.

2) Direction of blowout flow shall be performed in both directions if possible.

3) Contractor shall take care to clear area at pipeline discharge to prevent property damage or injury during procedure.

f. Startup Filtration. 'Witch's hat' or similar strainer devices shall be installed where practical at termination of such piping sections prior to system startup and shall be checked, cleaned and replaced by the Contractor as required until all residual pipe debris has been removed.

3. Pipe Fabrication. All internal pipe surfaces of piping between components shall be cleaned over its entire length, removing dirt, debris and loose corrosion products before pipe is lined up for welding. The open ends of all strings of pipe shall be kept securely closed to prevent the entrance of dirt, debris, water or animals into the pipe.

4. Field-applied Paint. All aboveground carbon steel pipe, pipe supports and pipe bollards shall be painted using a suitable industrial maintenance coating, including exterior grade, and resistance to UV. Surface preparation and selection and application of primer and finish coat shall conform to the paint manufacturer's written instructions.

D. High-Pressure Tubing.

1. Tubing Specification. Gas tubing shall be stainless steel ASTM A-213 or ASME SA213 cold drawn, bright annealed seamless tubing. Tube material shall be Type 316 stainless steel.

2. Installation of Tubing and Tube Fittings. Swagelok, Parker A-Lok, or Hoke tube fittings shall be used. Contractor shall use tube fittings from a single manufacturer throughout a prepackaged component, so as to simplify use and consistency of appropriate repair parts. Type 316 stainless steel fittings shall be used with stainless steel tubing. Manufacturers' personnel who install tubing and tube fittings shall be trained and certified by the fitting manufacturer for such activity, and proof shall be provided. Tubing shall be installed neatly and in a workman-like manner as per manufacturer's design and recommendation. All tubing shall be properly anchored, supported or

pitched and shall be protected from impact. As CNG tubing dilates and contracts in response to its wide range of operating pressures, Parker ParKlamp assemblies, or approved similar resilient anchors, shall be used to support gas tubing. Parker Seal-lok fittings shall be used for tube fittings for tubing ¾“ or larger.

3. Valve Clearance. All valves shall be accessible for easy operation and maintenance.

E. Instrument Piping. Provisions shall be made in installation of piping and tubing to accommodate field servicing and calibration of instruments.

F. Valves.
1. General. All valve bodies shall be permanently marked by the manufacturer with their service pressure ratings.
2. Shut-off Valve. A full-port manual ball valve shall be installed immediately downstream from the connection to each compressor-discharge line and the skid outlet line, to facilitate servicing.
3. Compressor Discharge Check Valve. A backflow preventer (check valve) shall be provided at each high-pressure outlet, in order to prevent backflow into the compressors from ancillary equipment. Backflow preventers shall be suitable for use at the maximum pressure to which they are subjected.
4. Pressure Relief Valves. Pressure relief valves installed to protect each isolated piping system shall have sufficient capacity and shall be set to open at a pressure not exceeding 125% of system MAWP or the pressure which produces a hoop stress of 75% of specified minimum yield strength, whichever is lower. Pressure relief valve (PRV) shall be of the following type, or approved equal: Anderson Greenwood Type fabricated with stainless steel, having an orifice size appropriate for the pressure and volume/rate that it is protecting.
5. Stamping. All relief valves shall be ASME rated and stamped with their set pressure and date of setting by manufacturer. Date stamp shall be less than 12 months from date of delivery to site.
6. Control. There shall be no shutoff means in the discharge line of a pressure-limiting device or between the relief valve and the pressure source that it controls.
7. Relief Valve Venting. Each relief valve shall be connected to a vent pipe constructed of schedule 80 carbon steel pipe with primed and epoxy coating, or approved equal coating. The vent pipe shall vent released gas at an elevation 10 feet above grade or another approved, safe location and shall be properly anchored and supported against anticipated vent force. Escaping gas shall not impinge on a vessel, valves or fittings. Except for safety valves that are integral with service valves, relief-valve vent pipes on tanks shall be installed in a vertical position and shall be fitted weep holes at the low point of the pipe.

8. Relief Valve Vents. Each vent pipes shall be capped with rain caps as a means of preventing the entry of water and debris.
9. Prohibited Pressure Relief Devices. Fusible plugs and/or rupture plugs are prohibited for primary relief devices.
10. Actuated Valves. All valves requiring automatic actuation shall be ball type with port sizes not smaller than the largest line connection. Actuators shall be pneumatic, and matched to valve, subject to Owner approval. Solenoid valves or actuation by regulated gas or electric operators are prohibited unless specifically approved by the Owner during facility design and submittal review.

3.06 LABELING

A. Major Equipment. The manufacturer shall provide a stainless steel or brass nameplate on each major item of equipment. The nameplate shall be mechanically affixed and shall be embossed with the manufacturer's name, address, model number, serial number, pressure rating and flow capacity.

B. Valves. The Contractor shall provide a uniform brass or stainless steel embossed nameplate on or adjacent to valves located as listed below. The nameplate shall be mechanically affixed.
   1. All dryer valves.
   2. Gas and CNG connections at the exterior perimeter of the compressor skid.
   3. CNG valves and connections at the valve panel.
   4. All valves for the control-air system.
   5. CNG connections at the dispensers.

3.07 FIELD-STARTUP SERVICES

A. General. Contractor shall provide field-startup services from manufacturers' authorized representatives and vendors, including on-site assistance as required for the following equipment:

   1. Compressor skid, including control panel, LCNG-system interface and remote-communication panel.
   2. Gas dryer.
   3. Dispenser.
   4. Valve panel.
   5. Backup generator and ATS.

B. Joint Vendor Meetings. Contractor shall facilitate joint, on-site meeting(s) consisting of technicians from the Contractor, Contractor's electrical subcontractor, Contractor's mechanical-piping subcontractor, CNG-skid manufacturer, dryer manufacturer, valve-panel manufacturer, dispenser manufacturer, and fuel-management vendor. First joint meeting shall be conducted upon completion of all mechanical connections, final terminations

and energizing of all systems listed herein, for the purpose of coordinating debugging activities. Contractor shall facilitate as many such joint meetings as may be required to achieve final acceptance and test compliance as described under article 1.10 and article 3.06.

3.08 ADJUSTING, BALANCING AND TESTING

A. After completion of the installation, start, regulate, adjust and test all equipment and devices.

B. Functional Tests.

1. Leak tests of high-pressure CNG piping sections, systems and appurtenances shall be performed by maintaining a nitrogen charge of 110 percent of its respective working pressure for a duration of 30 minutes with charge source disconnected. The tests shall use a gauge that is scaled to between 110 percent and 300 percent of the test pressure. Piping and tubing shall also be subject to soap-bubble testing.

2. Functional Testing. At minimum, successful completion of the following functional tests shall be required.
   a. ESD / emergency shutdown at all button/station locations, including required valve closures.
   b. Low suction pressure, each skid (close skid-supply ball valves).
   c. Temperature-compensated dispenser fill for new dispenser, including correct dispenser start on button, auto-stop on fill completion, and verify ‘settled’ fill pressure vs. ambient temperature two hours following fills. Must be within 4% of design-fill pressure, temperature compensated to 70ºF.
   d. Correct operation of fuel-management system at new dispenser, including authorization of transaction, energizing of dispenser, and recording of transaction data (fill volume, time/date stamp, event ID, and pump number).
   e. Manual initiation of dryer regeneration.
   f. Correct annunciation on controller / PLC shall be required for all test events, as appropriate.
   g. Observe compressor operation, including stage pressures and temperatures, and verifying function of controller, including triggering selected faults, such as high interstage temperature.

C. Reliability Test. Reliability test shall consist of fueling under normal-use conditions for 5 consecutive work days. System shall have no failures of compressor operation, dryer operation, normal dispenser operation, or operation of the fuel-management system during the test period. If any failure occurs, the test shall be repeated in its entirety. Final acceptance of the facility shall only be declared upon successful completion of the test. Contractor shall

be responsible for all onsite coordination of troubleshooting and coordination of suppliers and trades during test.

1. Failure is defined as the occurrence of any of the following:
   a. Inability of the CNG system to dispense CNG at the pressures and rate specified, including accounting for temperature compensation at settled conditions.
   b. Failure of the dryer to provide dried gas or not be able to auto switch or regenerate as applicable.
   c. Failure of a compressor to start and run within factory-listed operating pressures and temperatures.
   d. Failure of the controller/PLC, valve panel, fuel-management system and/or dispensers to operate as specified.
   e. Presence of an audible or visible gas or CNG leak.
   f. Failure of the LCNG system that is related to the installation of the CNG upgrades.
   g. Occurrence of an auto-fault shutdown of either or both CNG compressors, except those caused by ESD-button activation, gas-detection system outside of skids, variations in gas supply pressure, or damage to the facility beyond the Contractor's control.

2. Contractor may take equipment offline for scheduled maintenance during the test period, provided maintenance is consistent with manufacturer's recommendations, and does not impinge on Owner's ability to fuel vehicles during the normal daily fueling window between 7:00AM and 6:00PM. Contractor shall be responsible for maintenance through successful completion of test, including provision of consumables.

3. Corrective work conducted by the Contractor and all subcontractors and suppliers preceding and during the performance test shall be documented at the time of the repair by the technician performing the repair. If the technician suspects a cause of fault that is beyond the scope of his respective firm or responsibility, technician shall notify Owner immediately and shall not implement repairs until condition of failure has been documented and the other firm(s) have been notified and been provided documentation of the condition. Owner shall not pay Contractor for any work or repair that is implemented during testing above of the contract amount, unless the work or condition is beyond the control of the Contractor, the Contractor's subcontractors, or the Contractor's suppliers. Contractor shall notify Owner in writing of intent to perform any work that the Contractor deems to be outside of the contract scope, prior to performance of any such work.

3.09 OPERATION AND MAINTENANCE DATA AND TRAINING

A. Maintenance Manuals: Organize maintenance and operating manual information into suitable sets of manageable size, and bind into individual binders, properly identified and indexed (thumb-tabbed). Examples: Dryer, CNG compressors, compressor drivers, CNG dispenser, etc. Include emergency instructions, safety procedures, spare parts listings, warranties, guarantee, wiring diagrams, recommended maintenance intervals, inspection procedures, shop drawings, product data, and similar applicable information. Use a standard method for highlighting safety procedures. Bind each manual of each set in a heavy-duty 2-inch, three ring vinyl-covered binder and include pocket folders for folded sheet information. Mark identification on both the front and spine of each binder, including "Volume ## of ##" information.

1. Data:

   a. Manuals shall cover the CNG facility as a complete system.
   b. Include instructions by manufacturer's representatives where installers are not expert in the required procedures.
      1) Review of maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning, and similar procedures and facilities for operational equipment to demonstrate start-up, shut-down, emergency adjustments, and similar operations.
      2) Review of maintenance and operations in relation to applicable guarantees, warranties, agreements to maintain bonds, and similar continuing commitments.

2. Delivery: Supply three (3) complete bound copies and (2) electronic PDF copies on USB flash drive of all manuals for approval with the commencement of the delivery of the equipment to the site.

B. CNG Fueling Operation and Maintenance Training.

1. General:

   a. At least 60 days prior to scheduled date for commencement of training, submit training syllabus with time allotments per topic and instructional materials to the Owner for review and approval. Upon review of syllabus, Owner may require additional time be allotted to certain training topics.

   b. Where specified, develop and conduct a program to train selected Owner personnel in the safe operating procedures, and maintenance of equipment and systems furnished during the hours required by the Owner. Also include in the training program key hazards and their protectors, and corrective actions for violation of safety rules.

c. Furnish instructors, instructional materials and audio-visual aids and equipment.

d. The Owner is to furnish physical facilities and equipment.

e. Begin instruction upon successful completion of Testing as specified in this Section.

2. Program content: At a minimum, instruction will include material covered in the operation and maintenance manuals as well as the following:

a. Theory of operation of CNG system.
b. Practical aspects of operation.
c. Description of system, equipment and components.
d. Functional characteristics of system, equipment and components.
e. Emergency operating procedures.
f. Maintenance procedures.
g. Servicing intervals and schedules.
h. Diagnosis and problem solving (troubleshooting).
i. Repair.
j. All segments characterizing CNG equipment.
k. Instruction manual will contain measurable training objectives.
l. Hazards relative to CNG Facility operations.
m. Conduct preventive maintenance checks and services.
n. Perform general and location Emergency Response.
o. Perform personal precautions in Emergency Situations such as Fires, Leaks or Spills.
p. Perform corrective actions to respond to Emergency Situations such as Fires, Leaks or Spills.
q. Operations and Safety personnel will perform CNG Shop Operations such as Prepare Maintenance Request; Maintain Records for Hazard of CNG Operations.
r. Perform CNG vehicle fueling.
s. Operation, reading, interpretation and resetting of Murphy control panel.

C. Special tools or equipment.

1. Contractor will supply special tools or equipment.
   a. The special equipment or tools are defined as, other than those nominally found in a mechanic's toolbox, necessary for the general upkeep, maintenance and overhaul of the equipment or products contained in equipment and components delivered under this contract.
   b. A list of special tools or equipment will be provided to Owner. The list must be submitted for approval no later than 60 days after awarding contract.

c. Any tools not found in the catalogue or over-the-counter of a local supply company is considered a specialty tool or equipment.

D. Duration.

1. Training for maintenance, facility operation and troubleshooting shall be 8 total hours.

2. Actual durations for each type of training may be reduced at the discretion of the Owner.

E. Emergency response training.

1. Contractor shall provide emergency response training and facility familiarization to Fire Department personnel as related to faults that may occur during operation of the CNG system and during the fueling of CNG-fueled vehicles at all dispensers. Contractor shall provide up to two sessions lasting 45 minutes each, and shall include familiarization of overall facility layout and function, location of service disconnects for gas and electrical connections, and demonstration of ESD function.

END OF SPECIFICATIONS FOR CNG FACILITY UPGRADES

THIS AGREEMENT is made and entered into this __ day of ____, 20__, by and between the **VICTOR VALLEY TRANSIT AUTHORITY**, a Joint Powers authority, created pursuant to the laws of the State of California ("VVTA" OR "Agency") and, ("CONTRACTOR").

RECITALS

WHEREAS, VVTA circulated and distributed a request for proposal ("RFP") to seeking to contract for the engineered design and upgrade of the existing liquefied / compressed natural gas (L/CNG) vehicle-fueling system at the VVTA Barstow Operations and Maintenance facility in Barstow, CA, in accordance with Attachment A – Scope of Work Exhibit 1 ; and

WHEREAS, CONTRACTOR submitted a proposal to provide the required services per the Scope of Work described in the RFP, a copy which is attached herein as Exhibit 2: and

WHEREAS, CONTRACTOR has represented and warrants to VVTA that it has the necessary training, experience, expertise, physical capacity and staff competency to provide the services, goods and materials that are described in this Agreement, at a cost to VVTA as herein specified and that it will be able to perform the herein described services for VVTA by virtue of its current resources and specialized knowledge of relevant data, issues, and conditions: and

WHEREAS, CONTRACTOR represents and warrants that neither CONTRACTOR, nor any of its officers, agents, employees, contractors, subcontractors, volunteers, or five percent owners, is excluded or debarred from participating in or being paid for participation in any Federal or State program; and

WHEREAS, CONTRACTOR further represents and warrants that no conditions or events now exist which give rise to CONTRACTOR, or any of its officers, agents, employees, contractors, subcontractors, volunteers or five percent owners being excluded or debarred from any Federal or State program; and

WHEREAS, CONTRACTOR understands that VVTA is relying upon these representations in entering into this Agreement.

NOW, THEREFORE, in consideration of the mutual promises and conditions herein contained, VVTA and CONTRACTOR hereby agree as follows:

1. SCOPE OF WORK

A. CONTRACTOR will perform the Work and related tasks as described in Attachment A, Scope of Work (Exhibit 1) hereto and is incorporated by reference into and made a part of this Agreement.

B. This is a non-exclusive Agreement, whereby VVTA may, at its sole discretion, augment or supplant the Work with its own forces or forces of another contractor or entity. CONTRACTOR will cooperate fully with VVTA's staff or other contractor or entity that may be providing similar or the same Work for VVTA.

2. CONTRACT DOCUMENTS

The complete Contract between the parties shall consist of the following component parts:

This Agreement;

A. Exhibit 1 – RFP 2020-06 Barstow CNG Station Upgrade

B. Exhibit 2 – RFP 2020-06 Attachment A – Scope of Work

C. Exhibit 3 – CONTRACTOR's Offer and Bid Submission dated _____

D. Exhibit 4 - Insurance Certificate, dated _____

E. Exhibit 5 – CONTRACTOR's Price Proposal Sheets dated _____

F. Exhibit 6 – CONTRACTOR's Required Forms dated _____

All of the Exhibits mentioned in this Attachment are attached and are herein incorporated. This Agreement and the other Exhibits mentioned constitute the entire Contractual Agreement between the parties. In the event of any conflict between any of the provisions of this Agreement and Exhibits, the provision that requires the highest level of performance from CONTRACTOR for VVTA's benefit shall prevail. Proposer shall execute and submit Certifications as required.

3. PERIOD OF PERFORMANCE

This Agreement shall commence on _____ ___, 20__, and shall continue in full force and effect through _____ __, 20__, unless earlier terminated or extended as provided in this Agreement.

4. TOTAL CONSIDERATION

A. In accordance with the terms and conditions of this Contract, VVTA shall pay CONTRACTOR for its obligations under this Agreement. VVTA shall pay CONTRACTOR on a FIXED PRICE basis at the fully burdened fixed rates stated herein in accordance with the provisions, of this Section, and subject to the maximum cumulative payment obligation

RATES

B. VVTA's maximum cumulative payment obligation under this Agreement shall not exceed _____ ($), including all amounts payable to CONTRACTOR for all costs, including but not limited to direct labor, other direct costs, subcontracts, indirect costs including, but not limited to, leases, materials, taxes, insurance, and profit.

5. ACCEPTANCE, INVOICING AND PAYMENT

A. Acceptance

When the whole Project has been completed in all respects in accordance with the completed, plan-checked and VVTA approved Plans and Specifications, to the full satisfaction of VVTA, VVTA will then file a Notice of Completion with the County Recorder in San Bernardino County. Projects bid with a segregation of costs for separate, independent portions may, at VVTA's discretion, have each of the separate portions accepted individually. The date of acceptance of the Project as stated on the Notice of Completion shall be the official completion date relating to the assessment of liquidated damages. Acceptance shall be final and conclusive except for latent defects, gross mistakes amounting to fraud, audit rights, or Trustees' rights under any warranty or guarantee.

The County Recorder's date of recording on the Notice of Completion, if filed timely (within fifteen Days of acceptance), shall be the official completion date relating to stop notices and stop payment notices. All stop notices and stop payment notices must be filed with VVTA within 30 Days after the County Recorder's recordation date on VVTA's timely filed Notice of Completion. All claims arising from this Contract shall be submitted in writing to VVTA no later than 30 Days after the recordation date on VVTA's Notice of Completion (Section 25. SUBMITTAL OF CLAIMS BY CONTRACTOR).

B. Partial Payment

To assist in computing payments, CONTRACTOR shall submit to the Project Manager and VVTA a "Schedule of Values" of CONTRACTOR's actual and estimated costs for each item of Work, including approved change orders. The cost breakdowns shall be in sufficient detail for

use in estimating the Work to be completed each month and shall be submitted within 21 Days after the date of commencement of Work given in the Notice to Proceed. CONTRACTOR shall also provide the breakdown of the awarded Contract value by completing the Uniformat Building Systems form. This information is valuable to VVTA for budgeting purposes and shall be submitted by CONTRACTOR to the Project Manager along with the initial submittal of the Schedule of Values.

Once each month during the progress of the Work, CONTRACTOR shall submit to the Project Manager a partial payment request. CONTRACTOR shall base the partial payment request on the approved bid breakdown for the cost of the Work completed plus, where applicable, a maximum of 90% of the verified supplier-invoiced and CONTRACTOR-purchased value for the acceptable materials delivered to the site, or stored subject to the control of CONTRACTOR but identified as the property of VVTA, and not yet installed and as allowed on the Contract Payment Request Form, line 2-f. CONTRACTOR must make any materials stored offsite accessible to VVTA to verify invoiced value and shall deliver these materials to VVTA upon request. When submitting a request for payment for materials, CONTRACTOR shall submit the Request for Materials On Hand Form with its partial payment request.

The partial payment request shall be submitted on the monthly anniversary of the day selected by CONTRACTOR in the job start meeting. The Project Manager shall review and certify the validity of the request, which, if the request includes an invoice for materials, then it shall include an inspection by the Project Manager of materials invoiced. No partial payment shall be made without the certification of the Project Manager, unless the partial payment is strictly administrative, and is processed after the completion of the Work (e.g. release of stop notice and stop payment notice claims).

Partial payment requests shall be processed with five percent (5%) retention. VVTA shall hold retention in part as security for the fulfillment of the Contract by CONTRACTOR. VVTA will withhold sufficient funds in addition to the retention to cover for anticipated liquidated damages, stop payment notices, Labor Code wage and penalty assessments, unacceptable Work, punch list Work, and VVTA's back-charges such as for retesting and re-inspection. VVTA will withhold monies from partial payments for incomplete punch list Work in addition to retention. VVTA shall not process partial release of retention before Contract completion (Public Contract Code section 10851) unless the Project is phased with a segregation of costs.

Partial payments shall not be construed as acceptance of any Work which is not in accordance with the requirements of the Contract. Once the Project Manager has certified the partial payment request, it shall be submitted to VVTA's Construction Administrator for approval and processing (Public Contract Code section 10851). Payment will then be processed in accordance with section 10853 of the Public Contract Code. Such procedure provides for 39 Days processing, from the date of receipt of an undisputed and properly submitted payment request by the Construction Administrator.

CONTRACTOR shall submit invoices in duplicate to:

VICTOR VALLEY TRANSIT AUTHORITY
ATTN: CHRISTINE PLASTING/CONTRACT ADMINISTRATOR
17150 SMOKETREE STREET
HESPERIA, CA 92345-8305

C. VVTA shall remit payment within forty-five (45) calendar days of approval of the invoices by VVTA Senior Staff. VVTA does encourage the CONTRACTOR to accept discount terms of 2% 10, net 45, in the event the CONTRACTOR is in need of expedited terms.

D. Stop Payment Notices

VVTA shall retain out of any money due or that may become due CONTRACTOR, sums sufficient (125 percent of the claim) to cover claims filed pursuant to the stop payment notice provisions of the law (Civil Code section 9000 *et seq.*).

Preliminary notices and stop payment notices shall be presented to VVTA in proper form and should be addressed to the Construction Administrator and sent to VVTA at the address above and at the preconstruction conference. CONTRACTOR shall be responsible to communicate this information to all subcontractors.

E. Final Payment

After VVTA's acceptance of the Project as complete, CONTRACTOR shall submit to the Construction Administrator a payment request stating the total due under the Contract less the retention. This payment request will be processed in the same manner as the partial payment requests. Refer to 5.B, Partial Payments.

VVTA shall notify CONTRACTOR of the date of recordation of the Notice of Completion. CONTRACTOR shall then submit a request for payment of the retention to the Construction Administrator, who will process the retention payment 45 Days after the date of recordation by the County Recorder.

VVTA shall continue to retain funds to cover liquidated damages, stop notices and stop payment notices, state labor commissioner claims, back charges from VVTA, unexecuted credit change orders, and other such claims that may be received up to the end of the 45 Days period following recordation. If any stop notices or stop payment notice has been filed, payment shall be withheld in an amount of at least 125 percent of the total claims filed until either the rights under the stop notice or stop payment notice have been settled or CONTRACTOR has posted sufficient bond in an amount of at least 125 percent of the total claims filed to secure payment of such claims.

On projects bid with a segregation of costs for separate, independent portions which portions are accepted individually pursuant to Section 5.A, Acceptance, the final payment procedure specified in this Article shall be followed. The total amount due under the Contract, the amounts retained, other claims for compensation, and the filing of stop notices and stop payment notices shall refer only to the portion accepted.

In the event VVTA should overpay CONTRACTOR, such overpayment shall not be construed as a waiver of VVTA's right to obtain reimbursement for the overpayment. Upon discovering any overpayment, either on its own or upon notice from VVTA, CONTRACTOR shall immediately reimburse VVTA the entire overpayment or, at its sole discretion, VVTA may deduct such overpayment amount from monies due to CONTRACTOR under this Agreement or any other Agreement between VVTA and CONTRACTOR.

6. AUDIT AND INSPECTION OF RECORDS

In accordance with 49 C.F.R. § 18.36(i), 49 C.F.R. § 19.48(d), and 49 U.S.C. § 5325(a), provided VVTA is the FTA Recipient or a sub-grantee of the FTA Recipient, the Contractor agrees to provide VVTA, FTA, the Comptroller General of the United States, the Secretary of the U.S. Department of Transportation, or any of their duly authorized representatives access to any books documents, papers, and records of the Contractor which are directly pertinent to or relate to this Contract (1) for the purpose of making audits, examinations, excerpts, and transcriptions and (2) when conducting an audit and inspection.

A. **For Contract Amendments**, the Contracting Officer, the U.S. Department of Transportation *(if applicable)*, or their representatives shall have the right to examine all books, records, documents, and other cost and pricing data related to a Contract Amendment, unless such pricing is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the public, or prices set by law or regulation, or combinations thereof. Data related to the negotiation or performance of the Contract Amendment shall be made available for the purpose of evaluating the accuracy, completeness, and currency of the cost or pricing data. The right of examination shall extend to all documents necessary for adequate evaluation of the cost or pricing data, along with the computations and projections used therein, either before or after execution of the Contract Amendment for the purpose of conducting a cost analysis. If an examination made after execution of the Contract Amendment reveals inaccurate, incomplete, or out-of-date data, the Contracting Officer may renegotiate the Contract Amendment and VVTA shall be entitled to any reductions in the price that would result from the application of accurate, complete or up-to-date data.

B. In the event of a **sole source Contract, or single Offer, single responsive Offer, or competitive negotiated procurement**, the Contractor shall maintain and the Contracting Officer, the U.S. Department of Transportation *(if applicable),* or the representatives thereof, shall have the right to examine all books, records, documents, and other cost and pricing data related to the Contract price, unless such pricing is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the public, or prices set by law or regulation, or combinations thereof. Data related to the negotiation or performance of Contract shall be made available for the purpose of evaluating the accuracy, completeness, and currency of the cost or pricing data. The right of examination shall extend to all documents necessary for adequate evaluation of the cost or pricing data, along with the computations and projections used therein, including review of accounting principles and practices that reflect properly all direct and indirect costs anticipated for the performance of the Contract.

7. NOTIFICATION

All notices hereunder concerning this Agreement and the Work to be performed shall be physically transmitted by courier, overnight, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

To VVTA:
Attn: Christine Plasting
Victor Valley Transit Authority
17150 Smoke Tree Street
Hesperia, CA 92345-8305

To CONTRACTOR
_____
_____
_____
_____

8. VVTA AND CONTRACTOR'S REPRESENTATIVES

A. VVTA

VVTA's Executive Director, or his authorized designee, is the authorized representative for this agreement and is empowered as set forth in 1-4. Except as expressly specified in this Agreement, the Executive Director may exercise any powers, rights and /or privileges that have been lawfully delegated by VVTA. Nothing in this Agreement should be construed to bind VVTA for acts of its officers, employees, and/or agents that exceed the delegation of authority specified herein. The Executive Director or his/her designee is empowered to:

1. Have general oversight of the Work and this Agreement, including the power to enforce compliance with this Agreement.

2. Reserve the right to remove any portion of the Work from CONTRACTOR which has not been performed to VVTA's satisfaction.

3. Subject to the review and acceptance by VVTA, negotiate with CONTRACTOR all adjustments pertaining to this Agreement for revision.

4. In addition to the foregoing, the Executive Director shall have those rights and powers expressly set forth in other sections of this Agreement.

B. Contractor's Key Personnel

The following are CONTRACTOR's key personnel and their associated roles in the Work to be provided:

Name	Role

Any propose/substitution or replacement by Contractor of Contractor's key personnel shall ensure that such person possesses the same or better expertise and experience than the key personnel being substituted or replaced. VVTA reserves the right to interview such

person to ascertain and verify if such proposed substitution or replacement does possess such expertise and experience.

VVTA awarded this Agreement to CONTRACTOR based on VVTA's confidence and reliance on the expertise of CONTRACTOR's key personnel described above. CONTRACTOR shall no reassign key personnel or assign other personnel to key personnel roles until CONTRACTOR obtains prior written approval from VVTA.

9. TERMINATION OF CONTRACT

A. TERMINATION FOR CONVENIENCE

1. The performance of Work under this Contract may be terminated in whole, or from time to time in part, by the Contracting Officer for the convenience of VVTA whenever VVTA determines that such termination is in the best interest of VVTA and the other procuring agencies. Any such termination shall be executed by delivery to the Contractor of a written Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective. After receipt of a Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor must:

   (a) Stop the Work under the Contract on the date and to the extent specified in the Notice of Termination;

   (b) Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the Work under the Contract as is not terminated;

   (c) Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated as set out in the Notice of Termination;

   (d) Assign to VVTA in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case VVTA shall have the right, in its discretion, to settle or pay and or all claims arising out of the termination of such orders and subcontracts;

   (e) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Contracting Officer, to the extent he/she may require, which approval or ratification shall be final for all the purposes of this Section;

   (f) Transfer title to VVTA and deliver in the manner, at the times, and to the extent, if any, directed by Contracting Officer the fabricated or un-fabricated parts, work in process, completed work, supplies, and other material produced as part of, or acquired in connection with the performance of, the Work

terminated, and the completed or partially completed plans, drawings, information and other property which, if the Contract had been completed, would have been required to be furnished to VVTA;

(g) Use its best efforts to sell, in the manner, at the times, to the extent, and at the price(s) directed or authorized by the Contracting Officer, and property of the types referred to above, provided, however, that the Contractor shall not be required to extend credit to any purchaser, and may acquire an such property under the conditions prescribed by and at a price(s) approved by the Contracting Officer, and provided further, that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by VVTA to the Contractor under this Contract or shall otherwise be credited to the price, or cost of the Work covered by this Contract or paid in such other manner as the Contracting Officer may direct;

(h) Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination; and

(i) Take such action as may be necessary, or as the Contracting Officer may direct, for the protection or preservation of the property related to this Contract which is in the possession of the Contractor and in which VVTA has or may acquire an interest.

2. After receipt of a Notice of Termination, the Contractor shall submit to VVTA its termination claim, in the form and with certification prescribed by VVTA. Such claim shall be submitted promptly but in no event later than six months from the effective date of termination, unless one or more extensions in writing are granted by VVTA, upon request of the Contractor made in writing within such six months period or authorized extension thereof. However, if VVTA determines that the facts justify such action, it may receive and act upon any such termination claim at any time after such six months period or any extension thereof. Upon failure of the Contractor to submit its termination claim within the time allowed, VVTA may determine, on the basis of information available, the amount, if any, due the Contractor by reason of the termination and will thereupon pay the Contractor the amount so determined.

3. Subject to the provisions of subsection 2 above, the Contractor and VVTA may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination or work pursuant to this Section, which amount or amounts may include an allowance for profit on work done; provided that such agreed amount or amounts exclusive of settlement costs, shall not exceed the total Contract Consideration as reduced by the amount of payments otherwise made and as further reduced by the Contract price of work not terminated. The Contract will be amended accordingly, and the Contractor will be paid the agreed amount.

4. In the event of failure of the Contractor and VVTA to agree, as provided in subsection

3, upon the amount to be paid the Contractor by reason of the termination of Work pursuant to this Section, VVTA will pay the Contractor the amounts determined by VVTA as follows, but without duplication of any amounts agreed in accordance with subsection:

With respect to Contract Work performed prior to the effective date of the Notice Termination, the total (without duplication of any items) of:

(a) The costs of such Work;

(b) The cost of settling and paying claims arising out of the termination of Work under subcontracts or orders as provided in subsection 1(e) above, exclusive of the amounts paid or payable on account of supplies or material delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of Work under this Contract, which amounts shall be included in the costs on account of which payment is made under 2 above;

(c) A sum, as profit on 4(a) above, determined by VVTA to be fair and reasonable; provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this subsection 4(c) and an appropriate adjustment shall be made by reducing the amount of the settlement to reflect the indicated rate of loss; and

(d) The reasonable cost of preservation and protection of property incurred pursuant to subsection A (9) and any other reasonable cost incidental to termination of work under this Contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of Work under this Contract.

5. The total sum to be paid to the Contractor under subsection 4 will not exceed the total Contract Consideration as reduced by the amount of payments otherwise made and as further reduced by the Contract price of Work not terminated. Except for normal spoilage, and except to the extent that VVTA will have otherwise expressly assumed the risk of loss, there will be excluded from the amounts payable to the Contractor under subsection 4 the fair value, as determined by the VVTA, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to VVTA, or to a purchaser pursuant to subsection 1 (g) of this Section.

6. In arriving at the amount due the Contractor under this Section, there will be deducted:

(a) The amount of any claim which VVTA has against the Contractor in connection with the Contract; and

(b) The agreed price for, or the proceeds of sale of materials, supplies, or other items acquired by the Contractor or sold, pursuant to the provision of this Section, and not otherwise recovered by or credited to VVTA.

7. If the termination hereunder is partial, prior to the settlement of the terminated portion of the Contract, the Contractor may file with VVTA a written request for an adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice of Termination), and such adjustment as may be agreed will be made in the price or prices.

8. VVTA may from time to time, at its sole discretion and under terms and conditions it may prescribe, make partial payments and payments on account against cost incurred by the Contractor in connection with the terminated portion of the Contract whenever, in the opinion of VVTA, the aggregate of payments does not exceed the amount to which the Contractor will be entitled hereunder. If the total of the payments is in excess of the amount finally agreed or determined to be due under this Section, the excess shall be paid by the Contractor to VVTA upon demand, together

with interest at the rate of 10 percent per annum or the maximum rate permitted by applicable law, whichever is less, for the period from the date the excess payment is received by the Contractor to the date on which the excess payment is repaid to VVTA.

9. Unless otherwise provided for in this Contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this Contract, shall preserve and make available to VVTA at all reasonable times at the office of the Contractor but without direct charge to VVTA, all its books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the Work terminated hereunder, or to the extent approved by VVTA, photographs, microphotographs, or other authentic reproductions thereof.

10. The Contractor shall insert in all subcontracts that the Subcontractor or Supplier shall stop work on the date of and to the extent specified in a Notice of Termination from VVTA and shall require that any tier subcontractor to insert the same provision in any tier subcontract.

11. The Contractor shall communicate immediately upon receipt thereof, any Notice of Termination issued by VVTA to the affected Subcontractors and Suppliers of any tier.

12. Under no circumstances is the Contractor entitled to anticipatory, unearned profits or consequential damages as a result of a termination or partial termination under this Section. The payment to the Contractor determined in accordance with this Section constitutes exclusive remedy for a termination hereunder.

13. Anything contained in the Contract to the contrary notwithstanding, a termination

under this Section shall not waive any right or claim to damages which VVTA may have and VVTA may pursue any course of action it may have under the Contract.

B. **TERMINATION FOR CAUSE**

(1) By written Notice of Termination to the Contractor, VVTA and the other procuring agencies may cancel the whole or any part of the Contract in any one of the following circumstances:

(a) If the Contractor fails to perform the Work within the time specified or any extension thereof;

(b) If the Contractor fails to perform any of the provisions of the Contract, or fails to make progress so as to endanger performance of the Contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of the 10) calendar days (or such additional time as may be specified in the notice) after VVTA gives notice to Contractor of the failure;

(c) The Contractor or Subcontractor or Supplier has violated an authorized order or requirement of VVTA;

(d) Abandonment of the Contract;

(e) Assignment of subcontracting of the Contract or any Work under the Contract without approval by VVTA;

(f) Bankruptcy or appointment of a receiver for the Contractor's property;

(g) Performance by the Contractor in bad faith;

(h) Contractor allowing any final judgment to stand (unsatisfied) for a period of 48 hours (excluding weekends and legal holiday(s);

(i) Material failure to comply with the law, ordinance, rule, regulation or order of a legal authority applicable to the Contract, the Work, the Contractor or the goods; or

(j) Failure to indemnify any party which the Contractor is obligated to indemnify under the Section 2.7.5, Indemnification, or elsewhere under the Contract.

(2) The Contractor shall be provided a period of ten (10) days to cure such failure (or such longer period as VVTA may authorize in writing) after receipt of notice from VVTA specifying such failure.

(3) In the event the Contractor does not cure the breach to the satisfaction of VVTA within the time period specified by the Contracting Officer, the Contracting Officer will send the Contractor a written notice of failure to cure the breach. Upon receipt

of such written notice from VVTA, Contractor shall:

(a) Stop Work on the date of, and to the extent specified in, the Notice of Termination;

(b) Place no further orders or subcontracts for materials, equipment, services, or facilities, except that which is necessary to complete the portion of the Work which is expressly not cancelled under the Notice of Termination;

(c) Cancel all orders or subcontracts to the extent that they relate to the performance of Work cancelled under the Notice of Termination; and

(d) Comply with all other requirements of VVTA specified in the Notice of Termination.

(4) If the Contract is cancelled as provided in this Section, VVTA may require Contractor to transfer title and deliver to VVTA, as directed by VVTA, the following:

(a) Any completed supplies or equipment furnished by VVTA; and

(b) Such partially completed supplies and materials, installations, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing materials") that the Contractor has specifically produced or acquired for the cancelled portion of this Contract. The Contractor shall also protect and preserve property in its possession in which VVTA has an interest at the Contractor's sole expense.

(5) Upon VVTA's Termination of the Contractor's right to proceed with the Work because of the Contractor's default under the Contract, VVTA will have the right to complete the Work by whatever means and method it deems advisable. VVTA will not be required to obtain the lowest prices for completing the Work but shall make such expenditures as, in VVTA's sole judgment, best accomplish such completion.

(6) The expense of completing the Work, together with a reasonable charge for engineering, managerial and administrative services, as certified by the Lead Procuring Agency, will be charged and will be deducted by VVTA out of such monies as may be due or may at any time thereafter become due to the Contractor. In case such expense is in excess of the sum which otherwise would have been payable to the Contractor under the Contract, then the Contractor or its surety shall promptly pay the amount of such excess to VVTA upon notice of the excess so due. VVTA may, in its sole discretion, withhold all or any part of any progress payments otherwise due the Contractor until completion and final settlement of the Work covered by the Notice of Termination of Contractor's right to proceed.

(7) Contractor shall insert in all subcontracts that the Subcontractor or Supplier will stop work on the date of or to the extent specified in a Notice of Termination from VVTA

and shall require the Subcontractors and Suppliers to insert the same provision in any of their subcontracts.

(8) The Contractor shall immediately upon receipt communicate any Notice of Termination issued by VVTA to the affected Subcontractors and Suppliers at any tier.

(9) The Surety on the Contractor's Performance Bond provided for in this Contract shall not be entitled to take over the Contractor's performance of Work in case of termination under this Section, except with the prior written consent of VVTA.

(10) The Contractor shall not be liable for any costs in excess of the total Contract Consideration if the failure to perform the Contract arises out of causes beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a Subcontractor and/or Supplier and such default arises out of causes beyond the control of and without the fault or negligence of either the Contractor or the Subcontractor and/or Supplier, and if the Supplies or Services to be furnished by the Subcontractor or Supplier were not obtainable from other sources in sufficient time to permit the Contractor to meet the required Delivery Schedule, the Contractor shall not be liable for any costs in excess of the total Contract Consideration to complete the Work.

(11.) If, after issuance of the Notice of Termination of this Contract, it is determined for any reason that the Contractor was not in breach, or that the breach was excusable, the rights and obligations of the parties shall be the same as if the Notice of Termination had been issued pursuant to the Termination for Convenience Section, and the Contractor shall be reimbursed for costs incurred under the terms of that Section.

10. ASSIGNMENT

This Agreement, any interest herein or claim hereunder, may not be assigned by CONTRACTOR either voluntarily or by operation of law, nor may all or any part of this Agreement be subcontracted by CONTRACTOR – without prior written consent of VVTA. Consent by VVTA shall not be deemed to relieve CONTRACTOR of its obligations to comply fully with all terms and conditions of this Agreement.

11. SUBCONTRACTING

VVTA hereby consents to CONTRACTOR's subcontracting of portions of the Work to the parties identified below for the functions described in CONTRACTOR's proposal. CONTRACTOR shall include in each subcontract agreement the stipulation that CONTRACT, not VVTA, is solely responsible for payment to the subcontractor for all amounts owing and that the subcontractor shall have no claim, and shall take no action against VVTA, Member Agencies or officers, directors, employees or sureties thereof for nonpayment by CONTRACTOR.

Subcontractors' Names and Addresses	**Work to be Performed**

12. SUCCESSORS AND ASSIGNS

Subject to any provision under this Contract restricting assignment or subcontracting by CONTRACTOR, the provisions of this Contract shall be binding upon and inure to the benefit of the respective successors, assigns, heirs, and personal representatives of the parties to this Contract.

13. STATUS OF CONTRACTOR

A. It is understood and agreed by all the parties hereto that Contractor is an independent contractor and that no relationship of employer-employee exists between VVTA and CONTRACTOR. Neither CONTRACTOR nor CONTRACTOR'S assigned personnel shall be entitled to any benefits payable to employees of VVTA. CONTRACTOR hereby indemnifies and holds VVTA harmless from any and all claims that may be made against

VVTA, based upon any contention by any third party that an employer-employee relationship exists by reason of this Contract or any services provided pursuant to this Contract.

B. It is further understood and agreed by all the parties hereto that neither CONTRACTOR nor CONTRACTOR'S assigned personnel shall have any right to act on behalf of VVTA in any capacity whatsoever as an agent or to bind VVTA to any obligation whatsoever.

C. It is further understood and agreed by all the parties hereto that CONTRACTOR must issue any and all forms required by Federal and State laws for income and employment tax purposes, including, but not limited to W-2 and 941 forms, for all of CONTRACTOR'S assigned personnel.

14. CONTRACTOR'S RESPONSIBILITY

A. The CONTRACTOR shall be responsible for the Work performed under the terms of this Contract to the extent provided by law. The CONTRACTOR agrees not to disclose information identified by VVTA as proprietary to third parties, unless approved in advance by VVTA or required by law.

B. VVTA shall not be held liable or responsible for the maintenance and/or safety of the CONTRACTOR's equipment or supplies placed upon VVTA's property in accordance with this Contract. The CONTRACTOR acknowledges that it assumes full responsibility for any loss or damage to its equipment and supplies.

C. Any materials, equipment or work found to be damaged or defective during the period CONTRACTOR is performing the maintenance for the facility pursuant to this Agreement shall be repaired, replaced or corrected by the CONTRACTOR hereunder without additional cost to VVTA, unless such damage is the result of VVTA's gross negligence or willful misconduct.

D. CONTRACTOR shall pay for all taxes, except for sales, use, transaction and excise taxes

that were legally enacted at the time CONTRACTOR's offer submitted. CONTRACTOR shall secure and pay for all permits and governmental fees, licenses and inspections necessary for the proper execution and completion of this Contract.

E. CONTRACTOR's shall give VVTA Administration at least 24 hours prior notice when CONTRACTOR's Corporate representatives are scheduled to visit either the Hesperia or Barstow locations. Corporate representatives include, but not limited to, Board Members, Executive Staff, Regional staff, and Management.

F. Project Design: VVTA does not intend to contract for, pay for, or receive any design services which are in violation of any professional licensing laws, and by execution of the Contract, CONTRACTOR acknowledges that VVTA has no such intent. It is the intent of the Parties that CONTRACTOR is fully responsible for furnishing the design of the Project, although the fully licensed CONTRACTOR's Design Team will perform the design services required by the CONTRACT.

G. Standard of Care: All design Services to be performed by the CONTRACTOR, its design consultant, subcontractors, and their employees identified by the CONTRACTOR shall be performed in an expeditious and professional manner using architects, engineers and other professional properly licensed and duly qualified in the jurisdiction in which the Project is located. The professional obligations of such person shall be undertaken and performed in the interest of the CONTRACTOR. All design services performed pursuant to this Contract shall be performed with the degree of skill and learning ordinarily possessed by architets and engineers in good standing in the community regularaly engaged in the design and construction of a facility such as this Project and must apply that knowledge with the diligence ordinarily exercised by reputable architects and engineers under similar curcumstances ("Standard of Care").

15. GOVERNING LAW

This Contract shall be deemed to be executed within the State of California and construed in accordance with and governed by the laws of the State of California. Any action or proceeding arising out of this Contract shall be filed and resolved in the Superior Court of the County San Bernardino.

16. TIME OF THE ESSENCE

Time is of the essence in the performance of every term, covenant, condition, and provision of this Contract.

17. PUBLIC RECORDS ACT

Upon its execution, this Contract (including all Exhibits) shall be subject to disclosure pursuant to the California Public Records Act.

18. INSURANCE

A. General Requirements for Contractor

Throughout the life of this Agreement, Contractor shall pay for and maintain in full force and effect all policies of insurance required hereunder with an insurance company(ies) either (i) admitted by the California Insurance Commissioner to do business in the State of California and rated not less than "A- VII" in Best's Insurance Rating Guide, or (ii) as may be authorized in writing by VVTA's Executive Director or his/her designee at any time and in his/her sole discretion. The following policies of insurance are required:

(i) COMMERCIAL GENERAL LIABILITY insurance which shall be at least as broad as the most current version of Insurance Services Office (ISO) Commercial General Liability Coverage Form CG 00 01 and include insurance for "bodily injury," "property damage" and "personal and advertising injury" with coverage for premises and operations (including the use of owned and non-owned equipment), products and completed operations, and contractual liability (including, without limitation, indemnity obligations under the Agreement) with limits of liability of not less than the following:

$5,000,000 per occurrence for bodily injury and property damage
$5,000,000 per occurrence for personal and advertising injury
$10,000,000 aggregate for products and completed operations
$10,000,000 general aggregate applying separately to the work performed under the Agreement

(ii) COMMERCIAL AUTOMOBILE LIABILITY insurance which shall be at least as broad as the most current version of Insurance Service Office (ISO) Business Auto Coverage Form CA 00 01, and include coverage for all owned, hired, and non-owned automobiles or other licensed vehicles (Code 1 - Any Auto) with limits of liability of not less than $5,000,000 per accident for bodily injury and property damage.

(iii) WORKERS' COMPENSATION insurance as required under the California Labor Code.

(iv) EMPLOYERS' LIABILITY insurance with limits of liability of not less than $2,000,000 each accident, $2,000,000 disease policy limit and $2,000,000 disease each employee.

(v) PROFESSIONAL LIABILITY (Errors and Omissions) insurance appropriate to Consultant's profession, with limits of liability of $2,000,000 per claim/occurrence and $2,000,000 policy aggregate.

(vi) BUILDERS RISK (Course of Construction) insurance in an amount equal to the completed value of the project with no coinsurance penalty provisions.

In the event Contractor purchases an Umbrella or Excess insurance policy(ies) to meet the minimum limits of insurance set forth above, this insurance policy(ies) shall "follow form" and afford no less coverage than the primary insurance policy(ies).

Contractor shall be responsible for payment of any deductibles contained in any insurance policies required hereunder and Contractor shall also be responsible for payment of any self-insured

retentions. Any deductibles or self-insured retentions must be declared to, and approved by VVTA's Executive Director or his/her designee in his/her sole discretion. At the option of VVTA's Executive Director or his/her designee, either (i) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects VVTA, its members, board members, officers, officials, employees and agents; or (ii) Contractor shall provide a financial guarantee, satisfactory to VVTA's Executive Director or his/her designee in his/her sole discretion, guaranteeing payment of losses and related investigations, claim administration and defense expenses. At no time shall VVTA be responsible for the payment of any deductibles or self-insured retentions.

All policies of insurance required hereunder shall be endorsed to provide that the coverage shall not be cancelled, non-renewed, reduced in coverage or in limits except after 30 calendar day written notice has been given to VVTA. Upon issuance by the insurer, broker, or agent of a notice of cancellation, non-renewal, or reduction in coverage or in limits, Contractor shall furnish VVTA with a new certificate and applicable endorsements for such policy(ies). In the event any policy is due to expire during the work to be performed for VVTA, Contractor shall provide a new certificate, and applicable endorsements, evidencing renewal of such policy not less than 15 calendar days prior to the expiration date of the expiring policy.

The General Liability and Automobile Liability insurance policies shall be written on an occurrence form. The General Liability (including ongoing operations and completed operations) and Automobile Liability insurance policies shall name VVTA, its members, board members, officers, officials, employees, agents and volunteers as an additional insured. All such policies of insurance shall be endorsed so Contractor's insurance shall be primary and no contribution shall be required of VVTA, its members, board members, officers, officials, employees, agents and volunteers. Any Workers' Compensation insurance policy shall contain a waiver of subrogation as to VVTA, its members, board members, officers, officials, employees, agents and volunteers. The Builders Risk (Course of Construction) insurance policy shall name VVTA as a loss payee. The coverage(s) shall contain no special limitations on the scope of protection afforded to VVTA, its members, board members, officers, officials, employees, agents and volunteers. Should Contractor maintain insurance with broader coverage and/or limits of liability greater than those shown above, VVTA requires and shall be entitled to the broader coverage and/or the higher limits of liability maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to City.

Claims-Made Policies - If Professional Liability (Errors and Omissions) insurance is written on a claims-made coverage form:

a. The retroactive date must be shown, and must be before the effective date of the Agreement or the commencement of work by Contractor.

b. Insurance must be maintained and evidence of insurance must be provided for at least 5 years after completion of the work or termination of the Agreement, whichever first occurs.

c. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the effective date of the Agreement, or work commencement date, Contractor must purchase extended reporting period coverage for a minimum of 5 years after completion of the work or termination of the Agreement, whichever first occurs.

d. A copy of the claims reporting requirements must be submitted to VVTA for review.

e. These requirements shall survive expiration or termination of the Agreement.

Contractor shall furnish VVTA with all certificate(s) and applicable endorsements effecting coverage required hereunder. **All certificates and applicable endorsements are to be received and approved by VVTA's Executive Director or his/her designee in his/her sole discretion prior to VVTA's execution of the Agreement and before work commences.** Upon request of VVTA, Contractor shall immediately furnish VVTA with a complete copy of any insurance policy required under this Agreement, including all endorsements, with said copy certified by the underwriter to be a true and correct copy of the original policy. This requirement shall survive expiration or termination of this Agreement.

If at any time during the life of the Agreement or any extension, Contractor or any of its subcontractors fail to maintain any required insurance in full force and effect, all work under this Agreement shall be discontinued immediately, and all payments due or that become due to Contractor shall be withheld until notice is received by VVTA that the required insurance has been restored to full force and effect and that the premiums therefore have been paid for a period satisfactory to VVTA. Any failure to maintain the required insurance shall be sufficient cause for VVTA to terminate this Agreement. No action taken by VVTA hereunder shall in any way relieve Contractor of its responsibilities under this Agreement.

The fact that insurance is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. The duty to indemnify VVTA shall apply to all claims and liability regardless of whether any insurance policies are applicable. The policy limits do not act as a limitation upon the amount of indemnification to be provided by Contractor. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its principals, officers, agents, employees, persons under the supervision of Contractor, vendors, suppliers, invitees, consultants, sub-consultants, contractors, subcontractors, or anyone employed directly or indirectly by any of them.

If Contractor should contract or subcontract all or any portion of the services to be performed under this Agreement, Contractor shall require each subcontractor to provide insurance protection in favor of VVTA, its members, board members, officers, officials, employees, agents and volunteers in accordance with the terms of each of the preceding paragraphs, except that subcontractor's certificates and endorsements shall be on file with Contractor and VVTA prior to the commencement of any work by subcontractor.

B. Endorsements

The following endorsements 1 through 4 are required to be made a part of the Comprehensive General Liability policy, and Endorsement No.4 is required to be made part of the Workers' Compensation and Employers' Liability policy:

1. "Victor Valley Transit Authority (herein referred to as VVTA), its employees, officers, agents and contractors are hereby added as additional insurers."

2. "This policy shall be considered primary insurance as respects any other valid and collectible insurance VVTA may possess, including any self-insured retention VVTA may have, and any other insurance VVTA does possess shall be considered excess insurance only."

3. "This insurance shall act for each insured and additional insured as though a separate policy had been written for each. This, however, will not act to increase the limit of liability of the insuring company." Coverage specified herein shall apply to acquisition actions of all procuring agencies under this contract.

4. "Thirty (30) days' prior written notice of Termination shall be given to VVTA in the event of Termination."

Such notice shall be sent to:
Victor Valley Transit Authority
ATTN: Christine Plasting
17150 Smoke Tree Street
Hesperia, California 92345

C. Proof of Coverage

Copies of all the required Endorsements shall be attached to the CERTIFICATE OF INSURANCE which shall be provided by the Contractor's insurance company as evidence of the stipulated coverage. This Proof of Insurance shall then be mailed to:

Victor Valley Transit Authority
ATTN: Christine Plasting
17150 Smoketree Street
Hesperia, California 92345

D. Special Provisions

1. The foregoing requirements as to the types and limits of insurance coverage to be maintained by Contractor and any approval of said insurance by the VVTA Board, VVTA staff or their insurance consultant(s), are not intended to and shall not in any manner limit or quality the liabilities and obligations otherwise assumed by Contractor pursuant to this Contract, including, but not limited to, the provisions concerning indemnification.

2. VVTA reserves the right to withhold payments to Contractor in the event of material noncompliance with the insurance requirements outlined above.

E. MINIMUM INSURANCE COVERAGE

1) Commercial General Liability including Products/Completed Operations: $5,000,000; per occurrence for bodily and property damage liability and $10,000,000 aggregate; *VVTA named and endorsed as an Additional Insured*.

2) Automobile Liability**:** $5,000,000; per occurrence for bodily and property damage liability and aggregate; *VVTA named and endorsed as an Additional Insured*.

3) Workers' Compensation: statutory limits

4) Employer's Liability: $2,000,000; per occurrence.

5) Professional Liability: $2,000,000 per claim/occurrence

6) Builder's Risk: at an account equal to the completed value of the project.

19. INDEMNIFICATION

A. To the furthest extent allowed by law, including California Civil Code section 2782, Contractor shall indemnify, hold harmless and defend VVTA and each of its members, board members, officers, officials, employees, agents and volunteers from any and all loss, liability, fines, penalties, forfeitures, costs and damages (whether in contract, tort or strict liability, including but not limited to personal injury, death at any time and property damage) incurred by VVTA, Contractor or any other person, and from any and all claims, demands and actions in law or equity (including attorney's fees and litigation expenses), arising or alleged to have arisen directly or indirectly out of performance of this Agreement. Contractor's obligations under the preceding sentence shall apply regardless of whether VVTA or any of its members, board members, officers, officials, employees or agents are passively negligent, but shall not apply to any loss, liability, fines, penalties, forfeitures, costs or damages caused by the active or sole negligence, or the willful misconduct, of VVTA or any of its members, board members, officers, officials, employees, agents or volunteers.

If Contractor should subcontract all or any portion of the services to be performed under this Agreement, Contractor shall require each subcontractor to indemnify, hold harmless and defend VVTA and each of its members, board members, officers, officials, employees, agents and volunteers in accordance with the terms of the preceding paragraph.

Notwithstanding the preceding paragraph, to the extent that Contractor and/or Subcontractor is a "design professional" as defined in Section 2782.8 of the California Civil Code and performing work hereunder as a "design professional" shall, in lieu of the preceding paragraph, indemnify, hold harmless and defend VVTA and each of its members, board members, officials, officers, employees, agents and volunteers from any and all loss, liability, fines, penalties, forfeitures, costs and damages (whether in contract, tort or strict liability, including but not limited to personal injury, death at any time and property damage), and from any and all claims, demands and actions in law or equity (including reasonable attorney's fees and litigation expenses) to the extent that any loss, liability, fines, penalties, forfeitures, costs, damages, claims, demands or actions in law or equity arise out of, pertain to, or relate to the negligence, recklessness or willful misconduct of "design professional," its principals, officers, employees or agents in the performance of this Agreement. In no event shall the cost to defend charged to the design professional exceed the design professional's proportionate percentage of fault. However, notwithstanding the previous sentence, in the event one or more defendants is unable to pay its share of defense costs due to bankruptcy or dissolution of the business, the design professional shall meet and confer with other parties regarding unpaid defense costs.

This Section shall survive termination or expiration of this Agreement.

B. If CONTRACTOR has retained legal counsel reasonably acceptable to Agency, CONTRACTOR shall have the sole charge and direction of the defense of the suit, action or proceeding while it is assigned to such counsel. VVTA shall at the request of the CONTRACTOR furnish to the

CONTRACTOR all reasonable assistance that may be necessary for the purpose of defending such suit, action or proceeding, and shall be repaid all reasonable costs incurred in doing so. VVTA shall have the right to be represented therein by advisory council of its own selection at its own expense.

20. REVISIONS

By written notice or order, VVTA may, from time to time, order work suspension or make changes to this Agreement. Changes in the Work shall be mutually agreed to and incorporated into an amendment to this Agreement. Upon execution of an amendment, CONTRACTOR shall perform the Work, as amended.

Price Adjustments:

A. Any change in the contract that causes an increase or decrease in cost to VVTA, or the time required for the performance of the contract, must be approved as prescribed herein. In the event that the change is a request for price escalation by the Contractor, any price escalation or de-escalation must be justified by the contractor using acceptable measures such as the Consumer Price Index (CPI) or other universally accepted measure.

B. An equitable adjustment in the compensation and schedule will be made upon an approved Change Order.

C. CONTRACTOR shall be liable for all costs resulting from, or for satisfactorily correcting, any and all unauthorized specification changes not properly ordered by written modification to the contract.

D. Except as otherwise expressly provided in the Contract, when costs are a factor in any determination of a contract price adjustment, such costs shall be in accordance with the applicable cost principles of Subpart 31.2 of the Federal Acquisition Regulations (FAR) in effect at the onset of the Contract.

Modifications:

Unless specified otherwise in the Agreement, this Agreement may only be modified by written mutual consent evidenced by signature of representative authorized to enter into and modify the Agreement. In order to be effective, amendments may require approval by VVTA's Board of Director, and in all instances require prior signature of an authorized representative of VVTA.

21. RIGHTS IN TECHNICAL DATA

A. No material or technical data prepared by CONTRACTOR under this Agreement is to be released by CONTRACTOR to any other person or entity except as necessary for the performance of the Work. All press releases or information concerning the Work that might appear in any publication or dissemination, including but not limited to, newspapers, magazines, and electronic media, shall first be authorized in writing by VVTA.

B. The originals of all letter, documents, reports and other products and data produced under

this Agreement shall become the property of VVTA without restriction or limitation on their use and shall be made available upon request to VVTA at any time. Original copies of such shall be delivered to VVTA upon completion of the Work or termination of the Work. CONTRACTOR shall be permitted to retain copies of such items for the furtherance of its technical proficiency; however, publication of this material is subject to the prior written approval of VVTA. The provisions of this paragraph shall survive termination or expiration of this Agreement and/or final payment thereunder.

22. OWNERSHIP OF REPORTS AND DOCUMENTS

The originals of all letters, documents, reports and other products and data produced under this Agreement shall be delivered to, and become the sole and exclusive property of VVTA. Copies may be made for CONTRACTOR's records, but shall not be furnished to others without prior written authorization from VVTA. Such deliverables shall be deemed works made for hire, and all rights in copyright therein shall be retained by VVTA.

23. OWNERSHIP RIGHTS

A. In the event VVTA rightfully obtains copies of Proprietary Data under the terms of the separate License Agreement and Escrow Agreement that govern rights in Documentation, Software and Intellectual Property created and/or develop by CONTRACTOR, it's Third Party Software Contractors and its Suppliers as part of the Project, any derivative works

and associated documentation created by and on behalf of VVTA by Permitted Programmers (as defined in the License Agreement) shall be the sole and exclusive property of VVTA (collectively "VVTA Intellectual Property"), and VVTA may use, disclose and exercise dominion and full rights of ownership, in any manner in VVTA Intellectual Property in connection with the use, operation and maintenance of a transportation system administered by VVTA. No use of VVTA Intellectual Property shall be made for any purpose other than in conjunction with a transportation system administered by CONTRACTOR, and VVTA shall not sell, lease, rent, give away or otherwise disclose any VVTA Intellectual property to any outside third party other than Permitted programmers. To the extent there may be any question of rights of ownership or use in any VVTA Intellectual Property, CONTRACTOR shall require all of its subcontractors and suppliers (including without limitation its Third Party Software Contractors) to assign to VVTA, all worldwide right, title and interest in and to all VVTA Intellectual Property in a manner consistent with the foregoing terms of this paragraph. CONTRACTOR shall execute any documents as VVTA may from time to time reasonable request to effectuate the terms of this paragraph.

B. All documentation and Software which predates this Contract and which otherwise owned by Contractor or its Third Party Software Contractors, and all Documentation and Software which is created by CONTRACTOR or its Third Party Software Contractors shall be Licensed Software or Licensed Documentation, as appropriate. All Licensed Software and Licensed Documentation shall be governed by License Agreement by and between the parties of event date herewith.

24. WORK FOR HIRE

Any Work created or produced as a part of this Agreement that may be defined under Section 101, Title 17, USC will be considered "work for hire" as it pertains to ownership rights. CO"NTRACTOR, by his/her endorsement heron agrees that all rights to any work(s) created or produced are waived, and that ownership rests with VVTA. CONTRACTOR further agrees to ensure transfer of all rights to such work(s), as defined under federal copyright law that may be created or produced under this Agreement by its suppliers, contractors or subcontractors.

25. SUBMITTAL OF CLAIMS BY CONTRACTOR

A. Claim and Dispute Submittals.
Any dispute related to this Contract or its breach that is not resolved by agreement shall be promptly submitted in accordance with this Section, with adequate supporting data. Adequate supporting data shall include but is not limited to a statement of the reasons for the asserted entitlement, the certified payrolls, invoice(s) for material and equipment rental, an itemized breakdown of any adjustment sought, and supporting schedules.

At the time of submission of any claim, CONTRACTOR shall certify as follows:

SUBMISSION UNDER PENALTY OF PERJURY

"I, (insert full name) , am the (insert title--must be an Officer) of (insert name of firm) , and I declare under penalty of perjury under the laws of the State of California and do personally certify and attest that:
I have thoroughly reviewed the attached claim for additional compensation and/or extension of time, and know its contents, and said claim is made in good faith; that the supporting data is truthful and accurate; that the amount requested accurately reflects the contract adjustment for which I believe the Trustees are liable, and further, that I am familiar with California Penal Code section 72 and California Government Code section 12650 *et seq.*, pertaining to false claims, and further know and understand that submission or certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences."

BY: (signature)_____ Date: (insert date of signature)

CONTRACTOR's submission of a claim, properly certified, with all required supporting documentation, and VVTA's written rejection or denial of all or part of the claim(s) are conditions precedent to any action, proceeding, litigation, suit, or demand for arbitration by CONTRACTOR.

B. CONTRACTOR's Claim(s) – Notice of Claim.

Should CONTRACTOR disagree with the determination of VVTA on a matter that substantially affects CONTRACTOR's costs, compensation or extent of Work, CONTRACTOR shall file a preliminary claim with VVTA. For purposes of this Section "claim" means a separate demand by CONTRACTOR, sent by registered or certified mail with return receipt requested, for one or more of the following:

(1) A time extension for relief from damages or penalty for delay;
(2) VVTA's payment which is not otherwise expressly provided or to which CONTRACTOR is not otherwise entitled;
(3) Payment of an amount that is disputed by VVTA; and/or

(4) Subcontractor claims.

C. Actions Prior to Claims Review

(1) CONTRACTOR's Claim Submittal / Documentation.
CONTRACTOR submitted its claim in accordance with this Section, subsections 'A' and 'B'.

(2) VVTA's Review of CONTRACTOR's Claim upon Receipt.
VVTA shall conduct a reasonable review of the claim upon receipt and, within a period not to exceed 45 days, shall provide CONTRACTOR a written statement identifying disputed and undisputed portions of the claim. Upon receipt of the claim, VVTA and CONTRACTOR may, by mutual agreement, extend the time provided herein. VVTA'S failure to issue a written statement shall result in the rejection of the claim in its entirety. A claim that is denied by reason of the VVTA's failure to respond to the claim or to meet the time requirements contained herein shall not constitute an adverse finding regarding the merits of the claim or the responsibility/qualifications of CONTRACTOR.

(3) VVTA's Payment of Undisputed Portion of Claim.
VVTA shall pay the undisputed portion of the claim within 60 days after issuing the written statement.

D. Informal Meet and Confer Conference

(1) If CONTRACTOR disputes VVTA'S response, or if VVTA fails to respond to CONTRACTOR's claim within the time prescribed, CONTRACTOR may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered or certified mail with return receipt requested, VVTA shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(2) Post-Meet and Confer Conference
Within ten business days following conclusion of meet and confer conference, VVTA shall provide CONTRACTOR a second written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. VVTA shall pay the undisputed portion within 60 days after VVTA issues the second written statement.

E. Unresolved Claims Review

Any remaining disputed portion of the claim, CONTRACTOR may submit the disputed portion of the claim to mediation.

F. CONTRACTOR Submission of Unresolved Claims.

CONTRACTOR shall submit all claims in writing in accordance with this Section to VVTA no later than 30 Days after the County Recorder's recordation date on the VVTA's Notice of Completion. CONTRACTOR's failure to submit its claims to VVTA within this 30-Day period shall constitute a waiver by CONTRACTOR of such claims.

Once the claims have been submitted, and the 30 Days after the County Recorder's recordation date on the Notice of Completion have expired, CONTRACTOR may not submit any additional claims. CONTRACTOR shall have 30 additional Days in which to submit six copies of a total and

detailed claims package. Failure to submit the full detailed package within this second 30-Day period shall constitute a waiver by Design-Builder of such claims.

G. False Claims.

CONTRACTOR submits the claim recognizing the significant civil penalties and treble damages, which follow from making a false claim or presenting a false claim to VVTA (see Government Code sections 12650 *et seq*.).

H. VVTA's Claim(s) Submittal.

VVTA shall submit a rebuttal to CONTRACTOR's claim within a reasonable time after the submission by CONTRACTOR of a total and detailed claims package or the expiration of the time to file CONTRACTOR's claims.

I. CONTRACTOR's Rebuttal to VVTA's Claims.

Upon submission of any VVTA claims, CONTRACTOR shall have an additional 30-day period to submit to the CONTRACTOR's rebuttal to VVTA's claims.

J. Actions Post Claims Review.

(1) Initial Mediation.
Should a dispute remain unresolved following exhaustion of the Claims Review process, the parties shall attempt in good faith first to mediate such dispute and use their best efforts to reach agreement on the matters in dispute.

Within ten business days after the disputed portion has been identified in the VVTA's second written statement, VVTA and CONTRACTOR shall mutually agree to a mediator, for which VVTA and CONTRACTOR shall share the costs equally. If CONTRACTOR and VVTA cannot agree on a mediator, each party shall select a mediator, and these mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.

(2) Other Dispute Resolution.

If, on completion of such mediation, the parties are unable to agree and settle the dispute, then the dispute may be pursued in litigation or through some other dispute resolution technique, except arbitration.

Even though a claim may be filed and/or in review by VVTA, CONTRACTOR shall continue to perform in accordance to this Agreement.

26. EQUAL OPPORTUNITY

CONTRACTOR shall not discriminate against, or grant preferential treatment to, any individual or group, or any employee or applicant for employment because of race, age, religion, color, ethnicity, sex, national origin, ancestry, physical disability, mental disability, political affiliation, sexual orientation, marital status or other status protected by law. CONTRACTOR shall take action to ensure that applicants and

employees are treated without regard to the above.

27. STANDARD OF PERFORMANCE

A. CONTRACTOR shall perform and exercise, and require its subcontractors to perform and exercise due professional care and competence in this performance of the Work in accordance with the requirements of this Agreement. CONTRACTOR shall be responsible for the professional quality, technical accuracy, completeness and coordination of the Work, it being understood that VVTA will be relying upon such professional quality, accuracy, completeness and coordination in utilizing the Work. The foregoing obligations and standards shall constitute the "Standard of performance" for purposes of this Agreement. The provisions of this paragraph shall survive termination or expiration of this Agreement and/or final payment thereunder.

B. All workers shall have sufficient skill and experience to perform the Work assigned to them. VVTA shall have the right, at its sole discretion to require the immediate removal of CONTRACTOR's personnel at any level assigned to the performance of the Work at no additional fee or cost to VVTA, if VVTA considers such removal in its best interests and requests such removal in writing and such request is not done for illegal reasons. Further, an employee who is removed from performing Work under the Agreement under this Article shall not be reassigned to perform Work in any other capacity under this Agreement without VVTA's prior written approval.

28. NOTIFICATION OF EMPLOYMENT OF VVTA BOARD MEMBERS/ALTERNATES AND EMPLOYEES

To ensure compliance with VVTA's Ethics Policy, CONTRACTOR shall provide written notice to VVTA disclosing the identity of any individual who CONTRACTOR desires to employ or retain under a contract, and who (1) presently serves as a Board Member/Alternate or an employee of VVTA, or (2) SERVED AS A Board Member/Alternate or an employee of VVTA within the previous 12 months of the date of the proposed employment or retention by CONTRACTOR. CONTRACTOR's written notice shall indicate whether the individual will be an officer, principal or shareholder of the entity and/or will participate in the performance of this Agreement.

29. DISQUALIFYING POLITICAL CONTRIBUTIONS

In the event of a proposed amendment to this Agreement, CONTRACTOR shall provide prior to the execution of such amendment, a written statement disclosing any contribution(s) of $250 or more made by CONTRACTOR or its subcontractor(s) to VVTA Board Members/Alternates or employees within the preceding twelve (12) months of the date of the proposed amendment. Applicable contributions include those made by any agent/person/entity on behalf of CONTRACTOR or subcontractor(s).

30. COMPLIANCE WITH LAW

CONTRACTOR shall familiarize itself with and perform the Work required under this Agreement in conformity with requirements and standards of VVTA, municipal and public agencies, public and private utilities, special districts, and railroad agencies whose facilities and work may be affected by Work under this Agreement. CONTRACTOR shall also comply with all Federal, state and local laws and ordinances.

31. COMPLIANCE WITH LOBBYING POLICIES

A. CONTRACTOR agrees that if it is a Lobbyist Employer or if it has retained a Lobbying Firm or Lobbyist, as such terms are defined by VVTA in its Ethics Policy, it shall comply or ensure that its Lobbying Firm and Lobbyist complies with VVTA's Ethics Policy.

B. If CONTRACTOR (Lobbyist Employer) or its Lobbying Firm or Lobbyist fails to comply, in whole or in part, with VVTA's Ethics Policy, such failure shall be considered a material breach of this Agreement and VVTA shall have the right to immediately terminate or suspend this Agreement.

32. WAIVER/INVALIDITY

No waiver of a breach of any provision of this Agreement by either party shall constitute a waiver of any other breach of the provision, or of any other breach of the provision of the Agreement. Failure of either party to enforce any provision of this Agreement at any time shall not be construed as a waiver of that provision

The invalidity in whole or in part of any provision of this Agreement shall no void or affect the validity of any other provision.

33. FORCE MAJEURE

Performance of each and all CONTRACTOR's and VVTA's covenants herein shall be subject to such delays as may occur without CONTRACTOR's or VVTA's fault from acts of God, strikes, riots, or from other similar causes beyond CONTRACTOR's or VVTA's control.

34. CONFIDENTIALITY

CONTRACTOR agrees that for and during the entire term of this Agreement, any information, data, figures, records, findings and the like received or generated by CONTRACTOR in the performance of this Agreement, shall be considered and kept as the private and privileged records of VVTA and will not be divulged to any person, firm, corporation, or other entity except on the direct prior written authorization of VVTA. Further, upon expiration or termination of this Agreement for any reason, CONTRACTOR agrees

that it will continue to treat as private and privileged any information, data, figures, records, findings and the like, and will not release any such information to any person, firm, corporation or other entity, either by statement, deposition, or as a witness, except upon direct prior written authority of VVTA.

35. CONTRACTOR'S INTERACTION WITH THE MEDIA AND THE PUBLIC

A. VVTA shall review and approve in writing all VVTA related copy proposed to be used by CONTRACTOR for advertising or public relations purposes prior to publication.

CONTRACTOR shall not allow VVTA related copy to be published in its advertisements and public relations programs prior to receiving such approval. CONTRACTOR shall ensure that all published information is factual and that it does not in any way imply that VVTA endorses CONTRACTOR's firm, service, and/or product.

B. CONTRACTOR shall refer all inquiries from the news media to VVTA, and shall comply with the procedures VVTA's Public Affairs staff regarding statements to the media relating to this Agreement or the Work.

C. If CONTRACTOR receives a complaint from a citizen or the community, CONTRACTOR shall inform VVTA as soon as possible and inform VVTA of any action taken to alleviate the situation.

D. The provision of this Article shall survive the termination or expiration of this Agreement.

36. CONFLICT OF INTEREST

A. Prohibited Interests

1. During the term of this Contract, Contractor, its officers, employees and their immediate families shall not acquire any interest, direct or indirect, that would conflict with the performance of services required to be performed under this Contract.

2. Violation of subparagraph A. (1), is a material breach of this Contract, and Agency shall have the right to debar Contractor from participating at any tier in any Agency contract for a period of up to five (5) years.

3. Contractor shall include a copy of subparagraphs A. (1), and A. (2), of this provision in any agreement it makes with its subcontractors.

B. Covenant

1. Contractor covenants that prior to award of this Contract, Contractor has disclosed

any present interest and any interest existing within twelve (12) months prior to award of this Contract including, without limitation, any business or personal relationship that creates an appearance of a conflict of interest. Disclosable interests and relationships

are those that may reasonably be viewed as creating a potential or actual conflict of interest. Disclosable interests and relationships are those that may reasonably be viewed as creating a potential or actual conflict of interest. Any existing or prospective interest acquired or occurring after submission of the initial Certification shall be provided in an amended Certification with the executed Contract and shall be incorporated into the Contract by this reference. Violation of this covenant is a material breach of this Contract.

2. In addition, Contractor shall immediately disclose in writing to VVTA and or to the other procuring agencies General Manager and Chief Legal Counsel any interest or relationship described in subparagraph B(1) acquired or occurring during the term of this Contract.

3. Violation of the above disclosure obligations is a material breach of this Contract.

37. COVENANT AGAINST GRATIUITES

A. Prohibited Conduct

1. During the term of this Contract, Contractor, its officers and employees and their immediate families are prohibited from offering or giving a gratuity in any form including, without limitation, entertainment, favors, loans, gifts or anything of greater than nominal value for any reason including personal, non-business related reasons to any Lead Procuring Agency officer or employee or their immediate families. For the purpose of this section, nominal value means anything: (1) having an aggregate value of $35.00 (thirty-five dollars) or less per year; or (2) any perishable item (flowers or food) of any value except that prepared meals are subject to the $35.00 limit. A campaign contribution is not a gratuity and is not prohibited by this Section.

2. Violation of subparagraph A(1) of this provision is a material breach of this Contract, and Agency shall have the right to debar Contractor from participating at any tier in any Agency contract for a period of up to five (5) years.

3. Contractor shall include a copy of subparagraphs A (1) and A (2) of this provision in any agreement it makes with its subcontractors.

B. Covenant

Contractor covenants that prior to award of this Contract, Contractor has disclosed, any gratuity, as described above, that it, its officers, employees or their immediate families have offered or given to any Agency officer, employee or their immediate families for any reason including personal non-Business related reasons within the twelve (12) months prior to award of this Contract. Any gratuity offered or given after submission of the initial Certification shall be provided in an amended Certification with the executed Contract and shall be incorporated into the Contract by this reference. Violation of this covenant is a material breach of this Contract.

38. WARRANTY OF AUTHORITY

The person executing this Contract on behalf of Contractor affirmatively represents that she/he has the requisite legal authority to enter into this Contract on behalf of Contractor and to bind Contractor to the

terms, covenants and conditions of this Contract. Both the person executing this Contract on behalf of Contractor and CONTRACTOR understand that VVTA is relying on this representation in entering into this Contract.

39. ENTIRE AGREEMENT

This Contract, including any and all Exhibits, constitutes the entire agreement between VVTA and CONTRACTOR and supersedes all prior negotiations, representations, or agreements, whether written or oral. In the event of a dispute between the parties as to the language of this Contract or the construction or meaning of any term hereof, this Contract shall be deemed to have been drafted by the parties in equal parts so that no presumptions or inferences concerning its terms or interpretation may be construed against any party to this Contract.

IN WITNESS WHEREOF, the parties have executed this Contract on the day and year set forth above.

VICTOR VALLEY TRANSIT AUTHORITY

By: _____

Kevin Kane, VVTA Executive Director

APPROVED AS TO FORM

_____

VVTA Legal Counsel

CONTRACTOR

By: _____

Name: Title:

By: _____

Name: Title:

VVTA RFP 2020-06 BARSTOW CNG STATION UPGRADE
ATTACHMENT C – PROTEST PROCEDURES

1. PURPOSE

A. This policy provides guidelines for the submittal and evaluation of protests relating to all procurements. VVTA shall ensure, to the extent reasonably possible, uniform, timely and equitable consideration of all protests received by VVTA pursuant to this policy.

B. In order to be considered, a protest must be filed in a timely manner, as described herein, must satisfy all the applicable requirements described in this policy and must be brought by an interested party as defined below.

2. DEFINITIONS

The following definitions apply to this policy.

A. Interested Party – An actual proposer/bidder whose direct economic interest would be affected by the award of a contract or by the failure to award a contract. Interested parties do not include subcontractors or suppliers of an actual or prospective proposer/bidder, or joint venturers acting independently of a joint venture.

B. Procurement Manager - The person designated by VVTA who is responsible for managing the contracting and procurement function.

C. File or Submit – Shall mean the date of receipt of a written protest by VVTA.

D. Receipt of Protest – The date of receipt of the Protest will be the date in which VVTA receives the protest package.

3. REFERENCES

United States Department of Transportation, Federal Transit Administration, FTA Circulars, FTA Circular 4420.1 Third Party Contracting Guidelines. Note: Refer to the revision in effect at the time of protest.

4. BASIS OF PROTEST

A. Requests for Proposal

After the receipt of proposals by VVTA and after an action relating to the selection of a consultant/contractor by the VVTA Evaluation Committee, but prior to the award of a contract by the VVTA Board of Directors, a protest may be submitted on the basis of one or more of the following:

i. VVTA Failed to adhere to the evaluation process set forth in the solicitation package.

ii. VVTA failed to follow its own procurement policies and procedures.

iii. VVTA violated a specific law, rule, or regulation in the procurement process.

B. Invitations for Bid

After the receipt of bids by VVTA, but prior to award of a contract by the VVTA Board of Directors, a protest may be submitted on the basis of one or more of the following:

i. VVTA failed to follow its own procurement policies and procedures.

ii. VVTA violated a specific law, rule or regulation in the procurement process.

5. FILING OF PROTEST

A. Filing Written Protest with the VVTA Procurement Manager

An Interested Party wishing to protest a matter involving a procurement or proposed contract award shall file with the Procurement Manager, a written protest covering, at a minimum, the following:

i. Name and address of the Interested Party;

ii. Identification of the proposed procurement or contract;

iii. Description of the nature of the protest;

iv. A detailed statement of the legal and/or factual grounds for the issue(s) identified in the protest, including reference to the provision(s) of the solicitation, regulations, and/or laws upon which the protest is based; and any technical data, documentary evidence, names of witnesses or other pertinent information supporting the basis for the protest;

v. A statement of the desired resolution to the protest by the Interested Party;

vi. Signature of a properly authorized representative of the Interested Party.

B. Failure to Comply

Failure to comply with any of the requirements of this section may be grounds for dismissal of the protest.

C. Withdrawal of Protest

The Interested Party may withdraw its protest at any time before VVTA renders a decision by submitting a written request to the VVTA Procurement Manager.

6. SUMITTAL OF PROTEST

All protests must be submitted in writing to

Victor Valley Transit Authority
Attn: Procurement Manager
17150 Smoke Tree Street

Hesperia, CA 92345
RE: Solicitation Protest – Solicitation/Contract Number

7. PROTEST SUBMITTAL DEADLINE

A. Requests for Proposal

After opening proposals, VVTA will evaluate the proposals and determine which proposer shall be recommended to the VVTA Board of Directors for award of a contract. Once VVTA staff has determined which proposer will be recommended to the Board for award, a Notice of Intent to Award will be sent to all proposers.

i. Protests must be filed within five (5) business days from the issue date on the Notice of Intent to Award.

ii. The date of filing shall be the date VVTA receives the protest.

B. Invitations for Bid

i. Protests must be filed within three (3) business days from bid opening.

ii. The date of filing shall be the date VVTA receive the protest.

8. PROTEST REVIEW PROCESS

If the protest is determined to be timely and meets the criteria identified in the preceding sections 4, 5, and 7, this process will be followed:

A. No additional material will be allowed to be submitted unless specifically requested by the Procurement Manager.

B. The Procurement Manger will review all material submitted and will render a decision within thirty (30) days after the receipt of the protest.

C. The Procurement Manager will consider only those specific issues addressed in the written protest.

D. The decision of the Procurement Manager will then be given to the Executive Director, or designee, for approval. The decision of the Executive Director is final.

VVTA RFP 2020-06 BARSTOW CNG STATION UPGRADE ATTACHMENT D – PROPOSAL DEVIATION, PRE-OFFER CHANGE OR APPROVED EQUALS

This form shall be completed for each condition, exception, reservation or understanding (i.e., deviation) in the proposal according to "Condition, Exceptions Reservations and Understanding." This form must also be used for requested clarifications, changes, substitutes or approval of items equal to items specified with a brand name, and must be submitted as far in advance of the Due Date as specified in "Proposal Timeline"

Deviation Number: _____ Proposer: _____

Email Address: _____ Phone Number: _____

Page Number: _____ Section: _____

Detailed Description of Requested Deviation:

Rationale (Pros and Cons):

RFP 2020-06 BARSTOW CNG STATION UPGRADE
ATTACHMENT E – ACKNOWLEDGEMENT OF ADDENDA

The following form shall be completed and included in the price proposal.

Failure to acknowledge receipt of all addenda may cause the proposal to be considered non-responsive to the solicitation. Acknowledged receipt of each addendum must be clearly established and included with the Offer.

The undersigned Proposer acknowledges receipt of the following addendum to the documents:

Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:

_____

Signature of the Proposer's Authorized Official

_____

Name and Title of the Proposer's Authorized Official

_____

Company Name

_____

Date

VVTA RFP 2020-02 ARMORED VEHICLE TRANSPORT AND CASH MANAGEMENT SERVICES
ATTACHMENT F – SUBMISSION OF FORMS

1. If a qualifier, i.e. (Required >$100,000) follows the title of the form, then submit that form only if the BID meets that requirement.

2. Duplicate forms as necessary.

3. **Submit ONLY those forms that are checked, unless required elsewhere in the IFB/RFP/RFQ.**

4. Submit the following checked items AT THE TIME OF BID SUMISSION:

- [X] Proposal Pricing Form (Sealed Separate Envelope)
- [ ] Buy America Certification (Required >$150,000)
- [X] Current Client References
- [X] Not on Excluded Parties List System (SAM.com) (Provide page from website)
- [ ] X Affidavit of Non-Collusion
- [X] Debarment, Suspension, & Other Responsibility Matters
- [X] List of Subcontractors and DBE's (Required >1/2 of 1% Share of Bid)
- [X] Proposed Disadvantaged Business Enterprise (DBE) Participation; if you or a subcontractor are a DBE, please submit certification with bid.
- [X] Restriction on Lobbying (Prime) One (1) form required of each prime bidder and any proposed subcontractor having greater than a $100,000 share of the bid.
- [X] CSLB Contractor's License(s). Provide copies in your Proposal Package.
- [X] DIR Registration – Provide a screen shot from the DIR website showing registration number.
- [X] Warranty Procedures Form (Required)
- [X] Audited Financials or Tax Returns, for the most recent two-year period.

5. Submit the following **Required** forms **AT THE TIME OF CONTRACT AWARD:**

a. **Proof of Licenses.** As required by law, in addition to contract requirements. Must be California approved, valid, showing expiration dates and license numbers. These include, but are not limited to (**Only those items checked):**

i. [X] Sales or Services; if applicable

ii. [X] Business: authorized by the city wherein business is to be conducted (if applicable.)

iii. ☐ Driver's: within classification, required, valid, etc…

iv. ☒ Others: any not mentioned herein, but required by industry standard, required by law, by requirements of Contract.

b. ☒ **Proof of Permits:** as required by law, in addition to contract requirements. Must be California approved, valid, showing expiration dates and license numbers.

c. ☒ **Insurance Certificate (Proof)** must meet the requirements in the RFP. If the Insurance Certificate with the additional insured endorsement is submitted with the bid, the Notice to Proceed can be issued sooner. Failure to submit the Proof of Insurance as requested may result in contract award annulment.

d. ☒ **Performance Bond:** One Hundred percent (100%) of the contract price

e. ☒ **Payment Bond:** One Hundred percent (100%) of the contract price.

VVTA RFP 2020-02 ARMORED VEHICLE TRANSPORT AND CASH MANAGEMENT SERVICES
ATTACHMENT F – SUBMISSION OF FORMS

VVTA - RFP 2020-06 PRICE PROPOSAL

Proposer shall complete the following form and include same in the Price Proposal package separate from the Technical Proposal submitted in response to this solicitation.

By execution below Proposer hereby agrees to furnish the related equipment, and services as specified in Victor Valley Transit Authority's Request for Proposals No. 2020-06 at the prices submitted in response to this solicitation.

PROPOSER COMPANY NAME:

_____

CA CONTRACTOR STATE LICENSE NUMBER:_____ LICENSE CLASS:_____

DIR REGISTRATION NUMBER: _____

STREET ADDRESS:

_____

CITY, STATE, ZIP CODE:

_____

AUTHORIZED OFFICER:

_____

COMPANY OFFICER TITLE:

_____

SIGNATURE OF AUTHORIZED OFFICER:

_____

CONTACT INFORMATION:

_____

OFFICE PHONE NUMBER:

_____

EMAIL ADDRESS:

_____

Work Item	Total $
1. DESIGN SERVICES	$
2. SITE CONDITIONS/ SITE PREPARATION	$
3. HVAC	$
4. ELECTRICAL/LIGHTING	$
5. PLUMBING	$
6. DRYWALL/SOUND ATTENUATION	$
7. CARPENTRY	$
8. FLOORING	$
9. CEILINGS	$
10. DOORS/WINDOWS	$
11. PAINTING	$

12. OVERHEAD	$
13. PROFIT	$
BASE PRICE	$

Listing of Holidays CONTRACTOR does not provide regular service: _____

_____

_____

_____

CURRENT CLIENT REFERENCES

Proposer by its signature below, certifies that the following references of supplied service to other clients over the last seven (7) years (use additional pages as necessary): (A minimum of 5 are required)

Agency Name	**Contact Name/Phone**	**Year**
1.		
2.		
3.		
4.		
5.		
6.		
7.		

_____

Signature of the Proposer's Authorized Official

_____
Name and Title of the Proposer's Authorized Official

_____
Company Name

_____
Date

NON-COLLUSION AFFIDAVIT
(Per Public Contract Code Section 7106)

State of California)

) ss.

County of _____)

_____, being first duly sworn, deposes and says that he or she is _____, of _____ ("Proposer") the party making the foregoing proposal that the proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the proposal is genuine and not collusive or sham; that the Proposer has not directly or indirectly solicited any other Proposer to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any Proposers or anyone else to put in a sham proposal, or that anyone shall refrain from bidding; that the Proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal fee of the Proposer or any other Proposer, or to fix any overhead, profit, or cost element of the proposal fee, or of that of any other Proposer, or to secure any advantage against the public body making the award of anyone interested in the proposed award; that all statements contained in the proposal are true; and, further, that the Proposer has not, directly or indirectly, submitted his or her proposal fee or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, proposal depository, or to any member or agent thereof to effectuate a collusive or sham proposal.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

_____ _____
Signature Company Name

_____ _____

Printed Name Title

SUBSCRIBED AND SWORN TO BEFORE ME

This _____ day of _____ , _____.

_____ (Seal)

Notary Public

FTA CERTIFICATION REGARDING DEBARMENT,

DEBARRED BIDDERS CERTIFICATION
SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION
For Contracts and Subcontracts in Excess of $25,000.00

Instructions for Certification

1. By signing and submitting its bid or proposal, the prospective lower tier participant is providing the signed certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into; If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, VVTA may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to VVTA if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms “covered transaction,” “debarred,” “suspended,” “ineligible,” “lower tier covered transaction,” “participant,” “persons,” “principal,” “proposal,” and “voluntary excluded,” as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 C.F.R. Part 29]. You may contact VVTA for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting its bid or proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by VVTA.

6. The prospective lower tier participant further agrees by submitting its bid or proposal that it will include the clause, set out below, titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntary excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List issued by U.S. General Service Administration.

8. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, RT may pursue available remedies including suspension and/or debarment.

"Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier covered Transaction"

1. The prospective lower tier participant certifies, by submission of its bid or proposal, that neither it nor it's "principals" [as defined at 49 C.F.R. §29.I05(p) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. When the prospective lower tier participant is unable to certify to the statement in this certification, such prospective participant shall attach an explanation to its bid or proposal.

VVTA RFP 2020-02 ARMORED VEHICLE TRANSPORT AND CASH MANAGEMENT SERVICES
ATTACHMENT F – SUBMISSION OF FORMS

_____
Signature of the Proposer's Authorized Official

_____
Name and Title of the Proposer's Authorized Official

_____
Company Name

_____
Date

VVTA RFP 2020-02 ARMORED VEHICLE TRANSPORT AND CASH MANAGEMENT SERVICES
ATTACHMENT F – SUBMISSION OF FORMS
FTA CERTIFICATION OF RESTRICTIONS ON LOBBYING
(For Bids Over $100,000)

I. _____, hereby certify on behalf of _____
(Company Name) that:

1. No Federal or State appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any State or Federal agency, a Member of the State Legislature or the United States Congress, an officer or employee of the Legislature or Congress, or an employee of a Member of the Legislature or Congress, in connection with the awarding of any State of Federal contract, the making of any State or Federal grant, the making of any State or Federal loan, the entering into of any State or Federal cooperative agreement and the extension, continuation, renewal, amendment or modification of any State or Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, or an officer or employee of Congress, in connection with this contract, grant, loan or cooperative agreement, which is funded in whole or in part by Federal funds, the undersigned shall complete and submit Standard Form–LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for any subcontractor at any tier performing work under this Federal-Aid funded Contract and that all subcontractors of any tier shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance is placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by § 13 52, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Executed this _____ day of _____, _____

_____
Signature of the Proposer’s Authorized Official

_____
Name and Title of the Proposer’s Authorized Official

_____ _____
Company Name Date

PERFORMANCE BOND

Bond No.
Premium:

KNOW ALL PERSONS BY THESE PRESENTS THAT:

WHEREAS, on _____, 20__, the VICTOR VALLEY TRANSIT AUTHORITY("VVTA") awarded to ("PRINCIPAL") a contract for performance of the work described as **VVTA Barstow CNG Station Upgrade - RFP No. 2020-06** ("CONTRACT"), the terms and conditions of which are incorporated herein by reference; and

WHEREAS, the CONTRACT requires PRINCIPAL to furnish this Performance Bond ("BOND") to guarantee PRINCIPAL's faithful performance of all provisions of the CONTRACT; and

WHEREAS, _____ ("SURETY"), a corporation legally authorized to execute and furnish performance bonds as sole surety in the State of California, is willing to act as PRINCIPAL's SURETY in the making and giving of this BOND.

NOW, THEREFORE, we PRINCIPAL and SURETY hereby hold and firmly bind ourselves to pay to CITY in lawful United States currency the principal sum of _____ Dollars ($), for which payment well and truly to be made to CITY or CITY's successors or assigns we hereby bind ourselves and our heirs, legal representatives, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS THAT IF PRINCIPAL or PRINCIPAL's heirs, legal representatives, successors or assigns shall in all things stand to, abide by, and well and truly keep and faithfully perform all of the covenants, conditions and promises in the CONTRACT, including its work Guaranty, and all alterations thereof made as therein provided on PRINCIPAL's part to be kept and performed at the time and in the manner specified therein, and in all respects according to their true intent and meaning, and shall indemnify and save harmless CITY and CITY's officers, employees and agents as therein specified, then this obligation shall become null and void; otherwise, it shall be and remain in full force and binding effect.

SURETY hereby agrees that no change in the terms of the CONTRACT or the work to be performed thereunder, or any extension of time for completion thereof, shall in any way relieve it of its obligations under this BOND, and hereby waives notice of any change or extension thereof, and further waives the provisions of California Civil Code sections 2819 and 2845.

If lawsuit is brought by CITY on this BOND, PRINCIPAL and SURETY shall pay to CITY, over and above the principal sum hereof, reasonable costs and attorney's fees which the court is hereby authorized to award.

IN WITNESS WHEREOF, we sign and seal this BOND on _____ .

Correspondence or claims relating to this BOND should be sent to SURETY at the following address:

_____
(Seal)

_____

_____

_____

_____
(Seal)
Telephone Number _____

Note: Signatures of those executing for

_____
Principal

By: _____

_____
Typed Name and Title

_____
Surety

_____
Attorney-In-Fact

_____
Typed Name and Title

SURETY must be acknowledged, and a
Power of Attorney attached.

PAYMENT BOND

Bond No.
Premium:

KNOW ALL PERSONS BY THESE PRESENTS THAT:

WHEREAS, on _____, 2018, the VICTOR VALLEY TRANSIT AUTHORITY ("VVTA") awarded to ("PRINCIPAL") a contract for performance of work described as **VVTA Barstow CNG Station Upgrade - RFP No. 2020-06** ("CONTRACT"), the terms and conditions of which are incorporated herein by reference; and

WHEREAS, the CONTRACT requires PRINCIPAL to furnish this Payment Bond ("BOND") to secure payment of the claims of persons described in California Civil Code section 3248(b); and

WHEREAS, _____ ("SURETY"), a corporation legally authorized to execute and furnish payment bonds as sole surety in the State of California, is willing to act as PRINCIPAL's SURETY in the giving of this BOND.

NOW, THEREFORE, we PRINCIPAL and SURETY hold and firmly bind ourselves unto CITY and all persons and entities described in California Civil Code section 3248(b) whose claims are not paid by PRINCIPAL in the total sum of Dollars ($_____), for which payment well and truly to be made we bind ourselves and our heirs, legal representatives, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS THAT IF PRINCIPAL or PRINCIPAL's successors, assigns, or subcontractors fail to pay any of the persons described in California Civil Code section 3181, any amounts due under the California Unemployment Insurance Code with respect to work or labor performed under the CONTRACT or any amounts required to be deducted, withheld and paid over to the California Employment Development Department from the wages of employees of PRINCIPAL and PRINCIPAL's subcontractors pursuant to California Unemployment Insurance Code section 13020 with respect to such work and labor, SURETY will pay for the same in an amount not exceeding the sum stated above, plus all costs and reasonable attorney's fees awarded by any court of competent jurisdiction in any lawsuit brought upon this BOND.

THIS BOND SHALL INURE TO the benefit of all persons and entities described in California Civil Code section 3248(b) so as to give them or their assigns a right of action in any lawsuit brought upon this BOND, and is executed and filed to comply with the Public Works Payment Bond provisions of Chapter 7, Title 15, Part 4, Division 3 of the California Civil Code (commencing at Section 3247) and all amendments thereto, which provisions are incorporated herein by this reference.

IN WITNESS WHEREOF, we sign and seal this BOND on _____ .

Correspondence or claims relating to
this BOND should be sent to SURETY at
the following address:

_____
(Seal)

_____

_____

_____
(Seal)
Telephone Number _____

Note: Signatures of those executing for
SURETY must be acknowledged, and a
Power of Attorney attached.

_____
Principal

By: _____

_____
Typed Name and Title

_____
Surety

_____
Attorney-In-Fact

_____
Typed Name and Title

********** END OF REQUIRED FORMS **********

RFP 2020-06 BARSTOW CNG STATION UPGRADE
ATTACHMENT G – SUBCONTRACTORS LIST

(If additional space is needed, supply information on separate form)

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____ FAX: _____

EMAIL ADDRESS: _____

CSLB LICENCE NO. _____ CLASS: _____

DIR REGISTRATION NO.: _____ EXP. _____

CERTIFIED DBE? _____ _____
YES NO

If yes, please provide certification

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____ FAX: _____

EMAIL ADDRESS: _____

CSLB LICENCE NO. _____ CLASS: _____

DIR REGISTRATION NO.: _____ EXP. _____

CERTIFIED DBE? _____ _____
YES NO

If yes, please provide certification

COMPANY NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

TELEPHONE: _____ FAX: _____

EMAIL ADDRESS: _____

CSLB LICENCE NO. _____ CLASS: _____

DIR REGISTRATION NO.: _____ EXP. _____

CERTIFIED DBE? _____ _____
YES NO

If yes, please provide certification

VVTA RFP 2020-06 BARSTOW CNG STATION UPGRADE
ATTACHMENT H - PREVAILING WAGE REQUIREMENTS

A. All or a portion of the Scope of Work in the Contract or Purchase Order (as applicable) requires the payment of prevailing wages and compliance with the following requirements.

1. Determination of Prevailing Rates:

Pursuant to Labor Code sections 1770, et seq., VVTA has obtained from the Director of the Department of Industrial Relations (DIR) pursuant to the California Labor Code, the general prevailing rates of per diem wages and the prevailing rates for holiday and overtime work in the locality in which the Scope of Work is to be performed. Copies of said rates are on file with the VVTA, will be made available for inspection during regular business hours, may be included elsewhere in the specifications for the Scope of Work, and are also available online at www.dir.ca.gov. The wage rate for any classification not listed, but which may be required to execute the Scope of Work, shall be commensurate and in accord with specified rates for similar or comparable classifications for those performing similar or comparable duties. In accordance with Labor Code section 1773.2, the Contractor shall post, at appropriate and conspicuous locations on the jobsite, a schedule showing all applicable prevailing wage rates and shall comply with the requirements of Labor Code sections 1773, et seq.

2. Payment of Prevailing Rates

Each worker of the Contractor, or any subcontractor, engaged in the Scope of Work, shall be paid not less than the general prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor, and such worker.

3. Prevailing Rate Penalty

The Contractor shall, as a penalty, forfeit two hundred dollars ($200.00) to VVTA for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of the DIR for such work or craft in which such worker is employed by the Contractor or by any subcontractor in connection with the Scope of Work. Pursuant to California Labor Code section 1775, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day, or portion thereof, for which each worker was paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

4. Ineligible Contractors:

Pursuant to the provisions of Labor Code section 1777.1, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a contractor or subcontractor on a public works project. This list of debarred contractors is available from the DIR website at http://www.dir.ca.gov/Public-Works/PublicWorks.html. Any contract entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract, and any public money that may have been paid to a debarred subcontractor by a contractor on the project shall

be returned to VVTA. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Scope of Work.

5. Payroll Records:

Pursuant to California Labor Code section 1776, the Contractor and each subcontractor, shall keep accurate certified payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by them in connection with the Scope of Work. The payroll records enumerated herein shall be verified by a written declaration made under penalty of perjury that the information contained in the payroll record is true and correct and that the Contractor or subcontractor has complied with the requirements of the California Labor Code sections 1771, 1811, and 1815 for any Scope of Work performed by his or her employees. The payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

(1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his/her authorized representative on request;

(2) A certified copy of all payroll records shall be made available for inspection or furnished upon request to VVTA, or the Division of Labor Standards Enforcement of the DIR;

(3) A certified copy of payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either VVTA or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided to VVTA or the Division of Labor Standards Enforcement, the requesting party shall, prior to being provided the records, reimburse the cost of preparation by the Contractor, subcontractor and the entity through which the request was made; the public shall not be given access to such records at the principal office of the Contractor;

(4) The Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request; and

(5) Copies provided to the public, by VVTA or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor or any subcontractor, performing a part of the Scope of Work shall not be marked or obliterated. The Contractor shall inform VVTA of the location of payroll records, including the street address, city and county and shall, within five (5) working days, provide a notice of a change of location and address.

The Contractor shall have ten (10) days from receipt of the written notice specifying in what respects the Contractor must comply with the above requirements. In the event Contractor does not comply with the requirements of this section within the ten (10) day period, the Contractor shall, as a penalty to VVTA, forfeit one-hundred dollars ($100.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Labor Standards Enforcement, such penalty shall be withheld from any portion of the payments then due or to become due to the Contractor.

6. Limits on Hours of Work:

Pursuant to California Labor Code section 1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to California Labor Code section 1811, the time of service of any worker employed at any time by the Contractor or by a subcontractor, upon the Scope of Work or upon any part of the Scope of Work, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as provided for under Labor Code section 1815. Notwithstanding the foregoing provisions, work performed by employees of Contractor or any subcontractor, in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay.

7. Penalty for Excess Hours:

The Contractor shall pay to VVTA a penalty of twenty-five dollars ($25.00) for each worker employed on the Scope of Work by the Contractor or any subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one calendar week, in violation of the provisions of the California Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1½) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

8. Senate Bill 854 (Chapter 28, Statutes of 2014) Requirements:

(1) Contractor shall comply with Senate Bill 854 (signed into law on June 20, 2014). The requirements include, but are not limited to, the following:

a. No contractor or subcontractor may be listed on a bid proposal (submitted on or after March 1, 2015) for a public works project unless registered with the DIR pursuant to Labor Code section 1725.5, with limited exceptions from this requirements for bid purposes only as allowed under Labor Code section 1771.1(a).

b. No contractor or subcontractor may be awarded a contract for public work or perform work on a public works project (awarded on or after April 1, 2015) unless registered with the DIR pursuant to Labor Code section 1725.5.

c. This project is subject to compliance monitoring and enforcement by the DIR.

d. As required by the DIR, Contractor is required to post job site notices, as prescribed by regulation, regarding compliance monitoring and enforcement by the DIR.

e. Contractors and all subcontractors must submit certified payroll records online to the Labor Commissioner for all new public works projects issued on or after April 1, 2015, and for all public works projects, new or ongoing, on or after January 1, 2016.

f. The certified payroll must be submitted at least monthly to the Labor Commissioner.

g. VVTA reserves the right to require Contractor and all subcontractors to submit certified payroll records more frequently than monthly to the Labor Commissioner.

h. The certified payroll records must be in a format prescribed by the Labor Commissioner.

(2) As required by Labor Code 1771.1(a) "A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded."

B. STATE PUBLIC WORKS APPRENTICESHIP REQUIRMENTS

1. State Public Works Apprenticeship Requirements:

The Contractor is responsible for compliance with Labor Code section 1777.5 and the California Code of Regulations, title 8, sections 230 – 230.2 <u>for all apprenticeable occupations</u> (denoted with "#" symbol next to craft name in DIR Prevailing Wage Determination), whether employed by the Contractor, subcontractor, vendor or consultant. Included in these requirements is (1) the Contractor's requirement to provide notification (i.e. DAS-140) to the appropriate apprenticeship committees; (2) pay training fund contributions for each apprenticeable hour employed on the Contract; and (3) utilize apprentices in a minimum ratio of not less than one apprentice hour for each five journeyman hours by completion of Contract work (unless an exception is granted in accordance with Labor Code section 1777.5) or request for the dispatch of apprentices.

Any apprentices employed to perform any of the Scope of Work shall be paid the standard wage to apprentices under the regulations of the craft or trade for which such

apprentice is employed, and such individual shall be employed only for the work of the craft or trade to which such individual is registered. Only apprentices, as defined in California Labor Code section 3077, who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code sections 3070 et seq. are eligible to be employed for the Scope of Work. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which such apprentice is training.

2. Compliance with California Labor Code section 1777.5 requires all public works contractors to:

(1) Submit Contract Award Information (DAS-140)

a. Although there are a few exemptions (identified below), all Contractors, regardless of union affiliation, must submit contract award information when performing on a California public works project. **b.** The DAS-140 is a notification "announcement" of the Contractor's participation on a public works project—*it is not a request for the dispatch of an apprentice.*

c. Contractors shall submit the contract award information (you may use form DAS 140) within 10 days of the execution of the prime contract or subcontract, but in no event later than the first day in which the Contractor has workers employed on the public work.

d. Contractors who are already approved to train apprentices (i.e. check "Box 1" on the DAS-140) shall only be required to submit the form to their approved program.

e. Contractors who are NOT approved to train apprentices (i.e. those that check either "Box 2" or "Box 3" on the DAS-140) shall submit the DAS-140 TO EACH of the apprenticeship program sponsors in the area of your public works project. For a listing of apprenticeship programs see http://www.dir.ca.gov/Databases/das/pwaddrstart.asp.

(2) Employ Registered Apprentices

a. Labor Code section 1777.5 requires that a contractor performing work in an "apprenticeable" craft must employ one (1) hour of apprentice work for every five (5) hours performed by a journeyman. This ratio shall be met prior to the Contractor's completion of work on the project. "Apprenticeable" crafts are denoted with a pound symbol "#" in front of the craft name on the prevailing wage determination.

b. All Contractors who do not fall within an exemption category (see below) must request for dispatch of an apprentice from an apprenticeship program (for each apprenticeable craft or trade) by giving the program actual notice of at least 72 hours (business days only) before the date on which apprentices are required.

c. Contractors may use the "DAS-142" form for making a request for the dispatch of an apprentice.

d. Contractors who are participating in an approved apprenticeship training program and who did not receive sufficient number of apprentices from their initial request must request dispatch of apprentices from ALL OTHER apprenticeship committees in the project area in order to fulfill this requirement.

e. Contractor should maintain and submit proof (when requested) of its DAS-142 submittal to the apprenticeship committees (e.g. fax transmittal confirmation). A Contractor has met its requirement to employ apprentices only after it has successfully made a dispatch request to all apprenticeship programs in the project area.

f. Only "registered" apprentices may be paid the prevailing apprentice rates and must, at all times work under the supervision of a Journeyman (Cal. Code Regs., tit 8, § 230.1).

(3) Make Training Fund Contributions

a. Contractors performing in apprenticeable crafts on public works projects, must make training fund contributions in the amount established in the prevailing wage rate publication for journeymen and apprentices.

b. Contractors may use the "CAC-2" form for submittal of their training fund contributions.

c. Contractors who do not submit their training fund contributions to an approved apprenticeship training program must submit their contributions to the California Apprenticeship Council (CAC), PO Box 420603, San Francisco, CA 94142-0603.

d. Training fund contributions to the CAC are due and payable on the 15th day of the month for work performed during the preceding month.

e. The "training" contribution amount identified on the prevailing wage determination shall not be paid to the worker, unless the worker falls within one of the exemption categories listed below.

3. Exemptions to Apprenticeship Requirements:

The following are exempt from having to comply with California apprenticeship requirements. These types of contractors <u>do not</u> need to submit a DAS-140, DAS-142, make training fund contributions, or utilize apprentices.

a. When the Contractor holds a sole proprietor license ("Owner-Operator") and no workers were employed by the Contractor. In other words, the contractor performed the entire work from start to finish and worked alone.

b. Contractors performing in non-apprenticeable crafts. "Apprenticeable" crafts are denoted with a pound symbol "#" in front of the craft name on the prevailing wage determination.

c. When the Contractor has a direct contract with the Public Agency that is under $30,000.

d. When the project is 100% federally-funded and the funding of the project does not contain any city, county, and/or state monies (unless the project is administered by a state agency in which case the apprenticeship requirements apply).

e. When the project is a private project not covered by the definition of public works as found in Labor Code section 1720.

4. Exemption from Apprenticeship Ratios:

The Joint Apprenticeship Committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the Contractor from the 1-to-5 ratio set forth in this Section when it finds that any one of the following conditions are met:

a. Unemployment for the previous three-month period in such area exceeds an average of fifteen percent (15%); or

b. The number of apprentices in training in such area exceeds a ratio of 1-to-5 in relation to journeymen; or

c. The Apprenticeable Craft or Trade is replacing at least one-thirtieth (1/30) of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis; or

d. If assignment of an apprentice to any work performed under the Contract Documents would create a condition which would jeopardize such apprentice's life or the life, safety or property of fellow employees or the public at large, or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman.

When such exemptions from the 1-to-5 ratio between apprentices and journeymen are granted to an organization which represents contractors in a specific trade on a local or statewide basis, the member contractors will not be required to submit individual applications for approval to local Joint Apprenticeship Committees, provided they are already covered by the local apprenticeship standards.

5. Contractor's Compliance:

VVTA RFP 2020-06 BARSTOW CNG STATION UPGRADE
ATTACHMENT H - PREVAILING WAGE REQUIREMENTS

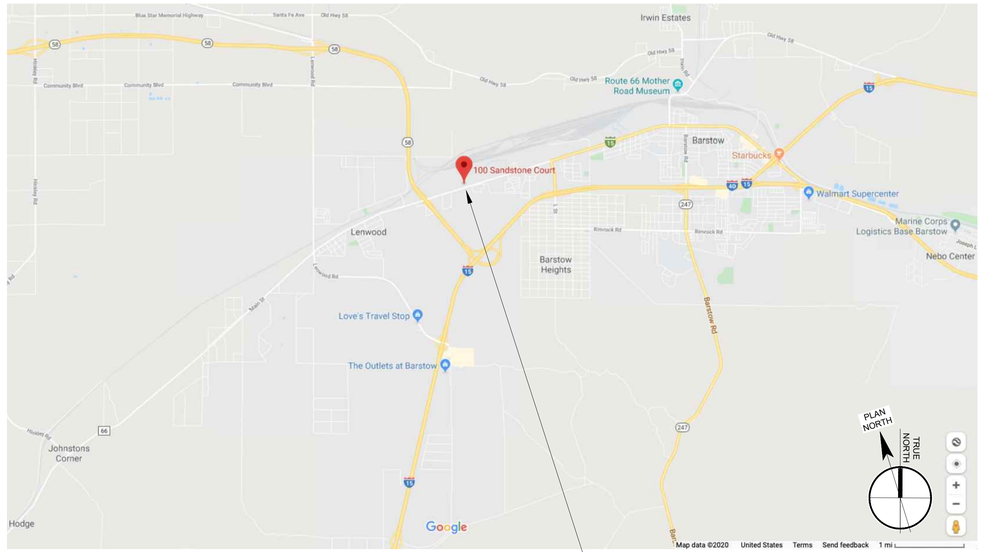
The responsibility of compliance with this Section for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Section are subject to the provisions of California Labor Code section 3081 and penalties are pursuant to Labor Code section 1777.7 and the determination of the Labor Commissioner.

VVTA BARSTOW

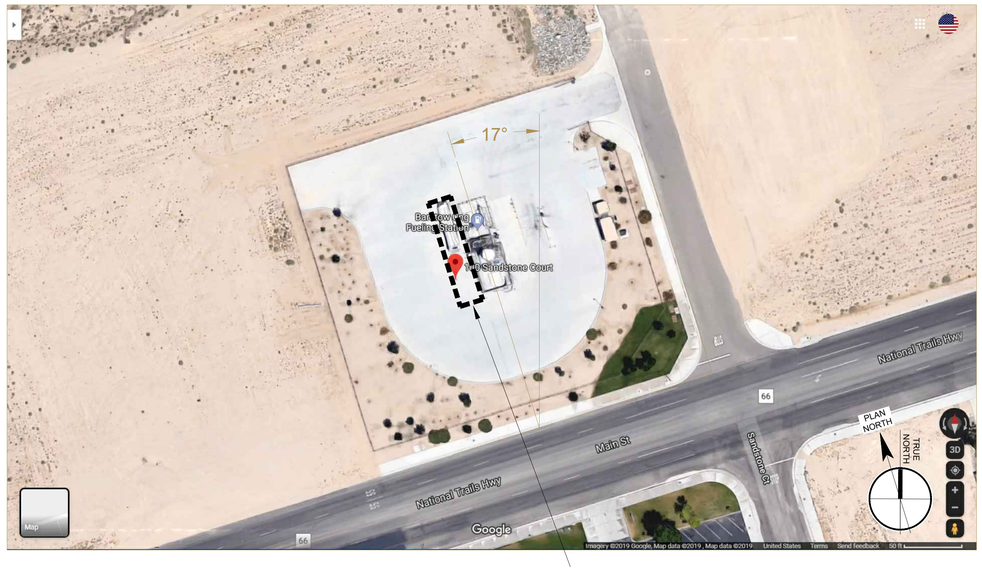
CNG FACILITY UPGRADES

100 SANDSTONE COURT, BARSTOW, CA 92311

RFP # 2020-06



PROJECT LOCATION



PROJECT AREA

PROPERTY OWNER
VICTOR VALLEY TRANSIT AUTHORITY
100 SANDSTONE COURT
BARSTOW, CA 92311
(760) 995-3585 RZIRGES@VVTA.ORG
ATTN: RON ZIRGES, DIRECTOR OF MAINTENANCE & FACILITIES

PROJECT CONSULTANTS

CONCEPTUAL MECHANICAL DESIGN AND ENGINEERING
FUEL SOLUTIONS, INC.
5755 UPLANDER WAY, SUITE A
CULVER CITY, CA 90230
310-207-8548
ATTN: REB GUTHRIE

CONCEPTUAL ELECTRICAL ENGINEERING
C&J TECHNICAL SOLUTIONS & SERVICES, INC.
4000 VALLEY BLVD. #103
WALNUT, CA 91789
909-598-6067
ATTN: JOHN JOLLY, P.E.

SHEET INDEX	
SHEET	TITLE
G-001	COVER SHEET AND SHEET INDEX
G-002	GENERAL PROJECT NOTES AND CODES
G-101	PROJECT SITE PLAN
D-001	GENERAL FUEL SYSTEM NOTES & ABBREVIATIONS
D-101	CONCEPTUAL FUEL EQUIPMENT PLAN
D-201	FUEL EQUIPMENT ELEVATIONS
D-501	FUEL EQUIPMENT SCHEDULE
D-601	CNG PROCESS FLOW DIAGRAM
E-001	ELECTRICAL NOTES
E-101	CONCEPTUAL ELECTRICAL PLAN
E-201	ELECTRICAL DETAILS
E-601	ELECTRICAL SINGLE LINE DIAGRAM

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

VVTA BARSTOW
CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06
Client

Client Logo

Sub Logo

CNG EQUIPMENT COVER SHEET
Sheet Title

Project Number
Scale As Shown
Drawing Number G-001
Sheet 1 of 1

Designed RS
Drawn RK
Checked FF
Reviewed RG
Date 09/17/19

Seal

FUEL SOLUTIONS
5755 Uplander Way, Suite A
Culver City, CA 90230
310-207-8548

Jan 16, 2020 5:25:19pm - User: CAM
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Xrefs:]

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR / GRADE	(N)	NEW
AHJ	AUTHORITY HAVING JURISDICTION	NV	NEEDLE VALVE
A/C	ASPHALT CONCRETE	NEC	NATIONAL ELECTRICAL CODE
A/G	ABOVE GRADE OR GROUND	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
B20	DIESEL FUEL BLENDED WITH 20% BIODIESEL	NGV	NATURAL GAS VEHICLE
BLDG	BUILDING	NPS	NATIONAL PIPE STANDARD
BTWN	BETWEEN	NPT	NATIONAL PIPE THREAD
BV	BALL VALVE	N/A	NOT APPLICABLE
CA	COMPRESSED AIR	NIC	NOT IN CONTRACT
CAC	CALIFORNIA ADMINISTRATIVE CODE	NTS	NOT TO SCALE
CL	CENTER LINE OR CHAIN LINK	NO	NUMBER
CLR	CLEARANCE	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	O/H	OVERHEAD
CNG	COMPRESSED NATURAL GAS	P/N	PART NUMBER
COMP	COMPRESSOR	P/L	PROPERTY LINE
CONC	CONCRETE	PBE	PLAIN BOTH ENDS
CONN	CONNECTION	PE	POLYETHYLENE OR PROFESSIONAL ENGINEER
CONT	CONTINUOUS OR CONTINUATION	POC	POINT OF CONNECTION
CP	CATHODIC PROTECTION	PLC	PROGRAMMABLE LOGIC CONTROLLER
CPLG	COUPLING	PRV	PRESSURE RELIEF VALVE
CS	CARBON STEEL	PVC	POLYVINYLCHLORIDE
CU FT	CUBIC FEET	PV	PLUG VALVE
CV	CHECK VALVE	#	POUND, NUMBER OR CLASS
DIA, Ø	DIAMETER	PSI	POUND PER SQUARE INCH
DISCH	DISCHARGE	PSIG	POUND PER SQUARE INCH GRADIENT
DISP	DISPENSER	PB	PUSH BUTTON
DSL	DIESEL	PR	PRESSURE REGULATOR
DEPT	DEPARTMENT	PRV	PRESSURE RELIEF VALVE
DWG	DRAWING	RED	REDUCING
E85	GASOLINE BLENDED WITH 85% ETHANOL	REF	REFERENCE
EA	EACH	RF	RAISED FACE
ELEV	ELEVATION	RFF	RAISED FACE FLANGE
EO	EDGE OF	RTJ	RING TYPE JOINT
ESD	EMERGENCY SHUTDOWN DEVISE	RCP	REINFORCED CONCRETE PIPE
PB	PUSH BUTTON	REINF	REINFORCEMENT
ENCL	ENCLOSURE	SCH	SCHEDULE
(E)	EXISTING	SEC	SECTION
FC	FAIL CLOSED	SIM	SIMILAR
FH	FIRE HYDRANT	SPKLR	SPRINKLER
FIG	FIGURE	SQ	SQUARE
FMT	FUEL MANAGEMENT TERMINAL	SQ FT, SF	SQUARE FOOT
FNPT	FEMALE NATIONAL PIPE THREAD	SCFH	STANDARD CUBIC FEET PER HOUR
FT	FOOT	SS	STAINLESS STEEL
FX	FIRE EXTINGUISHER (PORTABLE)	SCF	STANDARD CUBIC FEET
FOM	FACE OF MASONRY	SCG	SO CAL GAS
FRP	FIBERGLASS REINFORCED PLASTIC	SD	SEWER DRAIN
GALV	GALVANIZED	STD	STANDARD
GND	GROUND	SW	SOCKET WELD
HT	HEIGHT	THK	THICK
HC	HANDICAP	THD	THREAD
HEX	HEAT EXCHANGER	THD'D	THREADED
HP	HIGH PRESSURE	THRU	THROUGH
HORIZ	HORIZONTAL	TYP	TYPICAL
IP	INTERNET PROTOCOL	U/G	UNDERGROUND
ICBO	INTNL CONF OF BLDG OFFICIALS	ULR	UNLEADED REGULAR
IBC	INTERNATIONAL BUILDING CODE	UNO	UNLESS NOTED OTHERWISE
IFC	INTERNATIONAL FIRE CODE	VIF	VERIFY IN FIELD
IPC	INTERNATIONAL PLUMBING CODE	VERT	VERTICAL
ID	INSIDE DIAMETER	VTA	VENT TO ATMOSPHERE
KVA	KILOVOLT - AMPS	W	WIDE
LS	LANDSCAPING	W/	WITH
LAV	LAVATORY	WWM	WELDED WIRE MESH
LB	POUND	XFMR	TRANSFORMER
LC	LOCKED CLOSED	XXS	EXTRA EXTRA STRONG / DOUBLE EXTRA STRONG
LF	LINEAR FOOT		
LG	LONG		
LO	LOCKED OPEN		
LKG	LOOKING		
MAWP	MAX ALLOWABLE WORKING PRESSURE		
MB	MACHINE BOLT		
M/U	MAKE-UP		
MO	MASONRY OPENING		
MAX	MAXIMUM		
MILS	MILITARY STANDARD		
MIN	MINIMUM		
MGMT	MANAGEMENT		
MSA	METER SET ASSEMBLY		
MTR	MOTOR		

SUMMARY SCOPE OF WORK

1. PREPARE ENGINEERED CONSTRUCTION DRAWINGS AND OBTAIN APPROVAL BY OWNER AND AHJ'S. INCLUDES INTEGRATING NEW COMPRESSOR-BASED CNG SUBSYSTEM INTO EXISTING L/CNG FUELING SYSTEM.

2. SUBMIT SUBMITTAL DATA FOR EQUIPMENT AND MATERIALS AS REQUIRED IN SPECIFICATIONS.

3. PROCURE EQUIPMENT AND MATERIALS AND SHIP TO SITE AS REQUIRED TO MEET PROJECT REQUIREMENTS. PRIMARY EQUIPMENT TO BE PROVIDED INCLUDES:
   A. COORDINATION OF NEW GAS METER CONNECTION WITH SOCAL GAS FOR CNG SUBSYSTEM,
   B. (1) 3" FIRE0RATED AUTOMATIC SITE SUPPLY ESD VALVE
   C. (1) SINGLE VESSEL DESICCANT DRYER W/ ONBOARD REGENERATION,
   D. (1) COMPRESSOR SKID W/ ENCLOSURE W/ MATCHING OFF-SKID MOTOR-STARTER ASSY,
   E. (1) MASTER PLC CONTROLLER TO SUPERVISE AND CONTROL START OF (2) EXISTING LCNG PUMPS AND NEW COMPRESSOR SKID, INCLUDING REMOTE MONITORING OF CNG SYSTEM VIA IP CONNECTION,
   F. (3) CNG STORAGE GROUND VESSELS,
   G. (1) PUBLIC-TYPE CNG DISPENSER
   H. (1) CNG PRIORITY-VALVE PANEL,
   I. NEW ELECTRICAL-SERVICE PANELBOARD WITH BACKFEED TO EXISTING ELECTRICAL PANELBOARD, INCLUDING COORDINATE NEW UTILITY TRANSFORMER AS REQUIRED.
   J. STANDBY NATURAL GAS-FUELED ELECTRICAL GENERATOR SIZED TO POWER ALL EXISTING L/CNG AND NEW CNG SYSTEM LOADS, INCLUDING TRANSFER SWITCH WITH CONTROL WIRE TO MASTER PLC. PROVIDE SEPARATE GAS METERSET AS REQUIRED FOR THE GENERATOR.
   K. COMPLETE ELECTRICAL GROUNDING AND BONDING SYSTEM FOR NEW WORK PER NEC.

4. CONSTRUCT CIVIL WORK AS REQUIRED, EQUIPMENT FOUNDATIONS, TRENCHING, PAVING REPAIR, BOLLARDS, FENCING AND GATES AS REQUIRED, AND SUPPORTS FOR PIPING, TUBING & CONDUITS AS REQUIRED.

5. CONNECT AND TERMINATE ALL NEW MECHANICAL, ELECTRICAL AND STRUCTURAL CONNECTIONS AS REQUIRED PER MANUFACTURERS' INSTRUCTIONS.

6. PRESSURE TEST ALL NEW AND MODIFIED AIR, GAS AND CNG LINES AS REQUIRED HEREIN. DOCUMENT ALL PRESSURE TESTS.

7. COMMISSION, STARTUP AND DEBUG ALL NEW EQUIPMENT AND APPURTENANCES AS REQUIRED.

8. MAINTAIN A COMPLETE SET OF APPROVED PROJECT DRAWINGS AT THE PROJECT SITE. DRAWINGS SHALL BE REGULARLY UPDATED BY THE CONTRACTOR WITH RED MARKS TO INDICATE ANY SIGNIFICANT DEVIATION OR CHANGE FROM THE APPROVED DESIGN. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS IN CAD AND PDF FORMAT WITHIN TWO WEEKS OF DECLARATION OF SUBSTANTIAL COMPLETION BY THE OWNER.

9. PROVIDE A WARRANTY THAT THE MATERIALS AND WORKMANSHIP PROVIDED FOR THE FUELING FACILITY UPGRADE IS FREE OF DEFECTS IN DESIGN, MANUFACTURE, AND INSTALLATION FOR A PERIOD OF 12 MONTHS FOLLOWING THE DECLARATION OF SUBSTANTIAL COMPLETION BY THE OWNER.

10. OTHERWISE COMPLY WITH THE REQUIREMENTS INDICATED IN THE PROJECT DRAWINGS, SPECIFICATIONS AND APPLICABLE CODES AND STANDARDS.

GENERAL PROJECT NOTES

1. CNG PROJECT IS DESIGN-BUILD TYPE.
   A. CNG CONTRACTOR IS RESPONSIBLE FOR PREPARING A COMPLETE SET OF CONSTRUCTION DRAWINGS FOR ALL REQUIRED DISCIPLINES, INCLUDING MECHANICAL, ELECTRICAL AND STRUCTURAL PROJECT ELEMENTS FOR A COMPLETE SAFE AND FUNCTIONAL CNG FUELING SYSTEM.
   B. CONSTRUCTION-DRAWING PACKAGE PREPARED BY THE CNG CONTRACTOR SHALL BE SEALED BY PROFESSIONAL ENGINEERS LICENSED IN THE STATE OF CALIFORNIA.
   C. DRAWING PACKAGE SHALL BE APPROVED FOR CONSTRUCTION BY THE CITY OF BARSTOW BUILDING DEPARTMENT, AND THE COUNTY OF SAN BERNARDINO FIRE DEPARTMENT.
   D. CONTRACTOR'S DESIGN SHALL BE GENERALLY CONSISTENT WITH THE CONCEPTUAL DESIGN SHOWN IN THIS DRAWING PACKAGE AND SHALL BE APPROVED BY THE OWNER.

2. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIALS AND LABOR, AND PERFORM ALL INSTALLATION, TESTING, AND STARTUP NEEDED TO PROVIDE A COMPLETE, SAFE AND FUNCTIONAL CNG FUELING SUB-SYSTEM AT THE VVTA BARSTOW FUELING FACILITY

3. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO ALLOW SAFE CIRCULATION OF VEHICLES IN THE AREA OF WORK AND SHALL MAKE EVERY EFFORT TO MINIMIZE DISRUPTIONS OF NORMAL VEHICLE CIRCULATION. CONTRACTOR SHALL COORDINATE ANY RESTRICTIONS IN VEHICLE CIRCULATION OR OTHER NORMAL WORKFLOW IN THE PROJECT AREA RELATED TO THE PROJECT WITH THE OWNER AT LEAST 2 FULL WORKDAYS BEFORE IMPLEMENTATION OF THE RESTRICTION. ANY OPEN TRENCH IN THE VEHICLE AREA SHALL BE PROTECTED AND PLATED FOR H-20 TRAFFIC LOADS.

4. CARBON STEEL PIPING SHALL BE WELDED OR FLANGED, WITH THE FOLLOWING EXCEPTION. EQUIPMENT CONNECTIONS NPS 1, OR SMALLER, REQUIRING PERIODIC SERVICING MAY BE MADE USING NPT. WELDED STEEL PIPE CONNECTIONS LARGER THAN NPS2 SHALL BE BUTT WELDED, OR OTHERWISE SOCKET WELDED. FLANGED CONNECTIONS SHALL BE CLASS 150, RAISED FACE, FORGED CARBON STEEL, ASTM A105, CONFORMING TO ANSI B16.5.

5. GAS PIPING.
   A. AVOID UNDERGROUND PIPING WHERE PRACTICAL.
   B. ANY UNDERGROUND PIPING SHALL BE INSTALLED NOT LESS THAN 24" BELOW GRADE.
   C. UNDERGROUND GAS SERVICE PIPING THAT IS DIRECTLY BURIED SHALL BE EITHER POLYETHYLENE DR11 WITH TRACER WIRE AND ANODELESS RISERS, OR SCHEDULE 80 CS (A104 GRADE B).
   D. ALL BURIED PIPING OR TUBING SHALL INCLUDE WARNING TAPE PLACED IN PIPE TRENCH BACKFILL, APPROXIMATELY 1 FT ABOVE TOP OF PIPE. USE YELLOW POLYETHYLENE TAPE MANUFACTURED FOR IDENTIFYING UNDERGROUND UTILITIES, 6 IN. WIDE AND 4 MILS THICK, CONTINUOUSLY INSCRIBED WITH "GAS".
   E. ABOVEGROUND STEEL GAS SERVICE PIPING SHALL BE SCHEDULE 40 CS (A104 GRADE. B) WITH ZINC OXIDE PRIMER AND EPOXY TOP COAT.
   F. COORDINATE COLOR OF ABOVEGROUND PIPING BY PRODUCT CONTENT OF EACH PIPE WITH THE OWNER. DO NOT PAINT SS TUBING.

6. HIGH PRESSURE CNG PIPING DOWNSTREAM FROM COMPRESSOR DISCHARGE SHALL BE SEAMLESS CARBON STEEL, ASTM A106, GRADE B. NPS 1 AND SMALLER PIPE SHALL BE SCHEDULE 160; NPS 1 1/2 AND NPS 2 SHALL BE XXS. NOMINAL PIPE SIZES SHALL BE 3/4 OR 1, AS SHOWN IN THE DRAWINGS. HIGH PRESSURE CNG PIPING WITH DIAMETERS OF NPS 2 OR SMALLER SHALL BE SOCKET WELDED. SOCKET WELD FITTINGS SHALL BE FORGED STEEL, ASTM A105, CLASS 6000, & MANUFACTURED PER ANSI B16.11-2001.

7. FLANGES FOR HIGH PRESSURE CNG PIPING SHALL BE CLASS 2500 FORGED STEEL, ASTM A105, WELD NECK, RTJ OR RF, CONFORMING TO ANSI B16.5, WITH BORE MATCHING THE INSIDE DIAMETER OF THE CONNECTED PIPE.

8. FLANGE BOLTS SHALL BE HEAVY HEXAGONAL CAP SCREWS, ASTM A307 GRADE B, WITH HEAVY HEX NUTS, ASTM A194, GRADE 2H. PIPE FLANGE BOLTS SHALL SHOW A MINIMUM OF 2 THREADS THROUGH THEIR BACKING NUT, WHEN FULLY TIGHTENED.

9. INSULATED FLANGES: FURNISH FLANGE INSULATING KITS WHERE INDICATED IN THE DRAWINGS.
   A. KITS FOR RAISED FACE FLANGES SHALL INCLUDE AN INSULATED FULL-FACED FLANGE GASKET, PIPELINE SEAL & INSULATOR, INC., LINE BACKER TYPE E, 1/8 " THICK, WITH PHENOLIC RETAINER AND VITON SEALING ELEMENT. KITS FOR RING-TYPE JOINTS SHALL INCLUDE A TYPE D GASKET.
   B. ALL INSULATING KITS SHALL INCLUDE THE FOLLOWING:
   - ONE FULL-LENGTH PHENOLIC SLEEVE, EXTENDING HALF-WAY INTO BOTH STEEL WASHERS FOR EACH FLANGE BOLT. THE SLEEVE SHALL BE A 1/32 " THICK TUBE.
   - 2-EA, 1/8 " THICK PHENOLIC ISOLATING WASHERS FOR EACH BOLT.
   - 3-EA, 1/8 " THICK ZINC-PLATED, HOT ROLLED STEEL WASHERS FOR EACH BOLT. THE I.D. OF ALL WASHERS SHALL FIT OVER THE ISOLATING SLEEVE, AND BOTH THE STEEL- AND ISOLATING WASHERS SHALL HAVE THE SAME I.D. AND O.D. PHENOLIC SLEEVES SHALL HAVE A MIN. DIELECTRIC STRENGTH OF 400 VOLTS/MIL, AND WATER ABSORPTION OF 0.10% OR LESS.

10. CORROSION PROTECTION OF UNDERGROUND PIPING.
    A. ALL UNDERGROUND STEEL GAS PIPING THAT IS DIRECTLY BURIED SHALL BE FACTORY COATED WITH FUSION-BONDED EPOXY, CONFORMING TO NACE RP0394 - STANDARD RECOMMENDED PRACTICE, "APPLICATION, PERFORMANCE, AND QUALITY CONTROL OF PLANT-APPLIED FUSION-BONDED EPOXY EXTERNAL PIPE COATING". COATING SHALL BE 3M "SCOTCHKOTE 6233" OR APPROVED EQUAL. PIPE JOINTS SHALL BE PREPARED AND FIELD-COATED ACCORDING TO THE FACTORY COATING MANUFACTURER'S WRITTEN RECOMMENDATIONS.
    B. PROVIDE CATHODIC PROTECTION WITH SACRIFICIAL ANODES AND TEST STATIONS FOR ALL STEEL PIPING THAT IS DIRECTLY BURIED. CATHODIC PROTECTION DESIGN SHALL BE SEALED BY AN ENGINEER LICENSED IN THE STATE OF CALIFORNIA, THAT IS PRACTICED IN THE DESIGN OF CATHODIC PROTECTION SYSTEMS, AND THAT IS APPROVED BY THE AHJ.
    C. PIPING THAT TRANSITIONS FROM UNDER GROUND TO ABOVE GRADE AND THAT PASSES THROUGH A CONCRETE SLAB SHALL BE PROTECTED BY A PVC PIPE SLEEVE. SEAL SLEEVE OPENING AGAINST ENTRY OF WATER WITH DURABLE OUTDOOR-RATED SEALANT.

11. EXCEPT AS NOTED, ALL BALL VALVES USED IN NATURAL GAS PIPING SHALL HAVE TYPE 316 STAINLESS STEEL BALLS, BODIES AND STEMS; HOWEVER, FACTORY-PAINTED VALVES NPS2 AND LARGER MAY HAVE CARBON STEEL BODIES.

12. ALL FLEXIBLE PIPE CONNECTORS SHALL BE CONSTRUCTED USING TYPE 316 STAINLESS STEEL FITTINGS AND BRAIDS, AND PTFE LINERS. PERMANENTLY LABEL FLEX CONNECTORS WITH MAWP, MANUFACTURER'S NAME, AND MODEL NO.

13. CONTRACTOR SHALL FURNISH ALL PIPE, TUBING AND WELD FITTINGS. SUBMIT MATERIAL CERTIFICATIONS FOR ALL GAS PIPE AND PIPE-FITTINGS. WELDING ON GAS PIPE AND TUBE SHALL BE PERFORMED IN ACCORDANCE WITH ASME/ANSI B31.3. WELDING PROCEDURES SHALL BE QUALIFIED IN ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX. QUALIFIED WELD PROCEDURES & WELDERS' CERTIFICATIONS SHALL BE KEPT ON FILE AND AVAILABLE FOR INSPECTION BY THE OWNER'S REPRESENTATIVE. NO WELDING SHALL BE PERFORMED BY ANY WELDER FOR WHOM A CURRENT CERTIFICATION IS NOT ON FILE. USING ALIGNMENT LUGS IS ACCEPTABLE, BUT LUGS SHALL BE CUT OFF AND GROUND FLUSH AFTER WELDING IS COMPLETE.

14. CONTRACTOR SHALL PROVIDE AND PAY FOR THE INSPECTION AND LEAK TESTING OF ALL FIELD FABRICATED TUBING AND WELDED GAS PIPING. CONTRACTOR SHALL UTILIZE A QUALIFIED INSPECTOR TO INSPECT WELDS IN ACCORDANCE WITH CHAPTER VI OF ASME B31.3. EVERY WELD SHALL BE EXAMINED VISUALLY. ALL BUTT WELDS SHALL BE RADIOGRAPHED, AND WRITTEN TEST REPORT(S) FURNISHED TO THE ENGINEER, BEFORE PRESSURIZING THE PIPE. EXAMINE NOT LESS THAN 25% OF ALL SOCKET WELDS BY DYE PENETRATION, AND FURNISH WRITTEN TEST REPORT(S) TO THE ENGINEER, BEFORE PRESSURING THE PIPE.

15. CNG PRESSURE TUBING.
    A. PRESSURE TUBING SHALL BE SEAMLESS, MANUFACTURED AND LABELED ACCORDING TO ASTM A-213, USING TYPE 316 OR 304 S.S. TUBING WITH DIAMETERS LESS THAN 3/4" SHALL BE CONNECTED USING TYPE 316 SS SWAGED FITTINGS. ALL SWAGED FITTING SHALL BE FROM A SINGLE MANUFACTURER.
    B. ACCEPTABLE SS TUBING PRODUCTS ARE SWAGELOK, HOKE GYROLOK OR PARKER A-LOK. SWAGED FITTING SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 5,000 PSI. PRESSURE TUBING 3/4" AND LARGER SHALL BE JOINED USING PARKER SEAL-LOK FACE SEAL FITTINGS. O-RING MATERIAL FOR FACE SEAL FITTINGS SHALL BE VITON ALL SS TUBING FITTINGS SHALL BE PARKER. ALL SS TUBING SHALL BE MARKED 'MADE IN USA'.
    C. ALL SS TUBING ROUTED UNDERGROUND SHALL BE CONTINUOUS WITH NO FITTINGS OR UNIONS, AND SHALL BE PROTECTED FROM DIRECT BURIAL BY A CONTINUOUS SLEEVE THAT IS LISTED FOR BURIAL IN DIRT. SLEEVE OPENINGS SHALL BE SEALED AGAINST ENTRY OF WATER AND DEBRIS.

16. PRESSURE TUBING SHALL HAVE THE FOLLOWING MINIMUM WALL THICKNESS.

TUBE NOMINAL SIZE OD (INCHES)	WALL THICKNESS (INCHES)
0.250	0.035
0.375	0.049
0.500	0.070
0.750	0.104
1.000	0.134
1.500	0.188

17. PRESSURE TESTING OF CNG PIPING AND TUBING. BEFORE CONNECTING THE CNG PIPING AND TUBE TO THE STORAGE VESSELS OR DISPENSER LINES, ALL HIGH-PRESSURE CNG PIPING AND TUBING SHALL BE INSPECTED, LEAK TESTED, AND PRESSURE TESTED WITH NITROGEN. THE TEST GAS SOURCE SHALL BE CAPABLE OF PRESSURIZING THE PIPING TO NOT LESS THAN 5,500 PSIG. PERFORM TESTING IN THE FOLLOWING STEPS.
    A. COMPRESS PIPING TO 25 PSIG AND SOAP-TEST ALL JOINTS FOR LEAKS. IF ANY LEAKAGE IS DETECTED, RELIEVE THE PRESSURE AND REPAIR THE LEAK(S). REPEAT TESTING AT 25 PSIG UNTIL ALL LEAKS ARE ELIMINATED.
    B. CONNECT A PRECISION (<1% ERROR) PRESSURE TRANSDUCER AND DATA RECORDER TO THE CNG PIPING SYSTEM, AND ARRANGE THE VALVING TO SEAL THE SYSTEM AND ALLOW ISOLATE IT TO BE ISOLATED FROM THE PRESSURE SOURCE. SLOWLY INCREASE THE PRESSURE TO 500 PSIG, AND INSPECT FOR LEAKS. INCREASE PRESSURE AGAIN, IN 1000 PSI INCREMENTS, TO 5,500 PSIG. HOLD PRESSURE CONSTANT FOR AT LEAST 10 MINUTES BEFORE INCREASING TO THE NEXT INCREMENT. WITH THE SYSTEM PRESSURIZED TO 5,500 PSIG, AND ISOLATED FROM THE PRESSURE SOURCE, ADEQUATE LEAK INTEGRITY SHALL BE VERIFIED BY NO LOSS OF PRESSURE OVER A PERIOD OF AT LEAST 2 HR. SUBMIT A RECORD OF PRESSURE, MEASURED AT 10 MIN. INTERVALS, AS EVIDENCE OF SUCCESSFUL PRESSURE TESTING.
    C. AFTER PNEUMATIC TESTING, RELIEVE THE PIPING SYSTEM PRESSURE TO ATMOSPHERIC, CONNECT IT TO NATURAL GAS COMPRESSOR(S) AND STORAGE, AND PURGE WITH NATURAL GAS. PRESSURIZE WITH NATURAL GAS AND INSPECT FOR LEAKS WITH SOAP BUBBLE TEST AT NORMAL OPERATING PRESSURES.

18. PRESSURE TEST INSTRUMENT AIR/GAS PIPING BY PRESSURIZING WITH NITROGEN TO 200 PSIG, AND SOAP TESTING WITH NO LEAKAGE AT ANY VALVE OR FITTING. WITH THE AIR/GAS PIPING SEALED AT ALL ABOVEGROUND RISERS, AND COMPRESSED TO 200 PSIG, THE AIR PIPING SHALL DEMONSTRATE NO LOSS OF PRESSURE OVER 1 HR., AS INDICATED BY A 1% PRECISION BOURDON TUBE GAUGE. THE GAUGE SHALL HAVE A FULL-SCALE PRESSURE OF 250 PSIG. DO NOT BACKFILL PIPE TRENCHES UNTIL LEAK TESTING HAS BEEN SUCCESSFULLY COMPLETED.

19. LEAK TESTING OF NATURAL GAS SERVICE PIPING. NATURAL GAS PIPING FROM THE METER TO THE GAS-DRYER INLET SHALL BE LEAK TESTED WITH NITROGEN, ACCORDING TO APPLICABLE SOCIAL GAS GAS-TEST PROCEDURES. AT MINIMUM, TEST SHALL INCLUDE HOLDING MAWP FOR 20 MINUTES AND SOAP BUBBLE TEST OF ALL JOINTS AND UNIONS.

20. PERFORM LEAK TESTING AND WELD INSPECTIONS OF ALL STEEL PIPING BEFORE APPLYING FIELD COATINGS OR PAINT.

21. SAFELY REMOVE ALL DEMOLITION AND CONSTRUCTION WASTE AS REQUIRED TO INSTALL THE INDICATED EQUIPMENT. HAUL OFF AND DISPOSE OF WASTE PRODUCTS AND MATERIALS AS REQUIRED BY APPLICABLE CODES AND REGULATIONS.

22. SECURE AND PROTECT PROJECT EQUIPMENT AND MATERIALS PRIOR TO TURNOVER TO OWNER.

23. VERIFY DIMENSIONS AND INTERFACES FOR EQUIPMENT, PENETRATIONS, PIPING AND POINTS OF CONNECTION FOR CONSISTENCY WITH EQUIPMENT SHOP DRAWINGS, PRIOR TO CONSTRUCTION.

24. CNG EQUIPMENT SHALL BE INSTALLED PER THE WRITTEN INSTRUCTIONS OF THE RESPECTIVE SYSTEM AND COMPONENT MANUFACTURERS THAT ARE USED IN THE PROJECT. CNG CONTRACTOR SHALL HAVE APPROVAL TO INSTALL EQUIPMENT FROM THE RESPECTIVE MANUFACTURERS OF THE CNG COMPRESSOR SKIDS, GAS DRYER, CNG DISPENSERS AND FUEL-MANAGEMENT SYSTEM PRIOR TO START OF CONSTRUCTION.

25. CNG-CONTROL SYSTEM SHALL INCLUDE A PLC-BASED CONTROLLER THAT WILL INITIATE EMERGENCY SHUTDOWN OF STATION SYSTEMS THAT COMPLIES WITH NFPA 52, INCLUDING INTERFACE WITH EXISTING LCNG SYSTEM AS REQUIRED.

26. EQUIPMENT ANCHORING SHALL BE CERTIFIED BY A DEPUTY INSPECTOR.

CODES AND STANDARDS

ALL INSTALLATION AND CONSTRUCTION WORK SHALL CONFORM TO THE FOLLOWING CODES AND STANDARDS AS ADOPTED BY THE STATE OF CALIFORNIA, CITY OF BARSTOW AND COUNTY OF SAN BERNARDINO:

1. NFPA 52
2. NFPA 30A
3. TITLE 24 OF THE CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, SECTION 8
4. CALIFORNIA BUILDING CODE
5. CALIFORNIA MECHANICAL CODE
6. CALIFORNIA ELECTRICAL CODE
7. CALIFORNIA FIRE CODE
8. INCLUDING CHAPTER 23
9. ANSI/ASME B31.3
10. INSTALLATION SHALL ALSO CONFORM TO OTHER REQUIREMENTS SET FORTH IN THE PROJECT DOCUMENTS, AND AS REQUIRED BY AHJ'S.

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

VVTA BARSTOW
CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06

Client

Client Logo

Sub Logo

CNG EQUIPMENT COVER SHEET

Sheet Title

Project Number	
Job No.	
Scale	As Shown
Drawing Number	G-002
Sheet	1 of 1
Designed	RG
Drawn	RB
Checked	RR
Reviewed	RG
Date	09/21/15

Seal

FUEL SOLUTIONS
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Culver City, CA 90230
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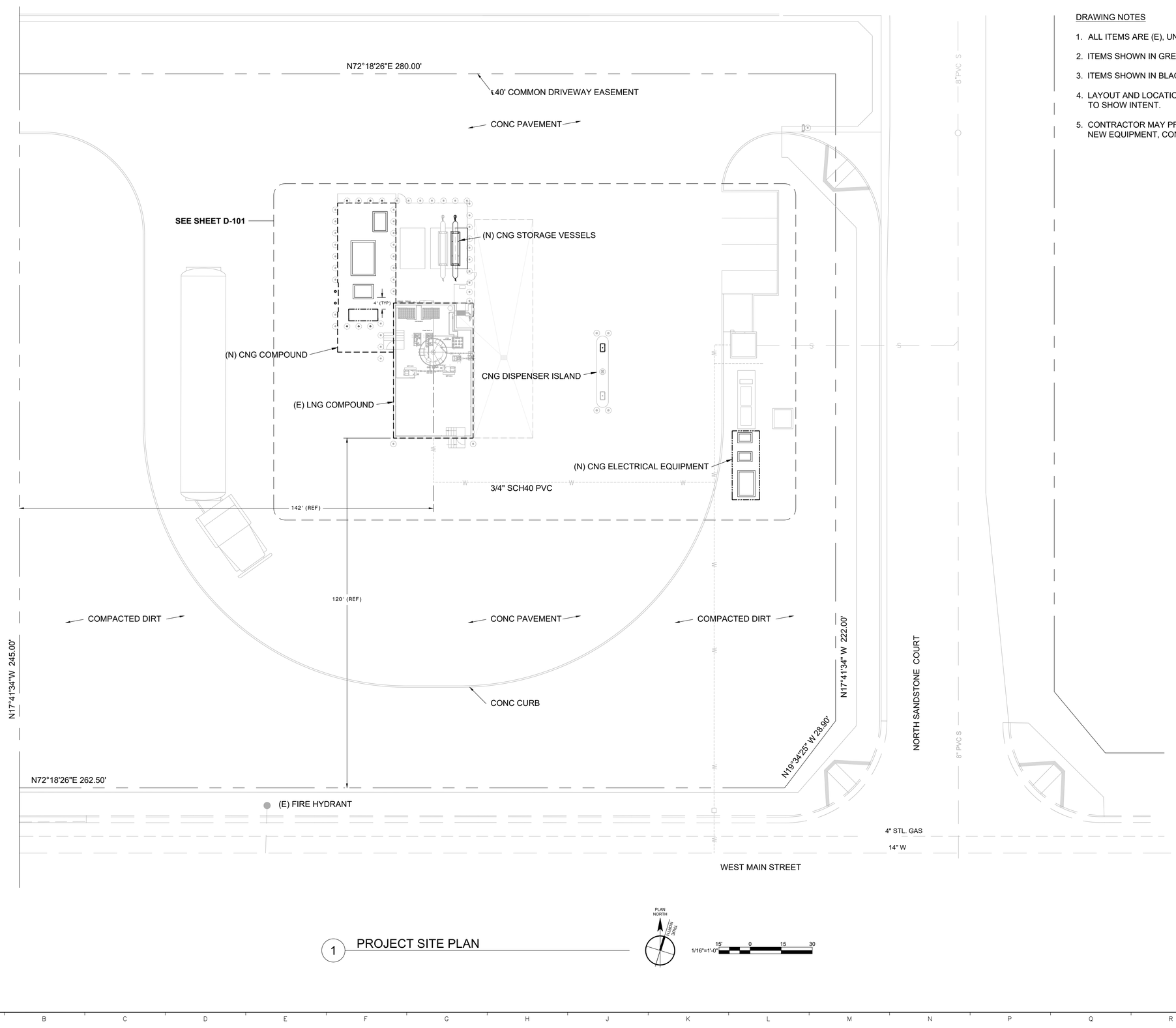

1 PROJECT SITE PLAN

PLAN NORTH
TRUE NORTH

1/16"=1'-0" 15' 0 15 30

DRAWING NOTES

1. ALL ITEMS ARE (E), UNLESS MARKED OTHERWISE.
2. ITEMS SHOWN IN GREY LINE STYLE ARE (E), EXISTING.
3. ITEMS SHOWN IN BLACK LINE STYLE ARE (N), NEW.
4. LAYOUT AND LOCATION OF (N) EQUIPMENT AND SITE FEATURES IS CONCEPTUAL TO SHOW INTENT.
5. CONTRACTOR MAY PROPOSE ALTERNATE LOCATION AND CONFIGURATION FOR NEW EQUIPMENT, CONTINGENT ON APPROVAL BY THE OWNER.

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

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CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06

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PROJECT SITE PLAN

Sheet Title

Project Number N/A
Scale As Shown
Drawing Number G-101
Sheet 1 of 1

Designed RS
Drawn RB
Checked RR
Reviewed RG
Date 09/26/116

Seal

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Jan 16, 2020 5:25:49pm – User: CAM
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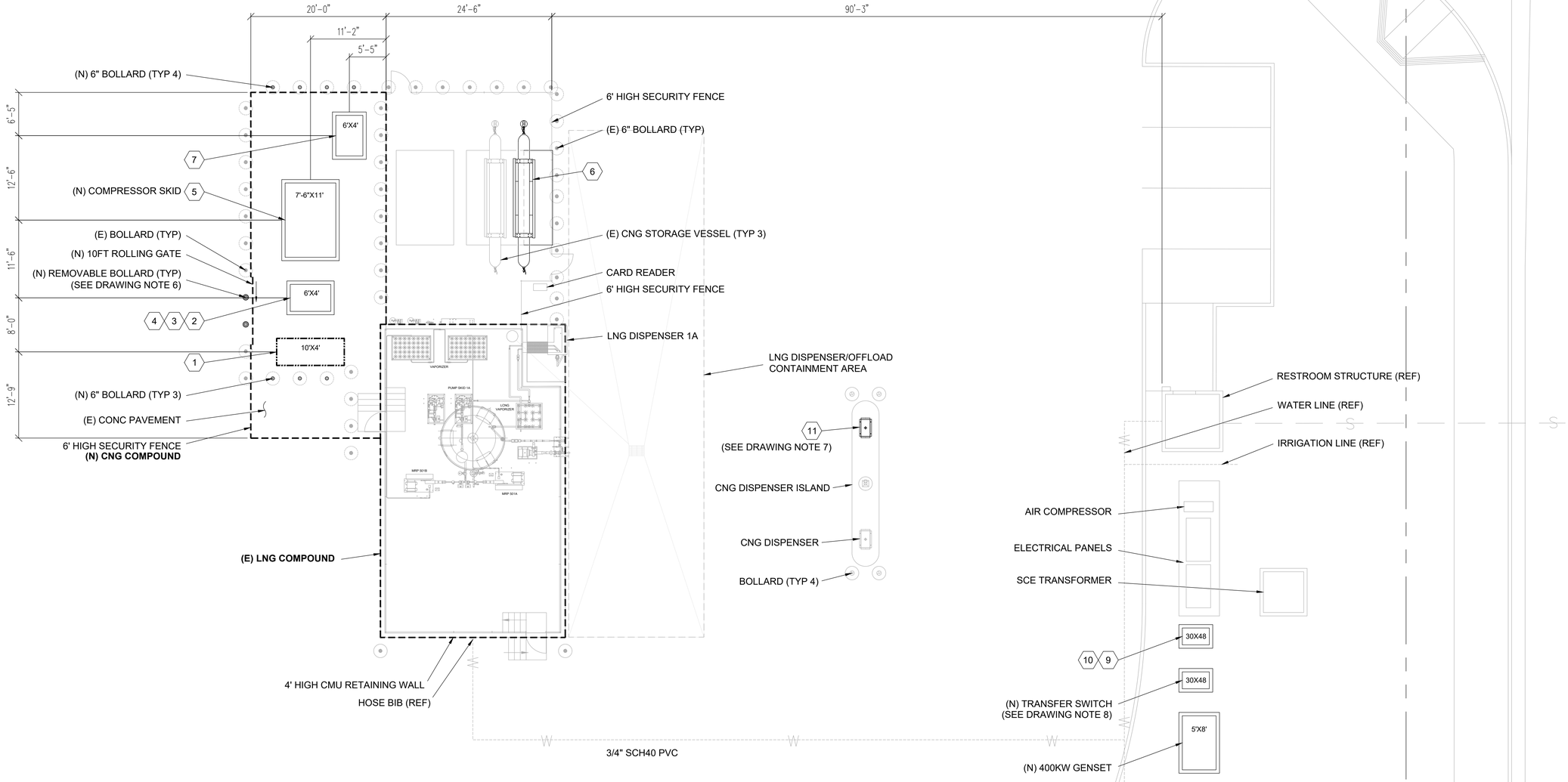
CNG FUELING FACILITY EQUIPMENT SCHEDULE	
KEY	**DESCRIPTION**
1	GAS METER SET ASSEMBLY
2	SIESMIC VALVE
3	ESD VALVE
4	NATURAL GAS DRYER
5	CNG COMPRESSOR SKID
6	CNG GROUND STORAGE VESSELS
7	CNG VALVE PANEL W/ 3-BANK PRIORITY AND TIME FILL
8	ESD BUTTON
9	REMOTE COMM PANEL
10	MOTOR CONTROL CENTER
11	FAST-FILL CNG DISPENSER

SCHEDULE NOTES

1. SEE SHEET M-501 FOR DETAILED EQUIPMENT SCHEDULE.

DRAWING NOTES

1. ALL ITEMS ARE (E), UNLESS MARKED OTHERWISE.
2. ITEMS SHOWN IN GREY LINE STYLE ARE (E), EXISTING.
3. ITEMS SHOWN IN BLACK LINE STYLE ARE (N), NEW.
4. LAYOUT, DIMENSIONS AND LOCATION OF (N) EQUIPMENT AND SITE FEATURES IS CONCEPTUAL TO SHOW INTENT.
5. CONTRACTOR MAY PROPOSE ALTERNATE LOCATION AND CONFIGURATION FOR NEW EQUIPMENT, CONTINGENT ON APPROVAL BY THE OWNER.
6. REMOVE (2) FIXED BOLLARDS ALONG WEST SIDE OF COMPRESSOR SKID AND REPLACE WITH (2) REMOVABLE BOLLARDS.
7. COORDINATE WIRING, CONNECTIVITY AND COMMUNICATION OF CARD READER INTEGRATED IN NEW DISPENSER WITH BROADLUX, INC., LAGUNA NIGUEL, CA.
8. COORDINATE XFMR UPGRADE ON (E) PAD AS REQIRED PER SOCAL EDISON. PROVIDE NEW MAIN PANELBOARD AND SERVICE ENTRANCE AS MAY BE REQUIRED BY SCE. AT EXISTING PANELBOARD, REMOVE METER AND BACKFEED PANEL AS REQUIRED.



1 CONCEPTUAL FUEL EQUIPMENT PLAN

PLAN NORTH / TRUE NORTH

1/8"=1'-0" 8' 0 8 16

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

VVTA BARSTOW
CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06

Client

Client Logo

Sub Logo

CONCEPTUAL
FUEL EQUIPMENT PLAN

Sheet Title

Designed RG	Project Number MA		
Drawn RB	Scale As Shown		
Checked RR	Drawing Number D-101		
Reviewed RG	Sheet 1 of 1		
Date 09/21/16			

Seal

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CNG FUELING FACILITY EQUIPMENT SCHEDULE

6

KEY	DESCRIPTION	QTY	SPECIFICATIONS	MFR. / MODEL
1	GAS METER SET ASSEMBLY	1	SUPPLY PRESSURE OF 30-55 PSIG, 3" RFF CONNECTION.	SW GAS
2	SIESMIC VALVE	1	3" RFF RATED FOR UP TO 60 PSIG.	PACIFIC SEISMIC PRODUCT / 315F
3	ESD VALVE	1	3" GAS-ACTUATED, NORMALLY-CLOSED FULL-PORT BALL VALVE WITH SS BALL TRIM AND BODY, FIRE-RATED PER API 607-5, CLASS 150 RFF. VALVE SHALL BE CONTROLLED TO OPEN ONLY WHEN AT LEAST ONE COMPRESSOR IS RUNNING.	SVF B41
4	NATURAL GAS DRYER	1	SINGLE-VESSEL DESICCANT DRYER, 500 SCFM MINIMUM CAPACITY AT 55 PSIG, NPS 3" CLASS 150 RF FLANGE CONNECTIONS, 150 PSIG MAWP, INTEGRAL MANUALLY-CONTROLLED REGENERATION SYSTEM, BYPASS VALVES, HYGROMETER W/ 2-LEVEL ALARM, INLET-COALESCING AND OUTLET-PARTICULATE FILTERS; TOTAL PRESSURE DROP ≤ 5 PSI AT DESIGN CONDITIONS.	PSB MODEL NGSR21-3 OR EQUAL XEBEC, ANGI OR SPX
5	CNG COMPRESSOR SKID	1	COMPRESSOR SKID EQUIPPED WITH (1) CNG COMPRESSOR RATED AT 500 SCFM AT COMPRESSOR SUCTION OF 55 PSIG, DRIVEN BY A 250 HP NEMA PREMIUM EFFICIENCY TEFC MOTOR. FURNISH WITH REMOTE PLC, INTERSTAGE COOLER, GAS-ACTUATED BALL VALVES, AND RECEIVER FOR CAPTURED BLOWDOWN. INCLUDE MATCHING MOTOR-STARTER ASSY WITH ESS FOR COMPRESSOR DRIVE. REGULATE GAS-SUCTION PRESSURE AS REQUIRED BY COMPRESSOR-SUCTION LIMITATIONS.	ANGI / NG300E
6	CNG GROUND STORAGE VESSELS	3	CYLINDRICAL STORAGE VESSELS WITH 11,500 SCF MINIMUM CAPACITY (EA) AT 4500 PSIG, 5500 PSIG MAWP, WITH SUPPORT, ISOLATION VALVES AND PRESSURE RELIEF VALVES. MANUFACTURE TO ASME SECTION VIII, DIVISION 1. PACKAGE VESSELS AND PROVIDE FOUNDATIONS AS REQUIRED. INCLUDE SEISMIC PACKAGING AND VALVE KIT. PROVIDE IN STACK OF 3. FURNISH WITH FACTORY MOUNTED SADDLES AND SEISMIC BRACING.	CP INDUSTRIES, FIBA, OR APP'VD EQUAL
7	CNG VALVE PANEL W/ 3-BANK PRIORITY	1	EQUIPPED WITH GAS-ACTUATED BALL VALVES AND CONTROLS TO DIRECT CNG FROM CNG SKIDS TO THE CNG FAST-FILL AND TIME-FILL DISPENSERS. PROVIDE VALVING AND CONTROLS FOR 3-BANK PRIORITY FILL AND EMERGENCY SHUT DOWN WITH BYPASS CONTROL. FURNISH WITH 1" TUBING AND PROCESS VALVES IN A NEMA 3R ENCLOSURE AND LOCATE IN CNG COMPOUND. PANEL SHALL BE APPROVED AND PACKAGED BY THE COMPRESSOR-SKID PACKAGER.	ANGI / PT-100
8	ESD BUTTON	1	EMERGENCY SHUTDOWN BUTTON, WIRED NORMALLY CLOSED / FAIL OPEN / MAINTAIN OPEN, W/ SERIAL 120V CIRCUIT WIRED TO MASTER CONTROL PANEL/PLC. PROVIDE TWO-SIDED BUTTONS AND CLASS-1 DIVISION-2 RATING WHERE REQUIRED PER PLANS.	APPLETON OR EQUAL
9	REMOTE COMM PANEL	1	DATA CONNECTION TO MASTER CONTROL PANEL PER ANGI COORDINATION DRAWINGS. WIRE ETHERNET CONNECTION TO IP SWITCH IN PORTABLE OFFICE BUILDING.	ANGI / CP-400
10	MOTOR CONTROL CENTER	1	POWER DISTRIBUTION TO ALL 3-PHASE AND 1-PHASE ELECTRICAL LOADS FOR COMPRESSOR OPERATION INCLUDING 1 X 250 HP COMPRESSOR MOTORS, 1 X 15 HP COOLER FAN, AND 3/4 HP LUBE OIL PUMP, GAS DRYER, AS WELL AS 1-PHASE TRANSFORMER FOR 120V CONTROL LOADS AND LIGHTING.	ANGI MCC 250 HP
11	FAST-FILL CNG DISPENSER	1	2-HOSE DISPENSER WITH 3-LINE INTERNAL SEQUENCING, WITH CA WEIGHTS & MEASURES APPROVAL FOR PUBLIC SALE OF CNG. WIRE DATA CABLE FOR EXCESS FLOW TO CONTROL PANEL. MIN. 3/4" PROCESS THROUGHOUT, (2) CNG-050 METERS AND (2) PRV'S SET AT 4500 PSIG. CONFIGURE BOTH HOSES AS 1/2" DIA X 12' L SUPPLY AND NGV-1 CT1000 NOZZLES. BOTH HOSES W/ 5000 PSI MAWP, 3/8" SIAMESE VENT LINES, AND INLINE BREAK-AWAY FITTINGS ON ALL HOSES. PROVIDE W/ INTEGRATED CARD READER AND RECEIPT PRINTER. MATCH EXISTING CNG DISPENSER AT SITE.	ANGI/GILBARCO WITH CRIND / NZ1-CNG (NO SUBSTITUTIONS)

SCHEDULE NOTES

1. SEE SHEET D-101 FOR LOCATION OF HEX-KEYED EQUIPMENT.
2. THE LIST OF EQUIPMENT GIVEN HERE IS PARTIAL. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND PROVIDE LABOR, CONDUIT, WIRE, PIPING, MATERIAL AND TESTING SERVICES TO DELIVER A COMPLETE FUNCTIONAL CNG FUELING SYSTEM REQUIRED BY PLANS, DRAWINGS, AND SPECIFICATIONS, AND AS APPROVED BY THE OWNER. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
3. ALL ACTUATED VALVES SHALL BE POWERED BY REGULATED CNG. ACTUATORS SHALL BE COMPATIBLE WITH NATURAL GAS AND TYPICAL LUBRICANTS.
4. EQUIPMENT MFR. AND MODEL LISTINGS ARE FOR REFERENCE ONLY AND ARE INTENDED TO DEFINE A BASIS OF PERFORMANCE. OTHER EQUIPMENT MAY BE PROVIDED, IF THEY MEET THE REFERENCE PERFORMANCE AND ARE APPROVED BY THE OWNER.

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

VVTA BARSTOW
CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06

Client

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CNG EQUIPMENT COVER SHEET

Sheet Title

Project Number N/A
Scale As Shown
Drawing Number D-501
Sheet 1 of 1

Designed RG
Drawn RB
Checked RR
Reviewed RG
Date 9/06/2116

Seal

FUEL SOLUTIONS
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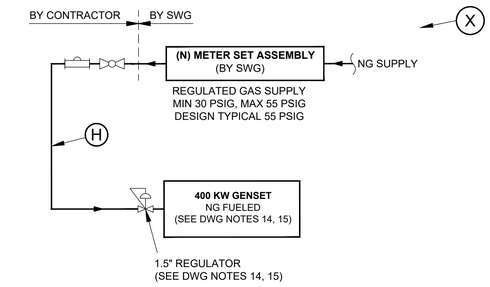
SYMBOLS AND LEGEND

- COMPRESSOR
- DATUM
- FILTER, AIR / GAS
- FITTING, BREAKAWAY
- HOSE, FLEX
- (PI) INDICATOR, PRESSURE
- POINT OF CONNECTION
- REGULATOR, PRESSURE
- (L) SENSOR, LEAK OR LEVEL
- (MLD) SENSOR, MECHANICAL LEAK DETECTOR
- STRAINER, Y-TYPE
- STRAINER, CONICAL
- (PT) TRANSDUCER, PRESSURE
- VALVE, MANUAL BALL
- VALVE, 3-WAY BALL
- VALVE, CHECK
- VALVE, PLUG
- VALVE, NEEDLE
- (E) VALVE, ESD, AIR / GAS ACTUATED
- (FV) VALVE, FIRE / ESD, W/ FUSABLE LINK
- (S) VALVE, SOLENOID
- VALVE, SEISMIC
- VALVE, BALL FLOAT
- VALVE, PRESSURE RELIEF
- VENT, TEE

LINES

- EXISTING (E), GREY
- NEW (N), BLACK
- E — E — 120V AUTHORIZE SIGNAL
- D — D — IP OR LOW-VOLTAGE DATA LINE W/ CONDUIT
- // — // — INSTRUMENT SIGNAL, AIR OR GAS
- P — P — POWER LINE W/ CONDUIT

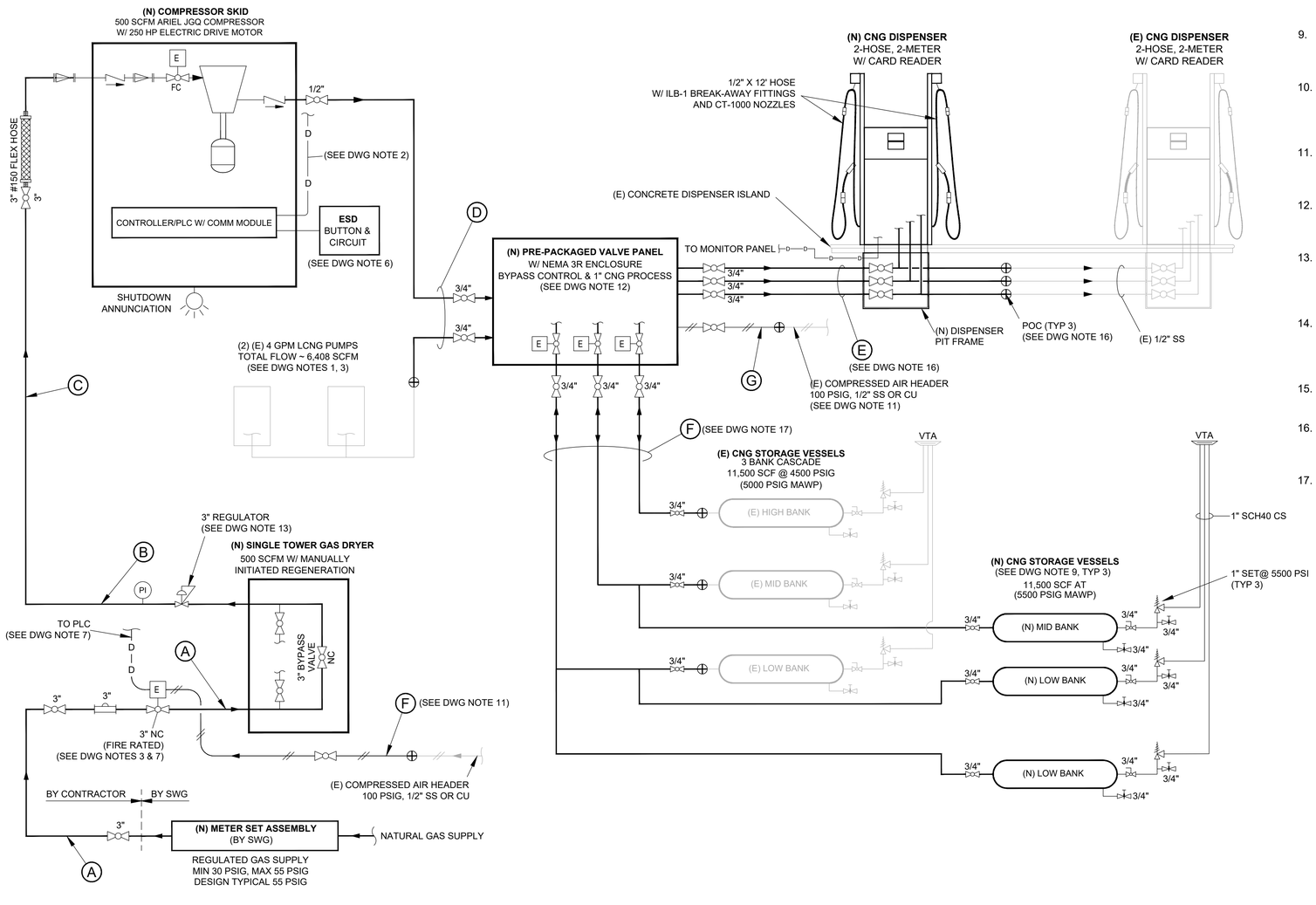


2 PFD - GAS SUPPLY TO BACKUP GENSET

TUBE & PIPE SCHEDULE					
KEY	SIZE	DESCRIPTION	ROUTE	COMMENTS	TEST PSI
A	3"	SCH40 CS, A106 GRADE B	MSA TO DRYER	ROUTE ABOVE GRADE W/ SUPPORTS, COATED PER GENERAL NOTES	200
B	3"	SCH40 CS, A106 GRADE B	DRYER TO COMPRESSORS INLET HEADER	ROUTE ABOVE GRADE W/ SUPPORTS, COATED PER GENERAL NOTES	200
C	3"	SCH40 CS, A106 GRADE B	FROM INLET HEADER TO COMPRESSOR INLET	ROUTE ABOVE GRADE W/ SUPPORTS, COATED PER GENERAL NOTES	200
D	3/4"	0.070" WALL SS TUBING, A213 GRADE 304/304L OR 316/316L	COMPRESSOR DISCHARGE TO VALVE PANEL	ROUTE ABOVE GRADE W/ SUPPORTS, UNCOATED	5000
E	3/4"	0.070" WALL SS TUBING, A213 GRADE 304/304L OR 316/316L	VALVE PANEL TO TIME-FILL DISPENSERS	UNDER GROUND IN 2" HDPE OR PVC SLEEVE	5000
F	1/2"	0.070" WALL SS TUBING, A213 GRADE 304/304L OR 316/316L	REGULATED CONTROL GAS FROM VALVE PANEL TO ESD SITE VALVE	ROUTE ABOVE GRADE W/ SUPPORTS, UNCOATED	200
G	3/4"	0.104" WALL SS TUBING, A213 GRADE 304/304L OR 316/316L	VALVE PANEL TO (3) CNG STORAGE VESSELS	ROUTE (3) TUBING ABOVE GRADE W/ SUPPORTS, UNCOATED	5000
H	1.5"	SCH40 CS, A106 GRADE B	FROM GENSET MSA TO GENSET FUEL CONNECTION	ROUTE ABOVE GRADE W/ SUPPORTS, COATED PER GENERAL NOTES	200

SCHEDULE NOTES

1. SEE NOTES ON SHEET M-001 AND PROJECT SPECIFICATIONS FOR COMPLETE EQUIPMENT AND MATERIAL REQUIREMENTS.
2. PRESSURE TEST EACH LINE PER INSTRUCTIONS ON SHEET M-001.



1 PFD - CNG FUELING SYSTEM UPGRADE

DRAWING NOTES

1. (E) LCNG SUPPLY INCLUDES DISCHARGE CHECK VALVES AND AMBIENT HEAT EXCHANGERS..
2. WIRE COMMUNICATION MODULE TO I.P. NETWORK OR PROVIDE CELLULAR MODEM. COMM. MODULE MAY BE INTEGRATED WITH STATION CONTROLLER OR BE A SEPARATE UNIT.
3. OTHER LNG / LCNG EQUIPMENT NOT SHOWN.
4. ITEMS SHOWN IN GRAY LINE STYLE ARE (E). ITEMS SHOWN IN BLACK LINE STYLE ARE (N).
5. ALL GAS SHUTOFF VALVES SHALL HAVE A SAFETY FACTOR OF 3X NORMAL WORKING PRESSURE.
6. INTER CONNECT ESD SYSTEM TO (E) ESD SYSTEM AT LCNG STATION, SO THAT ANY ESD ACTIVATION STOPS ALL LNG / LCNG / CNG EQUIPMENT AND CLOSES ALL ESD VALVES.
7. WIRE TO CONTROL PANEL AND CONFIGURE SO THAT SOLENOID VALVE ONLY OPENS SITE SUPPLY ESD VALVE AT MSA WHEN COMPRESSOR IS OPERATING.
8. PROVIDE PLC CONTROLLER ABLE TO SUPERVISE LEAD-LAG START CONTROL FOR (2) (E) LCNG PUMPS/STARTERS AND (N) CNG COMPRESSOR SKID.
9. PROVIDE (3) CYLINDRICAL VESSELS MATCHING THE EXISTING VESSELS. INTERCEPT AND CONNECT NEW VESSELS TO EXISTING MID AND LOW BANKS AS SHOWN.
10. SOME COMPONENTS ARE SHOWN INSIDE OR INCLUDED WITH PRE-PACKAGED EQUIPMENT. CONTRACTOR SHALL VERIFY AND COORDINATE ACTUAL SCOPE OF SUPPLY WITH EQUIPMENT PACKAGERS.
11. CONNECT SOLENOIDS FOR ALL (N) VALVE ACTUATORS TO (E) COMPRESSED-AIR LOOP AT (E) L/CNG EQUIPMENT AREA. FIELD LOCATE AND INTERCEPT AS REQUIRED.
12. PROVIDE A MECHANICAL PRESSURE GAUGE AT ALL CNG AND AIR CONNECTIONS TO THE VALVE PANEL. CNG GAUGES SHALL BE SCALED TO 6000 PSIG AND AIR GAUGE SHALL BE SCALED TO 200 PSIG
13. PROVIDE ADJUSTABLE FULL-PORT PRESSURE REGULATOR DOWNSTREAM OF GAS DRYER, ONLY IF NEEDED TO ACCOMMODATE MAX. 55 PSIG GAS-SUPPLY PRESSURE, PER RECOMMENDATION FROM COMPRESSOR-SKID PACKAGER.
14. GENSET SIZING IS PRELIMINARY. CONTRACTOR SHALL SIZE AND PROVIDE GENERATOR AS NEEDED TO START AND RUN ENTIRE LCNG AND CNG FUELING SYSTEM. REVISE SIZE OF GAS-SUPPLY PIPE AND REGULATOR AS REQUIRED TO MEET FULL GENERATOR LOAD.
15. PROVIDE ADJUSTABLE REGULATOR AT GENSET INLET AS REQUIRED TO ACCOMMODATE THE INDICATED GAS-SUPPLY PRESSURE.
16. INTERCEPT (3) EXISTING LINES THAT SUPPLY EXISTING CNG DISPENSER. FIELD DETERMINE OPTIMUM LOCATION FOR INTERCEPT/POC'S.
17. INTERCEPT AND REPLACE LINES OR CONNECT AND EXTEND TO NEW VALVE PANEL. ALL NEW OR EXISTING LINES SHALL BE MINIMUM 3/4" SS.

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

VVTA BARSTOW
CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06

Client

Client Logo

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PROCESS FLOW DIAGRAM
CNG FUELING SYSTEM UPGRADE AND BACKUP GENSET

Sheet Title

Project Number
NA

Scale
As Shown

Drawing Number
D-601

Sheet 1 of 1

Designed
RS

Drawn
RB

Checked
RR

Reviewed
RG

Date
09/20/116

Seal

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Jan 16, 2020 5:26:01pm – User: CAM
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Xrefs:]

ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
1P	ONE POLE	MC	METAL CLAD CABLE
2P	TWO POLE	MCB	MAIN CIRCUIT BREAKER
3P	THREE POLE	MDP	MAIN DISTRIBUTION PANEL
1P2W	ONE POLE, TWO WIRE	MISC	MISCELLANEOUS
2P3W	TWO POLE, THREE WIRE	MLO	MAIN LUGS ONLY
3P3W	THREE POLE, THREE WIRE	MTD	MOUNTED
3P4W	THREE POLE, FOUR WIRE	MTG	MOUNTING
A	AMPERE	N/A	NOT APPLICABLE
AC	ALTERNATING CURRENT	NC	NORMALLY CLOSED
AF	AMP FRAME	NEC	NATIONAL ELECTICAL CODE
AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
AIC	AMPERE INTERRUPTING CAPACITY	NL	NIGHT LIGHT
AS	AMP SWITCH	NM	NONMETALLIC SHEATHED CABLE
AT	AMP TRIP	NO	NORMALLY OPEN
A/V	AUDIO VISUAL	NRTL	NATIONALY RECOGNIZED TESTING LAB
ASCC	AVAILABLE SHORT CIRCUIT CURRENT	#	NUMBER
BLDG	BUILDING	NTS	NOT TO SCALE
C	CONDUIT (GENERIC FOR RACEWAY)	P	POLE
CAM	CAMERA	PB	PULL BOX
CAT	CATALOG	PC	PLUMBING SYSTEM CONTRACTOR
CATV	CABLE TELEVISION	PH	PHASE
CB	CIRCUIT BREAKER	PNL	PANEL(BOARD)
CKT	CIRCUIT	P.O.C.	POINT OF CONNECTION
COL	COLUMN	P.O.D.	POINT OF DISCONNECTION
CT	CURRENT TRANSFORMER	PR	PAIR
CU	COPPER	PRI	PRIMARY
(D)	DEMOLISH	PT	POTENTIAL TRANSFORMER
DLM	DIGITAL LIGHTING MANAGEMENT	PVC	POLYVINYL CHLORIDE CONDUIT
DISC	DISCONNECT	PWR	POWER
DWG	DRAWING	REC	RECESSED
DT	DUST TIGHT (NEMA # PREFERRED)	RT	RAINTIGHT
E	WIRED ON EMERGENCY CIRCUIT	RGC	RIGID GALVANIZED CONDUIT
EC	ELECTRICAL CONTRACTOR	S	SURFACE MOUNTED
EMT	ELECTRIC METALLIC TUBING	SEC	SECONDARY
EOL	END OFLINE	SIG	SIGNAL
EWC	ELECTRIC WATER COOLER	SN	SOLID NEUTRAL
(E)	EXISTING	SP	SPARE
(F)	FUTURE	SPL	SPLICE
FA	FIRE ALARM	SS	STAINLESS STEEL
FBO	FURNISHED BY OTHERS	STP	SHIELDED TWISTED PAIR
FC	FIRE PROTECTION CONTRACTOR	STL	CARBON STEEL
FLA	FULL LOAD AMPS	SUSP	SUSPENDED
FMC	FLEXIBLE METALLIC CONDUIT	SW	SWITCH
FRE	FIBERGLASS REINFORCED EPOXY CONDUIT	SWBD	SWITCHBOARD
GC	GENERAL CONTRACTOR	SWG	SWITCHGEAR
G.E.C.	GROUNDING ELECTRODE CONDUCTOR	TC	TELEPHONE CABINET
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TCI	TELECOMM. CABLING INSTALLER
GND	GROUND	TEL/DATA	TELEPHONE/DATA
GRC	GALVANIZED RIGID CONDUIT	TEL	TELEPHONE
HP	HORSEPOWER	TERM	TERMINATOR(S)
HV	HIGH VOLTAGE	TYP	TYPICAL
HVAC	HEATING, VENTILATION & AIR CONDITIONING	UON	UNLESS OTHERWISED NOTED
Hz	HERTZ (CYCLE) PER SECOND	UTP	UNSHIELDED TWISTED PAIR
IG	ISOLATED GROUND	V	VOLT
IMC	INTERMEDIATE METAL CONDUIT	Y	WYE
JB	JUNCTION BOX	W	WATT
KCMIL	THOUSAND CIRCULAR MILS	WH	WATTHOUR
K/O	KNOCK-OUT	WP	WEATHERPROOF
KVA	KILOVOLT AMPERE	WT	WATERTIGHT
KVAR	KILOVOLT AMPERE REACTIVE	XFMR	TRANSFORMER
KW	KILOWATT	+72	MTG UNITS TO CENTERLINE AFF OR AFG
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT		
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT		
LP	LIGHTING PANELBOARD		
LS	LIMIT SWITCH		
LTG	LIGHTING		
LV	LOW VOLTAGE		

*NOT ALL ABBREVIATIONS ARE USED

POWER SYMBOLS

- THERMOSTAT OUTLET BOX, PROVIDE 1/2"C.O. TO RESPECTIVE MECHANICAL UNIT.
- EXHAUST FAN, OR MOTOR LOAD. REFER TO MECHANICAL, PLUMBING OR KITCHEN DRAWINGS FOR SPECIFIC LOAD REQUIREMENTS OR AS NOTED.
- FLUSH MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
- SURFACE MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
- DISTRIBUTION SWITCHBOARD. REFER TO SINGLE LINE DIAGRAM.
- T — TRANSFORMER, REFER TO FLOOR PLAN.
- TRANSFORMER, REFER TO SINGLE LINE DIAGRAM.
- FUSED DISCONNECT SWITCH, HP RATED WITH FUSES PER EQUIPMENT MANUFACTURER AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT.
- NON-FUSED DISCONNECT SWITCH, HP RATED AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT
- (PANEL 'A') — PANELBOARD WITH DESIGNATION "A" OR AS NOTED.
- (1) — NON-FUSED COMBINATION DISCONNECT SWITCH, (1) INDICATES SIZE 1 STARTER.
- (1) — FUSED COMBINATION DISCONNECT SWITCH, (1) INDICATES SIZE 1 STARTER.
- VFD — VARIABLE FREQUENCY DRIVE
- M — UTILITY COMPANY METER. PROVIDE "CT's" AND "PT's" AS REQUIRED, REFER TO SINGLE LINE DIAGRAM.
- CIRCUIT BREAKER
- FUSIBLE SWITCH
- GROUND CONNECTION, SIZE AS INDICATED OR AS REQUIRED.

BRANCH CIRCUIT SYMBOLS

- A-1,3,5 — THREE SINGLE PHASE CIRCUITS TO PANEL 'A' WITH COMMON NEUTRAL
- A-1&3&5 — ONE THREE PHASE CIRCUIT TO PANEL 'A' – NO NEUTRAL
- A-1&3 — ONE SINGLE PHASE CIRCUIT TO PANEL 'A' – NO NEUTRAL
- A-1/3/5 — THREE SINGLE PHASE CIRCUITS WITH SEPARATE NEUTRALS TO PANEL 'A'
- HOMERUN TO PANEL OR CABINET AS DESIGNATED
- CONDUIT RUN CONCEALED IN WALL OR ABOVE FINISHED CEILING UON, WITH 3/4"C – 2#12, 1#12 GRD (MINIMUM)
- CONDUIT IN OR UNDER FLOOR, OR UNDERGROUND, 1" MINIMUM WITH CONDUCTORS AS INDICATED (2#12, 1#12 MINIMUM.)
- CONDUIT RUN EXPOSED
- EXISTING CONDUIT/WIRING TO REMAIN, UNLESS OTHERWISE NOTED
- ER — ER- INDICATES EXISTING CONDUIT/WIRING TO BE REMOVED
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- CONDUIT, STUBBED OUT AND CAPPED
- *3/4"C-3#12
- *3/4"C-4#12
- *3/4"C-5#12
- *1"C-6#12

* PROVIDE MIN. #12 GREEN GRD. WIRE IN EACH CONDUIT RUN (NOT INDICATED ON PLAN)

- #10 — NUMBER NEXT TO THE HASH MARKS INDICATES CONDUCTOR SIZE (AWG). PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN PER CEC TABLE 250.122.

LINE TYPE AND HATCHING LEGEND

- (E)EXISTING
- NEW WORK

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL CODES AND ORDINANCES AS ADOPTED BY THE STATE OF CALIFORNIA AND THE CITY OF BARSTOW INCLUDING BUT NOT LIMITED TO:
   2016 CALIFORNIA BUILDING CODE (CBC)
   2016 CALIFORNIA ELECTRICAL CODE (CEC)
   2016 CALIFORNIA FIRE CODE (CFC)
2. THE ELECTRICAL CONTRACTOR SHALL FIELD INSPECT THE PROJECT TO BE FULLY INFORMED AS TO THE SCOPE OF WORK AND ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK. VERIFY ALL EXISTING ELECTRICAL, ELEVATIONS, SIZES AND POINT OF CONNECTIONS PRIOR TO START OF WORK. NOT ALL CONDITIONS INDICATED ON PLANS.
3. PROVIDE PROPERLY SIZED EQUIPMENT GROUNDING CONDUCTOR(S) PER CEC 250.122.
4. UNLESS LISTED OTHERWISE, THE AMPACITY OF 600 VOLTS OR LESS CONDUCTORS SHALL BE BASED ON 60°C (140°F) FOR CIRCUITS RATED 100A OR LESS, OR MARKED FOR 14AWG THROUGH 1AWG CONDUCTORS, 75°C (167°F) FOR CIRCUITS RATED OVER 100 AMPERES, OR MARKED FOR CONDUCTORS LARGER THAN 1AWG PER CEC 110.14(C)(1).
5. FIRE PENETRATIONS IN ALL 1 HR. AND 2 HR. RATED WALLS REQUIRE PROTECTED PENETRATIONS. ALL PENETRATIONS TO BE FIRE CAULKED WITH AN I.C.B.O. TESTED AND APPROVED ASSEMBLY. PENETRATIONS AT 1 HR. RATED WALLS SHALL BE APPROVED FOR 1 HR. RATING; PENETRATIONS AT 2 HR. RATED WALLS SHALL BE APPROVED FOR 2 HR. RATING. STOPPING SHALL BE AN APPROVED MATERIAL SECURELY INSTALLED AND CAPABLE OF MAINTAINING ITS INTEGRITY WHEN SUBJECTED TO TEST TEMPERATURES PRESCRIBED IN U.B.C. STANDARD NO. 43-1 FOR THE SPECIFIC WALL OR PENETRATION.
6. ALL GROUNDING ELECTRODES THAT ARE PRESENT AT EACH BUILDING OR STRUCTURE SHALL BE BONDED TOGETHER PER CEC 250.50, 250.52(A).
7. INSULATED CONDUCTORS SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF TABLE 310.15(B)(16). ALL WIRING SHALL BE THHN COPPER CONDUCTOR UNLESS OTHERWISE NOTED.
8. THIS SET OF PLANS IS CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL PLANS, INCLUDING BUT NOT LIMITED TO STRUCTURAL AND MECHANICAL. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED.
9. ANY WORK PERFORMED OR MATERIALS USED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY APPLICABLE CODE AND/OR GOVERNING REGULATIONS SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
10. ALL MATERIALS USED ON THE PROJECT SHALL BE U.L. LABELED OR LISTED.
11. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.
12. ANY DEFICIENCY PERTAINING TO WORKMANSHIP FOUND BY THE INSPECTOR SHALL BE CORRECTED WITHOUT ADDITIONAL COST TO THE OWNER.
13. ALL WIRING SHALL BE IN RIGID METAL CONDUIT, OR ELECTRICAL METALLIC TUBING, 3/4" MINIMUM UNLESS OTHERWISE NOTED. RIGID CONDUIT SHALL BE USED IN AREAS WHERE CONDUITS MAY BE EXPOSED TO PHYSICAL OR WEATHER DAMAGE. EMT MAY BE USED IN AREAS WHERE CONDUITS ARE NOT SUBJECT TO PHYSICAL OR WEATHER DAMAGE.
14. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION AND SERVICES AS INDICATED ON THE PLANS AND SPECIFICATIONS FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. ALL MATERIALS AND WORK SHALL COMPLY WITH THE APPLICABLE CODES AND GOVERNING REGULATIONS.
15. THE ELECTRICAL CONTRACTOR SHALL NOT BORE, NOTCH, OR IN ANY OTHER WAY CUT INTO STRUCTURAL MEMBERS WITHOUT THE WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
16. VERIFY AND COORDINATE ALL ROOF, WALL AND FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL PLANS AND NOTIFY THE ENGINEER OF RECORD OF ANY CONFLICTS.
17. THE ELECTRICAL CONTRACTOR SHALL PROVIDE SEISMIC BRACING PER CBC FOR ELECTRICAL EQUIPMENT AND INSTALLATION INCLUDING SWITCHBOARDS, TRANSFORMERS, CABLE TRAYS AND OVERHEAD CONDUITS.
18. LINE VOLTAGE WIRING, ALL CONDUIT, DISCONNECT SWITCHES AND FINAL CONNECTION BY ELECTRICAL CONTRACTOR. LOW VOLTAGE CONDUIT AND WIRING AND FINAL CONNECTION BY MECHANICAL CONTRACTOR.
19. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT.
20. NOTE: FOR THE PURPOSE OF CLARITY AND LEGIBILITY, THE PLANS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE ELECTRICAL CONTRACTOR SHALL MAKE USE OF ALL DATA IN THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION BEFORE ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
21. SIGNAL, CONTROL AND POWER WIRING SHALL EACH BE ROUTED IN SEPARATE CONDUITS TO AVOID INTERFERENCE.
22. INSULATED CONDUCTORS AND CABLES USED IN SPECIFIC LOCATIONS SHALL BE LISTED IN ARTICLE 310.10 IN THE CEC.
23. AN UPDATED CIRCUIT DIRECTORY SHALL BE PROVIDED FOR EACH PANELBOARD AFFECTED BY THE SCOPE OF THIS PROJECT.
24. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A LEGIBLE SET OF REDLINE PLANS DOCUMENTING ALL CHANGES TO THE STAMPED AND APPROVED CONSTRUCTION SET.
25. WHERE A GROUND ROD IS REQUIRED, A MINIMUM OF 8 FEET MUST BE IN CONTACT WITH THE SOIL AND MUST MEET THE REQUIREMENTS OF 250.56 [250.52(A)(5) AND 250.53(G)]. IF THE RESISTANCE EXCEEDS 25 OHMS, A SECOND GROUND ROD WILL BE DRIVEN WITHIN 6' OF THE FIRST GROUND ROD.

SCOPE OF WORK

FURNISH AND INSTALL A NEW SWITCHBOARD WITH SCE COMPLIANT METER SECTION TO FEED THE EXISTING SWITCHBOARD AND ADDED LOADS.

PROVIDE A NEW MOTOR STARTER PANEL TO SERVE THE LOADS ON THE COMPRESSOR SKID.

PROVIDE A BACKUP GENERATOR AND AUTOMATIC TRANSFER SWITCH SIZED TO SERVE THE EQUIPMENT COMPOUND IN THE EVENT OF NORMAL POWER LOSS.

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

VVTA BARSTOW
CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06

Client

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Sub Logo

ELECTRICAL ABBREVIATIONS, LEGEND, NOTES AND SYMBOLS

Sheet Title

Project Number CO1178
Scale As Shown
Drawing Number E-001
Sheet 1 of 2
Designed JLJ
Drawn LC
Checked AV
Reviewed JLJ
Date 10/01/2019

Seal

FUEL SOLUTIONS
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12 MONTH UTILITY DATA

Account Number	2-38-997-8610												
Rate Schedule	TOU-GS-2-a												
Month	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	
Off Peak	21	22	22	20	21	21	20	21	22	22	21	22	
Mid Peak	21	21	21	22	21	19	19	19	19	19	20	21	
On Peak						19	18	19	19				
	Peak kW	Power Factor	kVA	Amps									
	22	0.80	27.5	33.1									

VOLTAGE DROP CALCULATION

Panel, Equipment Or Circuit	Number of Phases	Parallel Feeds	Voltage (V)	Circuit Length (Ft.)	Outlet Quantity	Other Loads (VA)	Ambient Correction Factor	Power Factor (%)	Wire Size	Voltage Drop
ATS NORMAL SIDE	3	3	480	20		378000	0.82	85%	400	0.1%
ATS EMER. SIDE	3	3	480	20		378000	0.82	85%	400	0.1%
MAIN SWITHCBOARD MS	3	3	480	20		378000	0.82	85%	400	0.1%
(E) PANEL "A"	3	1	480	25		27500	0.82	85%	250	0.03%
MOTOR STARTER PANEL	3	2	480	50		350500	0.82	85%	500	0.2%
COMPRESSOR	3	2	480	100		227793	0.82	85%	300	0.4%
BLOWER FAN	3	1	480	100		16700	0.82	85%	#8	0.6%
PRELUBE PUMP	3	1	480	100		1700	0.82	85%	#12	0.2%
DRYER	3	1	480	100		33330	0.82	85%	#4	0.5%
CNG DISPENSER	1	1	120	50		1200	0.82	85%	#12	1.8%

FEEDER LENGTHS ARE ESTIMATED FOR CALCULATION PURPOSES ONLY. REFER TO GENERAL NOTE 4 ON SHEET E0.1
DESIGN TEMPERATURE FOR BARSTOW, CA = 109°F

SERVICE LOAD CALCULATION

EXISTING LOAD (FROM 12-MO. UTILITY DATA PEAK) -SEPT. 2018	27.5	KVA
ADDED LOAD	281.2	KVA
SUBTOTAL LOAD	308.7	KVA
25% FOR FUTURE	77.2	KVA
TOTAL LOAD	385.8	KVA
I (EQ) @480V	464.1	A
RATING OF SWITCHBOARD	800	A

GENERATOR LOAD CALCULATION

EXISTING LOAD (FROM 12-MO. UTILITY DATA PEAK) -SEPT. 2018	27.5	KVA
ADDED LOAD	281.2	KVA
SUBTOTAL LOAD	308.7	KVA
25% FOR FUTURE	77.2	KVA
TOTAL LOAD	385.8	KVA
I (EQ) @480V	464.1	A
AMPERAGE OF THE 400kW GENERATOR	601	A

LOAD CALCULATION

ADDED LOAD	V	A	kVA
COMPRESSOR (250HP)	460	274	218.3
PRELUBE PUMP	460	2.1	1.7
BLOWER FAN (15HP)	460	21	16.7
DRYER	460	40	33.3
10 KVA TRANSFORMER			10.0
CNG DISPENSER	120	10	1.2
TOTAL ADDED LOAD		338.2	281.2

Table 8.4.2.9 Electrical Installations

Location	Division or Zone	Extent of Classified Area
Containers (other than mounted fuel supply containers)	2	Within 10 ft (3 m) of container
Area containing compression and ancillary equipment	2	Up to 15 ft (4.6 m) from equipment
Dispensing equipment outdoors	1	Inside the dispenser enclosure
Outdoors	2	From 0 to 5 ft (0 to 1.5 m) from the dispenser
Indoors	1	Inside the dispenser enclosure
Indoors	2	Entire room, with adequate ventilation *(see 8.4.3)*
Discharge from relief valves or vent		
Outdoors	1	5 ft (1.5 m) in all directions from the point source
Outdoors	2	Beyond 5 ft (1.5 m) but within 15 ft (4.6 m) in all directions from point of discharge
Valves, flanges of screwed fittings	None	Unclassified
Discharge from relief valves within 15 degrees of the line of discharge	1	15 ft (4.6 m)

CODE REFERENCES

NOT TO SCALE

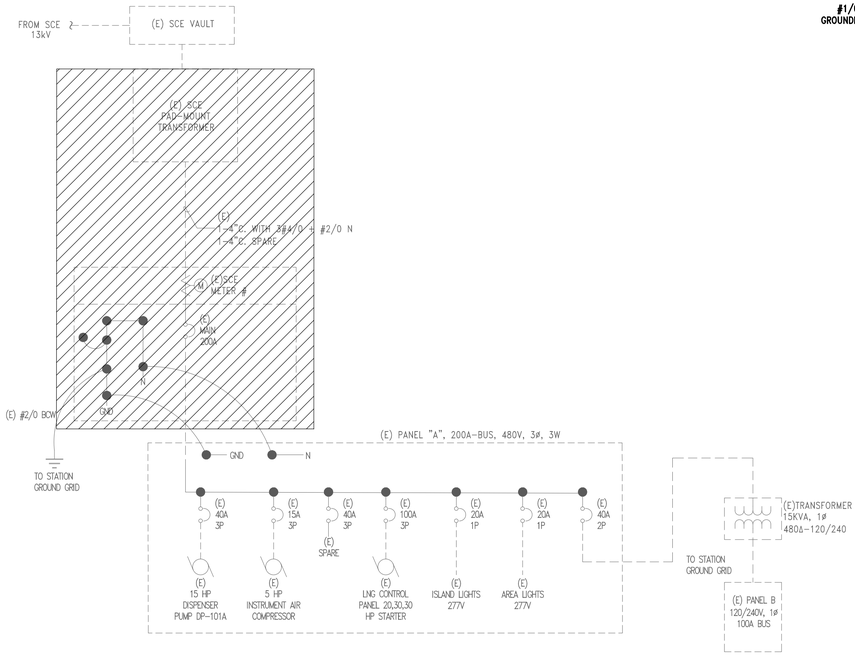
3

SHEET NOTES

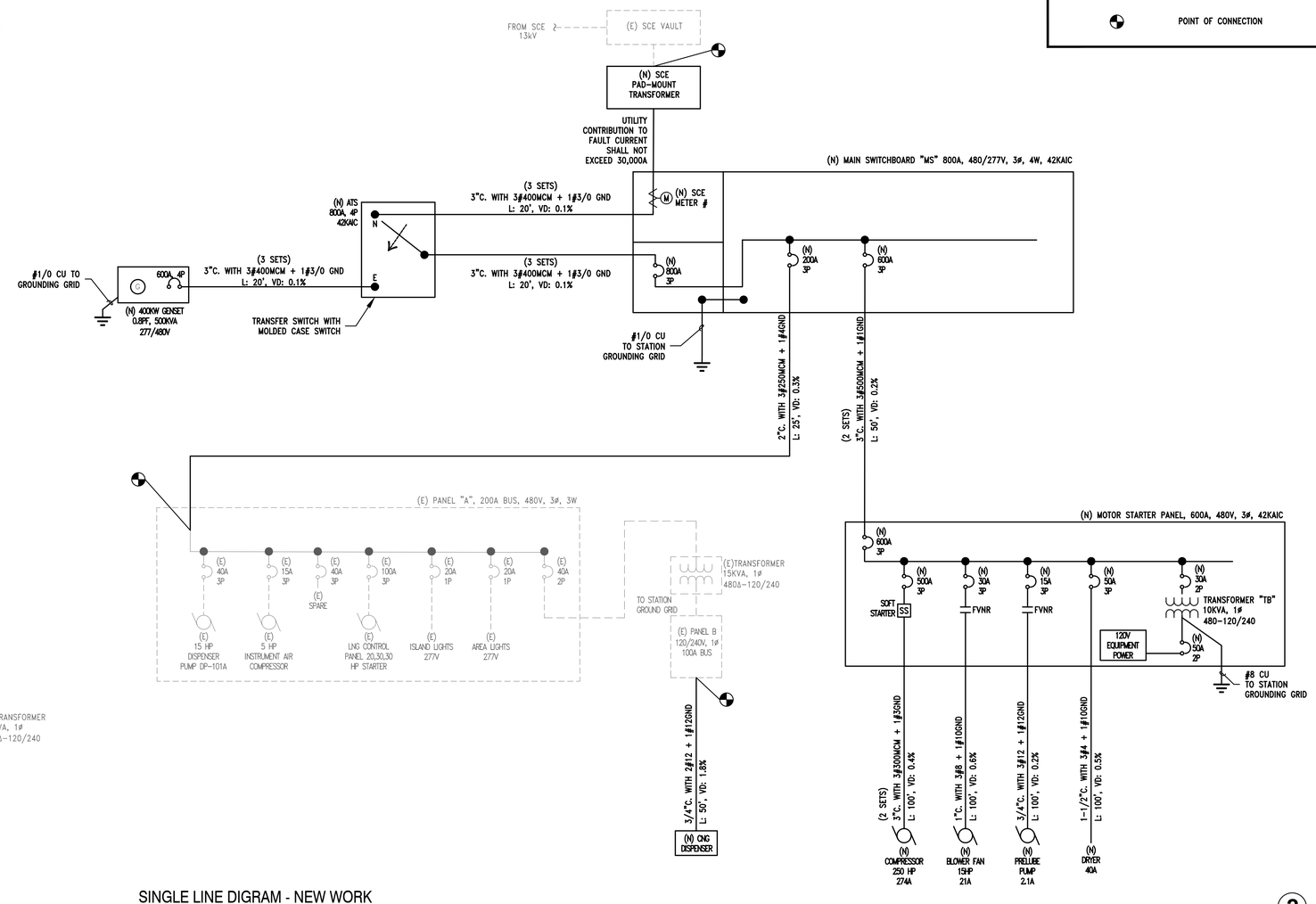
1. THE CONFIGURATION SHOWN ON DRAWING IS CONCEPTUAL TO SHOW INTENT AND IS NOT APPROVED FOR CONSTRUCTION.
2. CONTRACTOR SHALL PREPARE COMPLETE AND ENGINEERED ELECTRICAL DESIGN-DRAWING PACKAGE AS REQUIRED TO POWER THE NEW EQUIPMENT SHOWN ON THIS DRAWING AND AS OTHERWISE INDICATED IN THE CONTRACTOR'S PROPOSAL.
3. COORDINATE PERTINENT REQUIRMENTS FOR NEW OR MODIFIED UTILITY SERVICE WITH SOUTHERN CALIFORNIA EDISON. CONTACT SIMON HORTON AT (909) 357-6254.
4. ELECTRICAL DESIGN SHALL INCLUDE PROVISIONS TO TURN OFF ALL EXISTING AND NEW PUMPS, DISPENSERS AND COMPRESSOR UPON ACTIVATION OF THE ESD SYSTEM.
5. ELECTRICAL DESIGN SHALL MEET CLASSIFIED-AREA REQUIREMENTS SHOWN IN TABLE 8.4.2.9 AND AS OTHERWISE REQUIRED IN THE NEC.
6. THE CONTRACTOR SHALL COORDINATE THE UPGRADE/REPLACEMENT OF THE UTILITY TRANSFORMER ON THE EXISTING TRANSFORMER PAD BASE.
7. CONTRACTOR SHALL COORDINATE THE DECOMMISSIONING OF THE EXISTING METER WITH SOUTHERN CALIFORNIA EDISON.
8. GENERATOR SIZING IS PRELIMINARY. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION AND SIZING OF THE GENERATOR TO ENSURE A WORKING SYSTEM.

LEGEND

- DEMOLITION WORK
- EXISTING
- NEW WORK
- POINT OF CONNECTION



SINGLE LINE DIGRAM - DEMOLITION (1)



SINGLE LINE DIGRAM - NEW WORK (2)

Dec 11, 2019 - 10:56:47am - User: CJTSS
C:\USERS\CJTSS\DROPBOX (CJTSS)\DROPBOX (CJTSS)\DROPBOX (CJTSS) TEAM FOLDER\PROJECTS\CT19178 VVTA BARSTOW 250 HP COMP - FS\DESIGN\CURRENT\CT19178 E-601.DWG
Xrefs:]

Rev	Description	Date
1	ISSUED FOR PROCUREMENT	01/16/20

VVTA BARSTOW
CNG FACILITY UPGRADES
100 SANDSTONE COURT, BARSTOW, CA 92311
RFP # 2020-06

Client

Client Logo

Sub Logo

PRELIMINARY ELECTRICAL SINGLE LINE DIAGRAM

Sheet Title

Project Number	2019
Scale	As Shown
Drawing Number	E-601
Sheet	2 of 2
Designed	LC
Drawn	LC
Checked	AV
Reviewed	AJJ
Date	10/10/2019

Seal

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