

TOWNSHIP OF PISCATAWAY
MIDDLESEX COUNTY
NEW JERSEY

PROJECT NAME
PURCHASE OF SOLAR POWERED PORTABLE DOUBLE-SIDED
DYNAMIC MESSAGE SIGN

MAYOR
BRIAN WAHLER

PISCATAWAY TOWNSHIP COUNCIL
STEVEN CAHN, COUNCIL PRESIDENT
GABRIELLE CAHILL, COUNCIL VICE PRESIDENT
JAMES BULLARD
CAMILLE FERNICOLA
MICHELE LOMBARDI
CHANELLE McCULLUM
FRANK UHRIN

BUSINESS ADMINISTRATOR
JOSEPH CRISCUOLO

TOWNSHIP CLERK
MELISSA SEADER

PROJECT MANAGER
GUY GASPARI, DIRECTOR OF PUBLIC WORKS

**ANY QUESTIONS MUST BE MAILED OR FAXED TO 732-562-2513. PHONE CALLS AND
EMAIL WILL NOT BE ACCEPTED THERE WILL BE NO EXCEPTIONS.**

Bid Opening Date: Wednesday, April 8, 2015, 2:00 p.m.

BIDDER: _____

ADDRESS: _____

TEL. NO.: _____

EMAIL: _____

BID SPECS

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NOTICE TO BIDDERS

TOWNSHIP OF PISCATAWAY
MIDDLESEX COUNTY, NEW JERSEY

NOTICE IS HEREBY GIVEN that sealed bids will be received by the Business Administrator or designated representative, for the Township of Piscataway, on Wednesday, April 8, 2015, 2:00 p.m. prevailing time, in the Council Chambers, Municipal Building, 455 Hoes Lane, Piscataway, NJ 08854, then publicly opened and reviewed for completeness for the following:

“SOLAR POWERED PORTABLE DOUBLE-SIDED DYNAMIC MESSAGE SIGN”

Bids must be made on standard proposal form, be enclosed in a sealed package bearing the name and address of bidder and the words “**SOLAR POWERED PORTABLE DOUBLE-SIDED DYNAMIC MESSAGE SIGN**” on the outside and delivered to the Township Clerk’s office, 455 Hoes Lane, Piscataway, NJ 08854 during regular business hours, 8:30 am to 12:20 pm and 1:30 pm to 4:30 pm., Monday through Friday, excluding holidays. *Please be advised that the municipal building is closed daily between 12:20 PM and 1:30 PM.*

Specifications and instructions to bidders may be obtained on the Township website <http://bids.piscatawaynj.org/>

Surety in the form of a bid bond, certified check or Cashier’s Check in the amount of ten percent (10%) of the total price bid, but not in excess of \$20,000.00, payable unconditionally to the Township of Piscataway shall submit with the bid. The successful bidder will be required to furnish a Performance Bond in the Amount of 100% of total bid.

Bidders shall comply with the requirements of N.J.S.A.10:5-31 and N.J.A.C. 17-27 et seq.

Melissa Seader
Municipal Clerk

INSTRUCTIONS TO BIDDERS

NOTE: ANY QUESTIONS MUST BE SUBMITTED IN WRITING PER SECTION XV, BY MAIL OR FAX. PHONE CALLS AND EMAIL WILL NOT BE ACCEPTED.

SECTION I PREPARATION AND SUBMITTAL OF BIDS

All bids must be submitted on the township's bid forms in sealed envelopes. All documents, bid bond, affidavits and other information accompanying the bids, shall be contained in the sealed bid envelope.

The outside of the sealed bid envelope must contain the following information and be addressed as follows:

Name of Bidder
Address of Bidder

**Honorable Mayor and Township Council
c/o Township Clerk's Office
455 Hoes Lane,
Piscataway, NJ 08854.**

Bid Name:

If you are using a mailer/transmittal envelope or box to transmit your sealed bid envelope. All of the above information must also appear on the exterior mailer/transmittal envelope or box.

Bids must be delivered prior to the date and time of the bid opening. **All bids must be delivered to the Township Clerk's Office** at 455 Hoes Lane during normal business hours, 8:30 AM to 12:30 PM and 1:30 PM to 4:30 PM, Monday through Friday. *****ALL TOWNSHIP OFFICES, (EXCEPT FOR THE MUNICIPAL COURT), WILL BE CLOSED MONDAY THRU FRIDAY BETWEEN 12:30 PM -1:30 PM. EXTERIOR BUILDING DOORS AT THE MUNICIPAL BUILDING AND PUBLIC WORKS/COMMUNITY DEVELOPMENT BUILDING WILL LOCK AT APPROXIMATELY 12:25 PM.*****

We will not accept bid packages on weekday holidays when the Township Clerk's Office is closed. No other office is authorized to accept bids. We will not be responsible for bids delivered prior to or after normal business hours, or to any other office. **NO OTHER OFFICE IS AUTHORIZED TO RECEIVE BID PACKAGES AT ANYTIME.**

Bids can be hand delivered. If using an outside delivery and/or messenger service (i.e. Federal Express, UPS, etc.), please note the following: **The Township will not be responsible for deliveries made prior to or after normal business hours, or to any other office, or for the failure of a bidder to affix the label provided with the bid package on the courier envelope.**

NO BID SHALL BE ACCEPTED AFTER THE DATE AND TIME ANNOUNCED IN THE NOTICE TO BIDDERS AND ANY BIDS RECEIVED AFTER SUCH DATE AND TIME WILL BE RETURNED UNOPENED TO THE BIDDER.

SECTION II SIGNATURE OF BIDDERS

The firm, corporation or individual name of a bidder must be manually signed in ink in the space provided on the bid form.

In the case of a corporation, the title of the officer signing on behalf of the corporation must likewise be stated, the seal of the corporation must be duly affixed and the corporate officer executing the documents on behalf of the corporation must complete the enclosed Bidder's Affidavit.

In the case of a partnership, the signature of at least one partner must follow the firm name together with an indication that the signature is that of a partner. In the event that some other agent of the partnership submits or executes Bidder's Affidavit, a bid for the firm, he/she shall attach thereto a notarized statement executed by the proprietor which designates him/her as an agent of the proprietorship to execute and submit the bid in question.

SECTION III BUSINESS REGISTRATION CERTIFICATE

The contractor shall furnish its own N.J. business registration certificate with its bid.

The contractor shall also provide written notice to its subcontractors of the responsibility to submit proof of business registration to the contractor.

Before final payment on the contract is made by the Township of Piscataway, the contractor shall submit an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the contract, or shall attest that no subcontractors were used.

For the term of the contract, the contractor and each of its affiliates and a subcontractor and each of its affiliates [N.J.S.A. 52:32-44(g)(3)] shall collect and remit to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use tax Act on all sales of tangible personal property delivered into this State, regardless of whether the tangible personal property is intended for a contract with a contracting agency.

A business organization that fails to provide a copy of a business registration as required pursuant to Section 1 of P.L. 2001, c. 134 (C.52:32-44 et al) or Subsection e. or f. of Section 92 of P.L. 1977, c. 110 (c.5:12-92), or that provides false business registration information under the requirements of either of those sections, shall be liable for a penalty of \$25. for each day of violation, not to exceed \$50,000 for each business

registration copy not properly provided under a contract with the Township of Piscataway.

FAILURE TO SUBMIT THIS SHALL BE CAUSE FOR REJECTION OF THE BID.

SECTION IV BIDDER'S AFFIDAVIT

Each bidder shall duly execute and deliver to the Township of Piscataway at the time of this submission of his/her bid, the Bidder's Affidavits on the form attached hereto.

FAILURE TO SUBMIT THIS SHALL BE CAUSE FOR REJECTION OF THE BID.

SECTION V AFFIRMATIVE ACTION AFFIDAVIT

Each Bidder will complete, sign and deliver, at the time of submission of his/her bid, an Affirmative Action Affidavit on the form included in and made part of this proposal.

FAILURE TO SUBMIT THIS SHALL BE CAUSE FOR REJECTION OF THE BID.

SECTION VI AFFIDAVIT OF NON-COLLUSION

Each Bidder will complete, sign and deliver, at the time of the submission of his/her bid, an Affidavit of Non-Collusion on the form included in and made a part of this proposal.

FAILURE TO SUBMIT THIS SHALL BE CAUSE FOR REJECTION OF THE BID.

SECTION VII CORPORATE DISCLOSURE AFFIDAVIT

Each Bidder will complete, sign and deliver, at the time of submission of his/her bid, a Corporate Disclosure Affidavit on the form included in and made a part of this proposal.

FAILURE TO SUBMIT THIS SHALL BE CAUSE FOR REJECTION OF THE BID.

SECTION VIII WITHDRAWAL OF BID

No proposal may be withdrawn, altered or otherwise modified after it has been duly deposited at the Office of the Business Administrator of the Township of Piscataway.

SECTION IX AWARD OF CONTRACT

Award of the contract, if made, will be made on or before the sixty (60) days following the opening of bids, to the lowest responsible bidder whose bid complied with the requirements as stated herein. The Township will also hold the other two (2) lowest

responsible bids for ten (10) days after the bid award or until a contract is executed and bond provided, if required.

The Township of Piscataway reserves the right to reject any or all bids if in the interest of the Township it deems it advisable to do so. The Township of Piscataway also reserves the right to reject any bid where a bidder fails to furnish any of the documents required to be filed with the bid, or fails to furnish any material fact or when the Township of Piscataway determines that a Bidder is not responsible. After bids have been opened and studied, the Township reserves the right to choose that bid which it believes meets the best interests of the Township, provided such bid complies in all respects with the requirements as set forth herein.

The Township Council of the Township of Piscataway shall determine whether a bidder is responsible and may require a bidder to submit additional documentary evidence to support the statements made by a bidder or its qualifications. The Township Council of the Township of Piscataway may also require a bidder to show his/her/its equipment, and every bidder in submitting a bid agrees to furnish additional information which may be required by the Township of Piscataway.

SECTION X DISPOSITION OF BID GUARANTY

All bid security except the security of the three (3) apparent lowest responsible bidders shall be returned, unless otherwise requested by the bidder, within ten (10) days after the opening of the bids, Sundays and holidays excepted. Within three (3) days after the awarding and signing of the contract and the approval of the contractor's performance bond, the bid security of the remaining unsuccessful bidders shall be returned to them.

The responsible bidder to whom the contract is awarded shall execute the contract and furnish the required bonds or security for the performance of such contract within ten (10) working days after receiving notice from the Township of Piscataway, that such bidder has been so selected. In the case the bidder to whom the contract is awarded shall fail to execute and deliver the contract and necessary bonds within ten (10) working days after said award, the awards to the bidder shall be vacated and such bidder's deposit of Bid Bond shall be forfeited as liquidated damages. The Township may at its option, recover from such bidder the difference between the price of his bid and the amount of the contract subsequently awarded, applying such deposit or Bid Bond on account thereof.

SECTION XI TAX EXEMPTION

The price or prices quoted shall include all charges and shall not include any taxation from which the Township of Piscataway is exempt.

SECTION XII INDEMNIFICATION AND INSURANCE COVERAGE

The Contractor shall indemnify and save harmless the Township, its Officers, consultants, agents and servants, and each and every one of them against and from all suits and costs of every kind and description, and from all damages to which the Township or its officers, agents, consultants or servants may be put to by injury to the person or property of others resulting from the performance of the project, or through the negligence of the Contractor.

All of the Contractor's insurance coverage shall contain a clause providing the indemnification required by this Article. The certificate of insurance furnished by the Contractor shall state specifically that the indemnification required by this Article is provided by the policy(s).

Indemnification

To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the Township and its agents and employees from and against all claims, damages, losses and expenses including but not limited to attorney's fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

If any claims against Owner or Owner or any of its agents or employees by any employee of Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them any be liable, the indemnification obligation under the first paragraph of this section shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any Subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

The obligations of Contractor under the first paragraph of this section shall not extend to the liability of the Township, its agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications.

Insurance

Applicable insurance certificates must be furnished by the successful bidder upon request. A certificate of insurance must be provided to the Township of Piscataway prior to entering into a formal contract, reflecting all required coverage, including a thirty (30) days notice of cancellation provision to advise the Township. **FAILURE TO SUBMIT THIS WITH THE EXECUTED CONTRACT SHALL BE CAUSE FOR DECLARING THE CONTRACT NULL AND VOID.**

All of the CONTRACTOR'S insurance coverage shall provide the indemnification required by this section. The certificate(s) of insurance furnished by the CONTRACTOR shall state specifically that the indemnification is afforded by the policy(s). Such statement, if not included in the body of the policy, shall be typed on the face or on the back of the certificate, there must be a reference on the front of the certificate stating that the indemnification is provided and the clause is on the back.

The Contractor shall carry such liability insurance with companies acceptable to the township and shall furnish certificates thereof to the Township within ten (10) days after signing of the Contract and before work has started. These certificates shall contain a clause wherein it is stated that the Township of Piscataway is to be notified in case of cancellation of or any change in the policy. The contractor shall require subcontractors to carry Workmen's Compensation Insurance and liability insurance to the limits and with the conditions described above.

The minimum amounts of insurance to be carried by the CONTRACTOR shall be as follows:

1. Workmen's Compensation and Employers Liability Insurance

The CONTRACTOR shall maintain during the life of this Contract adequate workmen's compensation and employer's liability insurance for all employed in connection with the work, and in case any work is sublet, the CONTRACTOR shall require each subcontractor similarly to provide Workmen's compensation and employer's liability insurance for the latter's employment, unless such employees are covered by the protection afforded by the CONTRACTOR'S insurance.

2. Comprehensive General Liability

Limits shall be \$1,000,000 bodily injury (BI) each occurrence and \$1,000,000

property damages (PD) each occurrence.

The Certificate of Insurance must indicate coverage at the above limits for:

- A. Explosion, collapse and underground utilities (XCU).
- B. Contractual – Indicated on the face of the Certificate as Being in accordance with the wording of the contract, Specifically the second paragraph of this section.
- C. Independent Contractors
- D. Completed Operations

3. Comprehensive Automobile Liability

Limits shall be \$1,000,000 bodily injury (BI) each Occurrence and \$1,000,000 property damage (PD) each occurrence.

The Certificate of Insurance must indicate coverage at the above limits for:

- A. Hired Vehicles
 - B. Non-Owned Vehicles
4. For Contracts having a total value of less than \$100,000.00, the above limits of \$1,000,00.00 may be reduced to \$500,000.00.

The policies shall remain in force until all work has been completed. The CONTRACTOR shall ascertain the cost to him of all the required insurance policies before submitting his bid.

All policies shall be endorsed to provide the OWNER with ten (10) days written notice in advance of any changes or cancellations which modify the coverage's provided. The failure to notice clause shall be stricken from the endorsement.

In the event the CONTRACTOR shall carry blanket liability insurance coverage, compliance with the foregoing requirements shall be met by furnishing as endorsement or rider to said blanket liability insurance policy naming the OWNER as co-insured for the work involved, hereunder, provided the limits of said blanket liability insurance policy shall comply with the amounts outlined above.

***SECTION XIII ASSIGNMENT, TRANSFER, CONVEYANCE,
SUBLET OR DISPOSAL OF CONTRACT***

The contractor shall not assign, transfer, convey, sublet or otherwise dispose of the contract or any part thereof to anyone without the prior written consent of the Business Administrator of the Township of Piscataway.

SECTION XIV AFFIRMATIVE ACTION

All Township of Piscataway contracts prohibit the successful bidder from discrimination in the hiring of persons who are qualified and available to perform work under the contract by reason of race, creed, color, national origin, ancestry, or sex, in accordance with NJSA 10:2-1 through 10:2-4, including all amendments to same. All bidders shall comply with the provisions of Affirmative Action as amended per Chapter 127, P.L. 1975 (NJAC 17:27).

ADDITIONAL INSTRUCTIONS

The following provisions if indicated, shall be applicable to this bid and be made a part of the bidding documents:

SECTION XV INTERPRETATION AND ADDENDA

The bidder understands and agrees that its bid is submitted on the basis of the specifications prepared by the Township. The bidder accepts the obligation to become familiar with these specifications.

Bidders are expected to examine the specifications and related bid documents with care and observe all their requirements. Ambiguities, errors or omissions noted by bidders should be promptly reported in writing to the appropriate official. Any prospective bidder who wishes to challenge a bid specification shall file such challenges in writing with the contracting agent no less than three business days prior to the opening of the bids. Challenges filed after that time shall be considered void and having no impact on the contracting unit or the award of a contract pursuant to N.J.S.A. 40A:11-13. In the event the bidder fails to notify the Township of such ambiguities, errors or omissions, the bidder shall be bound by the requirements of the specifications and the bidder's submitted bid.

Any requests for interpretation and or clarification of the meaning of the specifications shall be in writing. No oral interpretation and or clarification will be made to any bidder. Such requests shall be in writing, addressed to the Township's representative stipulated in the specification. In order to be given consideration, a written request must be received at least seven (7) business days prior to the date fixed for the opening of the bid for goods and services. This request must be made by sending a fax to The Purchasing Division of Piscataway Township at 732-562-2392. The bidder requesting the interpretation will be notified in writing if the Township will not be issuing any interpretation. Failure of any bidder to receive any such addenda or interpretations shall not relieve any bidder from any obligation under the bid submitted.

All interpretations, clarifications and any supplemental instructions will be in the form of written addenda to the specifications, and will be distributed to all prospective bidders. All addenda so issued shall become part of the specification and bid documents, and shall be acknowledged by the bidder in the bid. The Township's interpretations or corrections thereof shall be final.

When issuing addenda, the Township shall provide required notice prior to the official receipt of bids to any person who has submitted a bid or who has received a bid package pursuant to N.J.S.A. 40A:11-23c.1.

DISCREPANCIES IN BIDS

1. If the amount shown in words and its equivalent in figures do not agree, written words shall be binding. Ditto marks are not considered writing or printing and shall not be used.

2. In the event that there is a discrepancy between the unit prices and the extended totals, the unit prices shall prevail. In the event there is an error of the summation of the extended totals, the computation by the Township of Piscataway of the extended totals shall govern.

BID GUARANTY

Bidder shall submit with the bid a certified check or bid bond in the amount of ten percent (10%) of the total price bid, but not in excess of \$20,000.00, payable unconditionally to the Township of Piscataway. When submitting a Bid Bond, it shall contain Power of Attorney for full amount of Bid bond from a surety company authorized to do business in the State of New Jersey and acceptable to the Township of Piscataway. The check or bond of the unsuccessful bidder(s) shall be returned as prescribed by law. The check or bond of the bidder to whom the contract is awarded shall be retained until a contract is executed and the required performance bond or other security is submitted. The check or bond of the successful bidder shall be forfeited if the bidder fails to enter into a contract pursuant to N.J.S.A. 40A:11-21. **FAILURE TO SUBMIT THIS SHALL BE CAUSE FOR REJECTION OF THE BID.**

CONSENT OF SURETY

Bidder shall submit with the bid a Certificate (Consent of Surety) with Power of Attorney for full amount of bid price from a Surety Company authorized to do business in the State of New Jersey and acceptable to the Township of Piscataway stating that it will provide said bidder with a Performance Bond in the full amount of the bid. This certificate shall be obtained in order to confirm that the bidder to whom the contract is awarded will furnish Performance and Payment Bonds from an acceptable surety company on behalf of said bidder, any or all subcontractors or by each respective subcontractor or by any combination thereof which results in performance security equal to the total amount of the contract, pursuant to N.J.S.A. 40A:11-22. **FAILURE TO SUBMIT THIS SHALL BE CAUSE FOR REJECTION OF THE BID.**

PERFORMANCE BOND

Prior to the execution of the contract, the successful bidder will be required to furnish a bond in the full amount of the bid for the faithful performance of the contract, effective for the full term of the contract, in the amount equal to the total contract price. **FAILURE TO SUBMIT THIS WITH THE EXECUTED CONTRACT SHALL BE CAUSE FOR DECLARING THE CONTRACT NULL AND VOID.**

Agents of bonding companies which write bonds for the performance of this contract shall furnish the necessary power of attorney, bearing the seal of the company and evidencing the agent's authority to execute the particular type of bond to be furnished as well as the right of the surety company to do business in the State of New Jersey. **FAILURE TO SUBMIT THIS WITH THE EXECUTED CONTRACT SHALL BE CAUSE FOR DECLARING THE CONTRACT NULL AND VOID.**

**WORKERS AND COMMUNITY RIGHT TO KNOW ACT
(NJSA 34:5A-1 ET SEQ.)**

MATERIAL SAFETY DATA SHEET

Per NJSA 34:5A-1 ET SEQ. (Workers and Community Right to Know Act) the State Department of Health has adopted a Workplace Hazardous Substance List (NJAC 8:59-9) which indicates 2051 substances that pose a threat to the health and safety of employees. Therefore, under the provisions of NJAC 8:59-7, each bidder must furnish to the Township of Piscataway a "MATERIAL SAFETY DATA SHEET" for each product they supply which contains a substance listed on the Hazardous Substance List (NJAC 8:59-9). **These MATERIAL SAFETY DATA SHEETS must be submitted to the Township's Business Administrator upon receipt of bids.** The Township of Piscataway reserves the right to request a copy of the applicable MATERIAL SAFETY DATA SHEET be forwarded with the delivery of a product to the appropriate department. Furthermore, under the provisions of NJAC 8:59-5, each product shall have a label affixed or stenciled onto any container that contains such substances and is going to be supplied to the Township of Piscataway.

AMERICAN GOODS AND PRODUCTS

Each bidder is cautioned that Local Public Contracts Law (NJSA 40A:11-1 et seq.) provides that only manufactured and farm products of the United States, whenever available, be used in all work contracted for by a county or municipality in which public funds will pay a part or all of the costs.

AMERICANS WITH DISABILITIES ACT (ADA)

Each successful bidder warrants that it is in compliance with the Americans with Disabilities Act (ADA) (Public Law 101-336) and that it will, in carrying out the requirements of this contract or grant, comply in all respects with the provisions of the Act and its implementing regulations.

**SPECIFICATION.
SOLAR POWERED PORTABLE DOUBLE-SIDED DYNAMIC MESSAGE SIGN**

The Township of Piscataway is seeking to purchase a portable double-sided dynamic (changeable) message sign unit. This document presents detailed specifications for the unit. All bidders shall submit the .. specification/questionnaire with the appropriate response to the “___Yes; ___No” sections. All responses with a “No” shall have a provision to adequately substitute the specifics of that paragraph. A separate sheet or sheets with the bidder’s letterhead shall set forth each paragraph number affected by a “No” answer with an acceptable substitution. That sheet or sheets shall be submitted with the bid

1. General

1.1 Product Description

The item specified shall be a solar powered portable double-sided dynamic message sign. The unit shall consist of dual sign display panels, a supporting structure for the display panels, a photovoltaic array, a battery power supply, an energy management system control unit, and an electronic control console with a second control console that will allow different messages on each side, all mounted on a heavy duty trailer frame.

1.2 Design Objectives

1.2.1 Maximize reliability by using generally accepted design techniques for outdoor-use electrical and electronic equipment. ___Yes; ___No

1.2.2 Minimize operating cost by using a renewable (solar powered) energy source, requiring minimal maintenance. ___Yes; ___No

1.2.3 Maximize safety and effectiveness by using a non-glare, high contrast display panel with long-life expectancy, high-reliability display technology. ___Yes; ___No

1.2.4 Meet or exceed the standards for Portable Changeable Message Signs as listed in the U.S. Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD). ___Yes; ___No

1.3 Performance Objectives

1.3.1 Visibility up to 1 mile. ___Yes; ___No

1.3.2 Legibility up to 1/2 mile. ___Yes; ___No

1.3.3 Minimal glare from sunlight and head lights. ___Yes; ___No

1.3.4 Continuous, uninterrupted operation on solar power. ___Yes; ___No

1.3.5 One month minimum, three month typical maintenance interval. ___Yes; ___No

1.4 Quality Assurance Objectives

1.4.1 All manufacturing shall be carried out in a facility with a completely implemented and properly maintained ISO 9001:2008 certified quality management system. ___Yes; ___No

1.4.2 All units shall bear the CE Mark indicating acceptable EMC (Electromagnetic Compatibility) to insure that the units are neither susceptible to nor produce any electromagnetic interference. ___Yes; ___No

1.4.3 Manufacturer shall have a factory authorized service center located within 75 miles of point of delivery. Authorized service center shall receive all units from factory in order to inspect for any shipping damage and verify proper operation prior to final delivery. Delivery directly from manufacturer's facility without inspection by an authorized service center shall not be permitted. Additionally, authorized service center shall be capable of performing warranty service and repairs, and shall provide on-site training on the proper use and maintenance of all equipment delivered. ___Yes; ___No

2. Physical

2.1 Dimensions

2.1.1 Length Overall - 180 in. (457 cm) ___Yes; ___No

2.1.2 Width Overall - 92 in. (234 cm) ___Yes; ___No

2.1.3 Height

2.1.3.1 Sign in transport position - 103 in. (262 cm) ___Yes; ___No

2.1.3.2 Sign in operating position - 162 in. (412 cm) ___Yes; ___No

2.1.4 Ground Clearance, minimum - 13 in. (33 cm) ___Yes; ___No

2.1.5 Weight - 3,100 lbs. (1407 kg) ___Yes; ___No

2.2 Environmental

2.2.1 Temperature, operating and storage - -40 to +185 °F (-40 to +85 °C) ___Yes; ___No

2.2.2 Relative Humidity - 20% to 98%, non-condensing ___Yes; ___No

2.2.3 Wind

2.2.3.1 Transport position, maximum trailering speed - 70 MPH (112 KPH) ___Yes; ___No

2.2.3.2 Operating position, maximum height, outriggers in place - 80 MPH (128 KPH) sustained ___Yes; ___No

2.2.4 Electrical Interference - Unaffected by RFI (Radio Frequency Interference) and EMI (Electromagnetic Interference). ___Yes; ___No

3. Trailer Chassis and Sign Support

3.1 Trailer Chassis

3.1.1 Frame Construction

3.1.1.1 Trailer frame shall be constructed of welded 7 Gauge (3/16-inch) Computer Numerical Control (CNC) formed steel plate and structural steel tubing with 3 x 5 x 3/16 inch structural steel tubing extending from the sign mast mounting frame cross-members (2 x 4 x 11 gauge) forward to the coupler/brake actuator. Tongue shall be braced with diagonal 2 x 4 x 11 gauge tubing extending outward from the forward section of the tongue at 45

degrees, rearward to the front main cross member. **Yes**; **No**

3.1.1.2 Trailer shall be equipped with a 7 Gauge (3/16-inch) CNC formed steel plate rear cross member to provide support for sign panel and protect structure against rear end collisions. **Yes**; **No**

3.1.1.3 Trailer frame shall be equipped with tie down points to facilitate securing unit to utility trailer or truck deck for transport. **Yes**; **No**

3.1.2 Suspension and Brake System

3.1.2.1 Trailer shall be equipped with an independent suspension, torsion-type axle with hydraulic brakes. Axle load capacity shall be set to 3,400 pounds. **Yes**; **No**

3.1.2.2 Axle wheel spindles shall be equipped with grease fittings to accommodate wheel bearing lubrication. **Yes**; **No**

3.1.2.3 Trailer shall be equipped with a bolt-on 7,500-pound capacity hydraulic surge brake actuator. **Yes**; **No**

3.1.2.4 Hydraulic surge brake actuator shall be equipped with an emergency break-away cable to automatically set the trailer brakes in the event of a coupler separation from the tow vehicle.

3.1.3 Coupler

3.1.3.1 Trailer shall be equipped with an adjustable height coupler mount capable of accepting either a 2-inch ball coupler or a 3-inch pintle ring, both with minimum capacity ratings of 5,000 lbs. **Yes**; **No**

3.1.3.2 Trailer shall be equipped with 1/4-inch safety chains with snap-type hooks for secure attachment to tow vehicle hitch. **Yes**; **No**

3.1.3.3 All trailer hitch components shall comply with SAE J684 standards for Class (II) 2 trailers. **Yes**; **No**

3.1.4 Surface Preparation and Finishing

3.1.4.1 Trailer chassis and superstructure shall be completely cleaned and de-burred prior to finishing. All metal surfaces shall be prepared for finishing using an iron phosphate wash-down process. **Yes**; **No**

3.1.4.2 A polyamide epoxy primer shall be applied to a dry film thickness of 2.5 mils. **Yes**; **No**

3.1.4.3 A high gloss federal safety orange aliphatic acrylic urethane finish shall be applied to a dry film thickness of 2.5 mils. **Yes**; **No**

3.1.5 Lighting

3.1.5.1 Trailer shall be equipped with sealed flush-mounted combination stop, tail and turn lights. **Yes**; **No**

3.1.5.2 Trailer shall be equipped with flush-mounted front and rear side marker lights. **Yes**; **No**

3.1.5.3 Trailer shall be equipped with a rear center identification light bar. **Yes**; **No**

3.1.5.4 Trailer shall be equipped with a lighted license plate holder. **Yes**; **No**

3.1.5.5 Trailer wiring harness shall be completely sealed and water resistant. **Yes**; **No**

3.1.6 Fenders

3.1.6.1 Trailer shall be equipped with unbreakable, molded, solid color, UV-stabilized HDPE (High Density Polyethylene) fenders, completely closed on the inner side to protect trailer frame. **Yes**; **No**

3.1.6.2 Fenders shall be secured to trailer frame with zinc-plated steel thread forming screws and fender washers so as to facilitate easy repair or replacement. **Yes**; **No**

3.1.7 Leveling Jacks

3.1.7.1 Trailer shall be equipped with four swivel type screw jacks, minimum capacity rating of 2,000 pounds, mounted on each corner of the trailer frame. **Yes**; **No**

3.1.7.2 The outrigger jacks shall be capable of lifting the trailer frame so trailer wheels and tires can be removed for additional security. **Yes**; **No**

3.1.7.3 Trailer shall be constructed such that the outrigger jacks are protected by 7 Gauge (3/16-inch) CNC formed steel plate guards when the jacks are in the travel position to prevent damage to jacks during transport. **Yes**; **No**

3.1.8 Tires and Wheels

3.1.8.1 Tires shall be ST225/75R15 Load Range C. **Yes**; **No**

3.1.8.2 Wheels shall be 15-inch x 6-inch, 5-lug pattern (4 1/2-inch bolt circle), white spoke dress wheel. **Yes**; **No**

3.1.8.3 Wheels and tires shall be sized in accordance with load requirements of trailer and axle. **Yes**; **No**

3.2 Sign Support

3.2.1 Sign panels shall be attached to a telescoping mast assembly to facilitate raising and rotating the display panels from the transport position to the operating position safely and quickly by an unassisted operator. **Yes**; **No**

3.2.2 The mast shall consist of a lower assembly and an upper assembly with a hydraulic cylinder mounted inside to provide for raising and lowering the message display panels. **Yes**; **No**

3.2.3 A hydraulic power unit, mounted inside a lockable, weather-resistant, molded HDPE (High Density Polyethylene) enclosure, shall provide sufficient flow to raise the sign panels to the full operating position in less than twenty (20) seconds. The hydraulic power unit shall be equipped with a manual bypass dump valve to permit lowering of the mast in the event of a hydraulic control valve failure. **Yes**; **No**

3.2.4 The lower mast shall be fabricated from 6 x 6 x 3/16-inch structural steel tubing inserted through a 5/16-inch steel plate secured to the trailer frame with eight 5/8-inch diameter steel bolts. The lower mast assembly shall be reinforced with 5/16-inch steel gusset plates located below the trailer deck. **Yes**; **No**

3.2.6 The upper mast shall be fabricated from 8-inch structural steel round tubing. ___Yes; ___No

3.2.7 The mast assembly shall be equipped with a dual cam locking mechanism located at the bottom of the upper mast. The dual cam locking mechanism shall secure the message display panels in the appropriate viewing position. The locking cam mechanism shall automatically tighten to resist turning in windy conditions. Friction type (disc or band brake) locking mechanism is not acceptable as slippage can occur in high wind conditions. ___Yes; ___No

3.2.8 The message display support mechanism shall be capable of being rotated through 360⁰ and locked into position, at any angle. ___Yes; ___No

3.2.9 The auxiliary message display panel shall rotate, independent of the main display panel, up to 45⁰ either side of center to accommodate alignment of each message display panel for optimal viewing. ___Yes; ___No

3.2.10 The rotation locking mechanism for the auxiliary message display panel shall operate with a single lever, from ground level, prior to raising display panels into operating position. ___Yes; ___No

3.2.11 The main message display panel rotation locking mechanism shall permit the operator to lock the message display panels into position, safely, at ground level, prior to elevation to full operating height. ___Yes; ___No

3.2.12 The main message display panel shall be equipped with a sighting device to facilitate proper alignment during setup. ___Yes; ___No

3.2.13 The upper and lower mast assemblies shall be equipped with Nylatron® wear pads to provide for smooth easy movement and to avoid metal to metal contact. The message display support mast shall be capable of extended operation without lubrication. Nylatron® wear pads shall be adjustable to compensate for normal wear. ___Yes; ___No

3.2.14 Message display panels support structure shall be of non-welded, modular construction to facilitate quick easy repair in the event of accidental damage. ___Yes; ___No

3.2.15 Message display panels shall be secured to a steel superstructure with stainless steel hardware and nylon spacers to minimize the effects of corrosion. ___Yes; ___No

3.2.16 All mounting hardware shall be locking-type. ___Yes; ___No

3.2.17 Heavy gauge steel cradles equipped with rubber bumpers and HDPE wear pads shall securely support sign panels against vertical and lateral movement during transport. No locking pins or latches will be permitted. Sign panels shall automatically lock into the transport position, without operator intervention, when the sign panel mast is fully retracted. The auxiliary sign panel shall be equipped with additional retractable locking pins to secure panel for transport. ___Yes; ___No

4. Message Display Panels

4.1 Dimensions

4.1.1 Width Overall - 92 in. (234 cm) ___Yes; ___No

4.1.2 Height Overall - 54 in. (137 cm) ___Yes; ___No

4.1.3 Depth Overall - 6 in. (15 cm) ___Yes; ___No

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4.2 Construction

4.2.1 Message Display Panel Case

4.2.1.1 The message display panel case shall be constructed of heavy duty aluminum extrusion secured at each corner by a molded, fiberglass-reinforced plastic corner and black powder coated stainless steel torx head screws and nylon insert locknuts. **___Yes; ___No**

4.2.1.2 The back of the message display panel case shall be constructed of aluminum sheet bonded and riveted to the case frame. **___Yes; ___No**

4.2.1.3 Interior of message display panel case shall be equipped with formed aluminum channels to reinforce the display case and to support internal wiring and cables. **___Yes; ___No**

4.2.1.4 The display panel case shall be equipped with four breather filter vents, designed to allow the flow of vapor but not fluid, located at the top and bottom of the case frame to provide adequate ventilation to minimize condensation and fogging of the display panel door. **___Yes; ___No**

4.2.2 Message Display Panel Door

4.2.2.1 The display panel door shall be constructed of heavy duty extruded aluminum secured at the corners with glass fiber reinforced molded plastic inserts and black powder coated stainless steel hexalobular internal (star) head screws and nuts. **___Yes; ___No**

4.2.2.2 The door shall fit within a flange around the perimeter of the message display panel case frame to provide for a secure weatherproof enclosure. **___Yes; ___No**

4.2.2.3 A rubber seal shall be located inside of the flange on the case frame to provide a watertight, dust tight closure. **___Yes; ___No**

4.2.2.4 The message display panel shall be enclosed over the display area by a 3/16-inch thick clear UV resistant, scratch resistant, acrylic coated polycarbonate material with a non-glare outer surface to reduce reflection of ambient light and oncoming vehicle head lamps. **___Yes; ___No**

4.2.2.5 The polycarbonate material shall be secured in the door frame with an extruded rubber u-channel to provide a cushioned, weatherproof seal. **___Yes; ___No**

4.2.2.6 The message display panel door shall be secured in the open position for servicing by a pair of zinc-plated steel telescoping lid supports equipped with automatic latches. The door supports shall be located completely inside of the display panel housing, protected from weather. **___Yes; ___No**

4.2.2.7 The display panel door shall be secured in the closed position with adjustable, positive locking, stainless steel draw latches. **___Yes; ___No**

4.2.2.8 The message display panel door and case shall be equipped with stainless steel locking hasps capable of accepting standard padlocks to secure the door in the closed position. **___Yes; ___No**

4.2.3 Surface Preparation and Finishing

4.2.3.1 Message display panel case and door shall be completely cleaned and de-burred prior to finishing. All metal surfaces shall be prepared for finishing using an iron phosphate wash-down process. ___Yes; ___No

4.2.3.2 A wash primer shall be applied to all prepared metal surfaces prior to applying final finish. ___Yes; ___No

4.2.3.3 A matte black acrylic urethane finish shall be applied to a dry film thickness of 2.5 mils. ___Yes; ___No

4.3 Display Characteristics

4.3.1 The message display area shall be approximately 84 inches in width by 48 inches in height. ___Yes; ___No

4.3.2 The display area shall consist of a continuous (full) matrix of 48 pixels or dots in width by 27 pixels in height. ___Yes; ___No

4.3.3 The pixels or dots shall consist of three (3) LEDs (Light Emitting Diodes) arranged in a triangular pattern so as to produce the appearance of a round image or dot at normal viewing distances. ___Yes; ___No

4.3.4 The display color shall be amber (592 nanometer nominal wavelength). ___Yes; ___No

4.3.5 The display shall produce brightness greater than 10,000 candela per square meter at maximum intensity. ___Yes; ___No

4.3.6 The display shall produce a minimum viewing angle of 24 degrees, with full and consistent intensity, color and integrity across the entire display panel. ___Yes; ___No

4.3.7 The message display shall be capable of displaying one, two, three or four lines of alphanumeric characters or text with a nominal character height ranging from a minimum of 8.7 inches (22.1 cm) to a maximum of 46 inches (116.8 cm). ___Yes; ___No

4.3.8 The message display panel shall be capable of displaying four lines of text with a minimum of 1.5 pixels (3 inches/7.6 cm) between lines. ___Yes; ___No

4.3.9 The message display shall also be capable of displaying graphic images and symbols using the full 48 pixel width and 27 pixel height. ___Yes; ___No

4.4 Display Modules

4.4.1 Display modules shall be mounted in the sign panel using captive 1/4-turn wing-head fasteners to permit quick, easy module replacement without the need for any tools. ___Yes; ___No

4.4.2 Display modules shall be mounted on rubber cushions to provide shock absorption during transport and to accommodate thermally-induced expansion and contraction of message display panel during operation. ___Yes; ___No

4.4.3 Display module control circuitry shall include a fail-safe device, also known as a watchdog timer, to automatically monitor the performance of the display module and provide a reset / restart command to the on-board microcontroller

in the event of any disruption of normal operation. ___Yes; ___No

4.4.4 Display module control circuitry shall be designed to accommodate “hot swapping” - exchange of display modules while sign is operating. ___Yes; ___No

4.4.5 The message display shall consist of an array of identical display modules capable of functioning in any position without the need for switch or jumper setup or special programming. ___Yes; ___No

4.4.6 Display modules and message display panel shall accommodate complete service and exchange of display modules without the need for any tools. ___Yes; ___No

4.4.7 Display modules shall be equipped with locking-type electrical / electronic connectors to provide secure, reliable operation while permitting quick, easy service and repair of message display. ___Yes; ___No

4.5 Cables and Wiring

4.5.1 All message display panel wiring and cables shall be equipped with modular power and signal connectors to permit repairs without the need for any tools. ___Yes; ___No

4.5.2 All power circuit connectors shall use tin or silver plated contacts. ___Yes; ___No

4.5.3 All signal circuit connectors shall use gold plated or gold flashed contacts. ___Yes; ___No

4.5.4 All system wiring, power and signal, shall consist of marine grade wire and cable, with multi-strand, tin-plated conductors. ___Yes; ___No

4.5.5 All power and sign panel signal wiring and cables shall be installed in nonmetallic, flexible, liquid-tight conduits. All conduit fittings shall be installed with rubber sealing rings to maintain liquid-tight characteristics. ___Yes; ___No

5. Main Control Console

5.1 Physical

5.1.1 Control console shall be enclosed in a weather resistant, lockable, molded HDPE (High Density Polyethylene) enclosure secured to the trailer chassis. ___Yes; ___No

5.1.2 Control console shall be completely sealed to accommodate operation in all types of weather. ___Yes; ___No

5.1.3 Control console shall be mounted on heavy duty slides which allow the control console to slide up and pivot into a position enabling the operator to program the unit while facing traffic from a comfortable standing position. A controller location which requires the operator to stoop, bend or kneel for operation such that the operator cannot see approaching traffic shall not be permitted. Slide mechanism shall permit quick, easy removal of control console without the need for any tools. ___Yes; ___No

5.1.4 Control console power and control cables shall include sealed, locking-type connectors to permit quick, easy removal of control console without the need for any tools. ___Yes; ___No

5.1.5 Control console front panel shall consist of a backlit full color LCD (liquid Crystal Display) with integrated industrial grade touch-screen, sealed and waterproof, to provide a reliable and user-friendly interface for the

operator under any weather condition. ___ **Yes**; ___ **No**

5.2 General Operation

5.2.1 Control console shall provide for full local and remote via integrated Global System Mobile (GSM) cellular transceiver and antenna) control of the dynamic message sign including dynamic message sign geographic location monitoring (via integrated GPS module and antenna), radar speed monitoring and statistical data collection (when equipped with optional radar speed monitor) and sign panel orientation monitoring (when equipped with optional digital flux-gate compass), without the need for additional hardware, software, external computers or hand-held control devices. **Yes;** **No**

5.2.2 Control console shall include all necessary hardware and software to operate the dynamic message sign locally (via integrated full color LCD display and touch-screen) and remotely (via integrated GSM cellular transceiver and antenna), including geographic location monitoring (via integrated GPS module and antenna), radar speed monitoring and statistical data collection (when equipped with optional radar speed monitor), and sign panel orientation monitoring (when equipped with optional digital flux-gate compass). Full remote control (including GPS mapping) via internet accessible server based remote control software shall be included free of charge for five full years from date of purchase (i.e. cellular service shall be included for 5 years from date of original purchase). **Yes;** **No**

5.2.3 Control console, in conjunction with the message display panel, shall have the capability of monitoring and detecting sign panel communication loop failures. In the event of a sign panel communication loop failure, the control console, in the case of soft errors (temporary disruption of message display), shall have the ability to correct the failure immediately and in the case of hard errors (hardware failure), shall have the ability to completely blank the sign panel so as to prevent the display of incorrect and/or potentially misleading messages. Additionally, control console, in conjunction with the message display panel, shall have the capability of continuously and dynamically (as well as on command) testing and reporting the operational status of each and every individual pixel in the sign panel. Non-operational pixels shall be indicated as such on both local and remote user interfaces. Control console shall have the capability of reporting complete sign panel operational status remotely [including web-access, Communications for Intelligent Transportation Systems Protocol (NTCIP), and Universal Traffic Management and Control (UTMC)]. Additionally, control console shall have multiple diagnostic modes (manual & automatic with both local and remote controls) for troubleshooting sign panel (including a graphical representation of all modules with non-operational pixels) to enable an operator to quickly track down and replace faulty display modules in the sign panel. **Yes;** **No**

5.2.4 Control console embedded CPU shall incorporate an ARM [Advanced RISC (reduced instruction set computer) Machines] based microprocessor design to insure future hardware and software compatibility through upgrades provided by manufacturer free for life of the machine. Operating system shall be Linux based and include multiple watchdog timers to ensure automatic system restarts in the event that any critical function stops working properly or communication with remote control servers is interrupted. **Yes;** **No**

5.2.5 Control console shall be capable of connection to any standard IBM or compatible desktop or portable (lap-top) computer via a standard serial interface (COM) or Ethernet port to facilitate routine service or repair, extensive diagnostics, and the analysis of user files or operating programs. **Yes;** **No**

5.2.6 Control console shall be equipped with at least one USB port, one Ethernet port, two (2) serial ports (DB-9 connector), two (2) digital outputs, six (6) digital inputs, and two (2) analog inputs. **Yes;** **No**

5.2.7 Control console shall be capable of simultaneously driving more than one sign panel for dual sign panel

installations. **Yes**; **No**

5.2.8 Control console operating processor, firmware and software shall be field (locally) upgradeable with a standard USB flash-drive (memory key) or remotely upgradeable over an IP addressable network connection - wire-line or wireless via IP addressable modem. Additionally, upgrades shall be provided by manufacturer free of charge for life of machine and automatically applied via integrated GSM cellular transceiver and included remote control service for 5 full years from date of original purchase. **Yes**; **No**

5.2.9 Full color LCD display shall be equipped with an automatic backlight with automatic dimming capability to accommodate both direct sunlight daytime and low ambient light level night time operation. Backlighting shall automatically activate upon any touch-screen activity and remain on for five minutes following the last touch-screen activity. Additionally, an automatic log-out feature shall be incorporated to insure security of the unit when left unattended. Automatic log-out feature shall be capable of being disabled by the operator as desired (i.e. for vehicle mounted applications). **Yes**; **No**

5.2.10 Main power to the sign panel and the control console shall be controlled by a combination switch and circuit breaker in order to provide electrical protection without the need for fuses. All connections to controller and Energy Management System shall be made with locking type quick disconnect connectors. The use of fuses and/or terminal strips for connections shall be strictly forbidden. **Yes**; **No**

5.3 Programming

5.3.1 Control console shall provide an intuitive icon-driven graphical user interface (GUI) along with step by step instructions to the operator, via the LCD display, as the various programming functions are performed, for simple easy programming and operation. On-screen help files shall be included in all languages. Control console shall support a minimum of six (6) standard operating languages (English, Spanish, French, Dutch, German and Portuguese) and four (4) standard keyboards (English, French, Portuguese/Spanish, and Arabic) along with associated font sets. Controller shall be capable of being setup for either a Standard US DOT, Power-Miser US DOT, Standard US 3-Line DOT, French Canadian, Ontario MTO-2, Quebec Road Safety, MTQ, or an International font set by an operator with Administrator access to prevent unauthorized use of inappropriate fonts by operators with user access. **Yes**; **No**

5.3.2 Control console shall be capable of storing all messages in alphabetical order by the first letter of the first word of the name assigned to the message to permit quick recall of messages without the need for maintaining a numeric listing of pages and/or messages. Messages shall be automatically named and sorted any time messages are added to or deleted from the library. Because of difficulty in locating and retrieving stored pages and/or messages via numerical codes, number coded storage of pages and/ or messages requiring any form of a lookup table/directory shall be strictly forbidden. **Yes**; **No**

5.3.3 Control console shall accommodate a minimum of fifty (50) full alphanumeric passwords each providing one of four levels of access to various control console functions. Each password shall allow access to only the functions required by that particular dynamic message sign operator. **Yes**; **No**

The four levels of access are as follows:

Quick-Picks Select from up to six (6) pre-programmed messages with no programming required. Simply touch a message for display. No access to any permanent data files. **Yes**; **No**

User Menu Create, Edit, Delete, Save, Display, and Schedule messages. Create, Assign and Edit Quick-Picks.

Check System Status and perform basic diagnostics. **Yes;** **No**

Supervisor Menu All User Menu Functions. Create and delete Quick-Picks and User passwords. Set system operating parameters. **Yes;** **No**

Administrator Menu All Supervisor Functions. Create and delete Administrator and Supervisor passwords. Set controller operating parameters. **Yes;** **No**

5.3.4 Control console shall be capable of displaying a message on the message sign display panel during such time as the operator may be adding, editing or deleting messages from the control console user files. Blanking of the message sign display panel during normal operator activity is considered unsafe and shall be strictly forbidden. **Yes;** **No**

5.3.5 Control console shall be capable of monitoring ambient light conditions and making appropriate adjustments to the intensity of the sign panel to maintain an acceptable display contrast during all ambient lighting conditions. The control console shall provide a minimum of sixteen (16) intensity levels between minimum and maximum display brightness. An operator with Supervisor access shall be capable of adjusting the upper and lower photocell set-points as to adjust the overall range for the automatic brightness control to accommodate any local variations in ambient lighting. Manual control of sign panel intensity shall be provided as well enabling an operator with Supervisor access to override automatic sign panel intensity control and set sign panel intensity manually from 1% to 100% in 1% increments. **Yes;** **No**

5.3.6 Control console shall be equipped with a scheduler that utilizes a real time clock and calendar feature to accommodate automatic, unattended changing of messages at predetermined dates and times. Scheduler shall support unique, single event schedules along with recurrent schedules such that messages may be easily scheduled for daily, weekly or monthly repetition. Recurrent schedules shall be capable of incorporating a start and stop date as desired. Scheduler shall also be capable of displaying messages based upon data driven events such as input from a radar gun, photocell, battery voltage, temperature and/or switch closures (up to six). Data driven events shall also be capable of being restricted to specific dates and times. Scheduler shall incorporate a priority system for resolution of conflicting schedules and/or events to permit one schedule/event to override another based upon level of importance (i.e. priority). Additionally, the control console shall have the capability to create and display on the sign panel an Override Message that takes priority and overrides all programmed Schedules and Events until cleared to enable an operator to display a message continuously on the sign panel regardless of programmed schedules and/or events. **Yes;** **No**

5.3.7 Control console shall provide special function buttons to provide access to common user functions in a single step including (from the main log-on screen) Managing Messages, Scheduling Messages, Blanking the Sign Panel, creating an Instant Message, and selecting from Quick Picks. **Yes;** **No**

5.3.8 Control console shall provide a system status page that enables an operator to quickly and easily determine the unit's current time, date, photocell reading, photocell set-points, battery bank voltage, battery bank current, solar array voltage, solar array current, temperature, MAC address, IP address, run-time since last re-boot, current run-time (resettable timer), lifetime run-time, and serial modem type along with modem signal strength and quality, latitude & longitude and sign panel heading. **Yes;** **No**

5.3.9 Control console shall be capable of storing a minimum of 5,000 messages, each message capable of accommodating a minimum of 500 pages (text or graphic images). **Yes;** **No**

5.3.10 Control console shall provide a minimum of twelve (12) font sizes (with full uni-code support for each font)

including an adaptive font that automatically and dynamically sizes text to fit on a page as it is typed such that the largest font is always used for a given amount of text on a page to ensure maximum visibility and legibility. One of the included font sizes shall be a standard 5x7 DOT pixel font. ___**Yes**; ___**No**

5.3.11 Control console shall support the incorporation of multiple dynamic data sources per page during message creation such that multiple pages within a message can include output from multiple dynamic data sources. Pages containing dynamic data sources shall be automatically refreshed and updated prior to each display such that the most recent data is always displayed on the sign panel. System shall include, as a minimum, the following data sources: radar gun (if equipped), real-time clock (time and date - day, month, year and time in various formats), photocell (ambient light level), battery voltage, and countdown & count-up features from a specified date and/or time. System shall also provide operator with the ability to create and incorporate additional dynamic data sources for display and scheduler control for maximum flexibility during system integration. ___Yes; ___No

5.3.12 Control console shall be capable of page display times from 0.1 seconds to a minimum of 99 seconds in 0.1 second increments. ___Yes; ___No

5.3.13 Control console shall be capable of displaying messages in a preview screen, during message creation, editing or selection, exactly as they will appear on the message display panel including an exact graphical representation of all non-operational/failed pixels on sign panel. ___Yes; ___No

5.3.14 Control console shall permit the editing of messages that are currently being displayed, showing the revised message as soon as message editing has been completed. ___Yes; ___No

5.3.15 Control console shall enable an operator to create, copy, add/insert, move about, edit and delete/remove pages to/from a message dynamically during message creation and/or editing. It shall not be necessary to create pages first and then assemble the pages into a message. Control console shall have the ability to insert pages and/or messages from a master library into a new message and move them about within the message. Control console shall also accommodate the creation and editing of graphic images directly from the GUI (graphical user interface) during message creation. Additionally, control console shall provide the operator with the ability to easily flash a page within a message, flash a line(s) within a page and/or add static or dynamic arrows/chevrons to a page within a message through the use of page annotations. Control console shall have the capability (if enabled by an operator with Supervisory access) to create pages with scrolling text. ___Yes; ___No

5.3.16 Control console shall provide a selection of standard highway work zone sign graphic images, including but not limited to: flagman, fixed left and right arrow images, moving or sequential left and right arrow images, and moving or sequential left and right chevrons, etc. ___Yes; ___No

5.3.17 Control console shall provide the capability to display Battery Bank Voltage to 0.1 Volt accuracy, Battery Bank Current to 0.1 Amp accuracy, Solar Array Voltage to 0.1 Volt accuracy and Solar Array Current to 0.1 Amp accuracy directly on the control console display. Additionally, control console shall have the capability to calculate and display an estimated run-time (autonomy) based on current battery bank status and historical system energy (generation vs. consumption) trends to provide the operator with an estimated number of days system is capable of operating prior to shutting down on a low-battery condition. ___Yes; ___No

5.3.18 Control console shall provide for a user selectable low-battery-voltage caution message when the battery voltage drops to a user specified level (above the low-battery automatic shut down voltage). The low-battery-voltage caution message shall be user programmable by an operator with Supervisor access. Additionally, control console shall incorporate a feature know as Adaptive Blanking that will as necessary, based upon current battery bank voltage and/or recorded battery bank voltage trends, automatically insert variable length blanks between pages (0.25s to 0.50s) of messages to reduce overall power consumption and extend run-time. An operator with Supervisory access shall be capable of either enabling or disabling the Adaptive Blanking feature. ___Yes; ___No

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5.3.19 Control console shall be equipped with three (3) Run-Time counters: an Up-Time counter that indicates total number of days, hours and minutes since last re-boot, a Current Run-Time counter that indicates total hours of operation since last reset of the counter (resettable run-time counter), and a Lifetime Run-Time counter that indicates total hours of control console operation (non-resettable). **___Yes; ___No**

5.3.20 Control console shall include the ability to reset the Current Run-Time counter, Message Library, Scheduler, and all Factory Settings automatically, individually or all at once through performing a variety of Master Resets which will clear all memory and reset all settings to original factory set-points to various levels. **___Yes; ___No**

5.3.21 Control console, in addition to an integrated GSM transceiver, shall support both dynamic and static IP address network connections along with direct serial communications to support legacy NTCIP [National Transportation Communications for ITS (Intelligent Transportation System) Protocol] installations. **___Yes; ___No**

5.3.22 Control console shall provide a method for setting a battery offset and temperature offset to calibrate battery voltage and temperature readings. **___Yes; ___No**

5.3.23 Control console shall provide a method for switching radar gun output from MPH to KPH directly from control console GUI or remotely via remote control software. **___Yes; ___No**

5.3.24 Control console shall be NTCIP compatible. The following NTCIP standards must be supported:
NTCIP 1201 (v3.15r) - Global Object Definitions NTCIP 1203 (v2.39b) - Object Definitions for Dynamic Message Signs NTCIP 2101 (v1.19) - Subnetwork Profile: PMPP over RS232 NTCIP 2104 (v1.11) - Subnetwork Profile: Internet NTCIP 2201 (v1.15) - Transport Profile: Transportation NTCIP 2202 (v1.05) - Transport Profile: Internet **___Yes; ___No**

Unit shall support an administrator community string along with 255 other communities. Each community shall be capable of being assigned read-only or read-write access. **___Yes; ___No**

Unit shall support up to 65,535 user-defined permanent messages. **___Yes; ___No**

Unit shall support a configurable number of changeable (persistent) messages. This number shall be configurable between 1 and 65,535, and shall default to 32. **___Yes; ___No**

Unit shall support a configurable number of volatile (non-persistent) messages. This number shall be configurable between 1 and 65,535, and shall default to 32. **___Yes; ___No**

Each message shall support at least 16 pages. **___Yes; ___No**

Unit shall support a scheduler with support for up to 16 schedule, 16 day plans, and 96 day plan events. **___Yes; ___No**

Unit shall support at least 255 graphics via the monochrome 1 bit color scheme. **___Yes; ___No**

Unit shall support a configurable number of user-definable fonts. This number shall be configurable between 1 and 127, and shall default to 32. **___Yes; ___No**

5.3.19 Web-Interface (Smart-Phone Control): Control console shall function as a Web-Server which enables an operator (via user name and password access) through any standard Web-Browser to:

-Create a unique Web-Name for the unit for browser ID **___Yes; ___No**

-View the current status of the unit to include current message displayed on sign panel, battery voltage, photocell reading, date & time, and NTCIP control status **___Yes; ___No**

-Blank the unit's sign panel **___Yes; ___No**

-Select, preview, edit and activate any message from the unit's message library **___Yes; ___No**

-Create, edit, preview and activate a new multi-page text message (up to 6 pages) **___Yes; ___No**

-Turn NTCIP control on/off if NTCIP control is enabled on control console ___**Yes**; ___**No**

Access to the Web-Server shall be through any standard web browser over a standard network connection and/or public IP address (i.e. IP addressable modem). Access shall be protected by a user name and password created by the operator through the manufacturer's proprietary remote control software to ensure security is maintained at all times. The Web-Server shall be capable of being controlled (i.e. turned on and off) via manufacturer's proprietary remote control software. Web-Access to the control console shall not require access to a central server. All access to the Web-Server shall be logged and recorded. **___Yes; ___No**

5.3.20 A second control console with capabilities of the first control console shall be provided for the purpose of permitting different messages on each of the panels. **___Yes; ___No**

6. Power System

6.1 General

6.1.1 Operating Voltage - 12 Volts DC nominal **___Yes; ___No**

6.1.2 Operating Energy Requirement - 120 Amp Hours per day nominal at Spring or Fall Equinox (i.e. 12 hours of daylight, 12 hours of darkness) **___Yes; ___No**

6.1.3 Main Power Switch - Main power switch shall be a combination switch and electromagnetic, thermal circuit breaker to provide complete electrical system protection without the inconvenience of conventional fuses. Main power switch shall be splash proof and weather resistant. **___Yes; ___No**

6.2 Battery Bank

6.2.1 Number of batteries: Twelve (12) **___Yes; ___No**

6.2.2 Battery type - BCI Group GC-2, 6-Volt, heavy duty, deep cycle AGM. **___Yes; ___No**

6.2.3 Energy capacity - 1,560 Amp Hours nominal (12 batteries). Sufficient energy capacity to operate the message sign, displaying typical three-line normal size character messages for 21 days, without any energy input from the solar array. **___Yes; ___No**

6.2.4 Battery / Equipment Compartments

6.2.4.1 Battery / Equipment Compartments shall be constructed of molded HMWPE (High Molecular Weight Polyethylene), color impregnated with Federal Safety Orange with 0.5% UV stabilizer added to prevent fading. **___Yes; ___No**

6.2.4.2 Compartments shall be designed to completely contain spills from a failed or damaged battery case. **___Yes; ___No**

6.2.4.3 Compartments shall be capable of supporting an operator standing on top of the battery / equipment compartment to service unit. **___Yes; ___No**

6.2.4.4 Compartments shall be designed such that the lid automatically latches in the closed position and holds the batteries in place. Lid shall be capable of being locked in the closed position with a standard padlock. **___Yes;**

No

6.2.4.5 Lid shall be secured to compartment by an integral hinge and shall be completely removable to facilitate easy replacement / repair. **Yes;** **No**

6.2.4.6 Lid shall be supported in the open position to facilitate easy access to control console and shall open fully when required to accommodate safe, simple replacement of batteries.

6.2.4.7 Compartments shall be designed to provide adequate ventilation for the batteries during charging yet prevent the ingress of water during use or transport. **Yes;** **No**

6.2.4.8 Compartments shall be capable of housing four (4) BCI Group GC-2 batteries. **Yes;** **No**

6.3 Solar Array

6.3.1 Photovoltaic module type - Single crystal (monocrystalline) silicon **Yes;** **No**

6.3.2 Number of solar cells per module - 36 **Yes;** **No**

6.3.3 Solar array power output - 320 Watts peak **Yes;** **No**

6.3.4 Solar array shall tilt down for fast, easy cleaning and maintenance **Yes;** **No**

6.3.5 Solar array energy output shall be sufficient to operate the changeable message sign, under normal operating conditions, with the solar array in a flat, horizontal position. It shall not be necessary to tilt or rotate the solar array to provide sufficient energy output from the solar array to operate the message sign continuously. **Yes;** **No**

6.3.6 Photovoltaic module junction boxes shall be equipped with watertight strain reliefs at all cable entry points. **Yes;** **No**

6.4 Wiring and Cabling

6.4.1 All power and control wiring and cables shall be in nonmetallic, flexible, liquid tight conduits. **Yes;** **No**

6.4.2 All conduit fittings shall be sealed at bulkheads or enclosure entry points. **Yes;** **No**

6.4.3 All wiring shall be marine grade, multi-strand, tin-plated copper with PVC insulation rated for outdoor use. **Yes;** **No**

6.4.4 All power system wire terminals shall be tin-plated copper to minimize the effects of galvanic corrosion. **Yes;** **No**

6.4.5 Main power wiring shall be 8 AWG minimum. **Yes;** **No**

6.4.6 Battery terminations shall consist of 5/16-18 UNC marine stud with stainless steel split lock washer and hex nut with 5/16 tin-plated copper ring terminal. **Yes;** **No**

6.4.7 Solar panel terminations shall consist of stainless steel screws with #8 tin-plated copper snap spade terminals. **Yes**; **No**

6.4.8 All other terminations shall consist of locking-type quick-disconnect connectors with tin-plated terminals for power connections and gold-plated terminals for signal connections. Terminal strips, screw or compression type, shall not be permitted **Yes**; **No**

6.5 Energy Management System

6.5.1 Solar energy management system control unit shall include a completely solid state charge controller capable of operating in an outdoor environment. No mechanical or electromechanical switching to control charging current is permitted. **Yes**; **No**

6.5.2 All wiring connections to the energy management system control unit shall be made with locking-type multi-pin connectors to facilitate quick, easy servicing of the control unit without the need of any tools. Electrical connections shall include an auxiliary 12-Volt power connection to provide power for accessory devices. **Yes**; **No**

6.5.3 Energy management system control unit shall monitor solar array voltage, solar array current, battery voltage, battery current and ambient temperature. **Yes**; **No**

6.5.4 Energy management system control unit shall regulate energy flow from the solar array into the battery bank based on ambient temperature so as to avoid over charging of the batteries and minimize the consumption of electrolyte. **Yes**; **No**

6.5.5 Energy management system control unit shall provide for the controlled periodic pulsing of the solar array current to assist in minimizing sulfate deposit buildup on the battery plates. **Yes**; **No**

6.5.6 Energy management system control unit shall provide for remote monitoring of the battery bank voltage, at the terminals of one of the batteries, to assist in optimizing the transfer of power into the battery bank. **Yes**; **No**

6.5.7 Energy management system control unit shall be equipped with a 2-line by 16-character LCD (Liquid Crystal Display) displaying sequentially, solar array voltage, solar array current, battery voltage, and battery current. In addition, the energy management system control unit shall display a low battery voltage warning message whenever the battery bank voltage drops below 10.9 Volts.

6.5.8 Energy management system control unit shall automatically switch current to the message sign off whenever the battery bank voltage drops below 10.7 Volts to prevent damage to the battery bank due to over-discharging the batteries. **Yes**; **No**

6.5.9 Energy management system control unit shall provide for automatic reverse polarity protection, including reverse polarity indicator lamps, for the solar array and the battery bank. **Yes**; **No**

6.5.10 Energy management system control unit shall provide for automatic fault protection without the need for fuses. The use of fuses for fault protection shall not be permitted. **Yes**; **No**

6.5.11 Energy management system shall monitor and report to control console battery bank voltage, battery bank load current, solar array voltage and solar array charge current once every 15 seconds. ___Yes; ___No

6.5.12 Energy management system shall have an integrated watchdog timer that is continuously reset by the control console during normal operations such that if the control console were to become unresponsive due to a software failure/lockup, upon expiration of the timer the energy management system will completely power down and re-start the entire system (including control console and all accessories such as modem, sign panel compass, etc.) in an attempt to recover the system from a temporary software failure/lockup. ___Yes; ___No

7. Documentation

7.1 Operation and Maintenance Manual – hard copy shall be supplied and also available on-line on successful bidder’s website

7.1.1 Setup and Operation ___Yes; ___No

7.1.2 Programming ___Yes; ___No

7.1.3 Maintenance ___Yes; ___No

7.1.4 Troubleshooting and Repair ___Yes; ___No

7.1.5 Assembly Diagrams and Parts Lists ___Yes; ___No

7.1.6 Specifications ___Yes; ___No

7.1.7 Appendix

7.2 Command Center - Users Manual – hard copy shall be supplied and also available on-line on successful bidder’s website

7.2.1 Installation and Setup ___Yes; ___No

7.2.2 Command Center Operation ___Yes; ___No

7.2.3 Appendix

7.3 User Guide - Hard Copy - attached to unit with PVC coated stainless steel lanyard

7.3.1 Pre-transport checklist.

7.3.2 Job site setup checklist. ___Yes; ___No

7.3.3 Basic programming instructions. ___Yes; ___No

7.3.4 Basic system status evaluation. ___Yes; ___No

7.3.5 Weatherproof card attached to unit with nylon-coated stainless steel lanyard. ___Yes; ___No

7.4 Integration Support Documentation - Per request from customer support by phone

7.4.1 Proprietary Protocol Documentation for Custom System Integrators ___Yes; ___No

7.4.2 NTCIP Support Documentation for NTCIP System Integrators ___Yes; ___No

7.4.3 Web-Server Protocol Documentation for Web Based Application System Integrators ___Yes; ___No

8. Maintenance

8.1 Scheduled Maintenance

8.1.1 Solar Array - Clean with water and mild detergent as needed. ___Yes; ___No

8.1.2 Battery Bank - Check electrolyte level once each month and add distilled water as needed. (Note: Not required with Gel-Cell batteries.) N/A

8.2 Preventive Maintenance

8.2.1 Inspect and lubricate axle hubs once per year.

9. Warranty

9.1 Standard Warranty

9.1.1 Bumper to Bumper - Full warranty five (5) years – terms and conditions shall be set forth in warrantee ___Yes; ___No

9.1.2 Solar Panels - Ten years ___Yes; ___No

9.2 Extended Warranty – Shall be available at the Township’s discretion ___Yes; ___No

10. Options

10.1 Battery Charger

10.1.1 Charger type - Switching regulator, constant voltage with automatic switch to maintenance or trickle charge. ___Yes; ___No

10.1.2 Input Voltage - 110 VAC 50/60 Hz (specify 220 VAC 50 Hz for international use) ___Yes; ___No

10.1.3 Available models with below recharge time.

10.1.3.1 90-Amp - 22 hours (12 batteries) ___Yes; ___No

10.1.4 Battery charger unit shall install in the field with minimum effort.

10.2 Remote Control

10.2.1 General

10.2.1.1 The remote control option shall provide for complete control of all dynamic message sign functions.
 Yes; **No**

The remote control option shall, at a minimum, provide for:

-Simultaneously geographically tracking, managing, operating and maintaining a minimum of 1,000 remotely located PCMS units including setting up automatic e-mail notifications/alerts for unit movement, change of displayed message, low estimated runtime, low battery condition, sign panel failures, and pixel failures.

___Yes; ___No

- Sending a message to one or more remote PCMS for immediate display. **___Yes; ___No**

-Receiving the message currently displayed on all remote PCMS. **___Yes; ___No**

-Managing the message libraries and message schedules & events on all remote PCMS. **___Yes; ___No**

-Checking the operating status, including sign panel status, system date & time, battery voltage, estimated autonomy, temperature, unit Up-Time, Current Run-Time, Life-Time Run-Time, and ambient light level of all remote PCMS. **___Yes; ___No**

-Reporting and managing NTCIP status of all PCMS. **___Yes; ___No**

- Retrieve up to 30 days worth of logged Radar Statistics from units equipped with optional Radar Speed Monitor (see section 10.3 for optional Radar Speed Monitor). **___Yes; ___No**

-Provide for the ability to perform various system resets including a complete re-boot/restart of the system for all PCMS. **___Yes; ___No**

10.2.1.3 Communication Protocol - Proprietary with complete CRC (cyclic redundancy check) error detection and correction and full challenge-response password authentication. **___Yes; ___No**

10.2.1.4 Data Format - Data is encrypted and compressed for added security and reliability. **___Yes; ___No**

10.2.1.5 All operating software for message sign control console and host computer shall be included with basic message sign package (downloadable from www.solartechnology.com). **___Yes; ___No**

10.2.2 TCP (Transmission Control Protocol)/IP Network Communications (Dynamic or Static IP Address) **___Yes; ___No**

10.2.2.1 Data rate - 10/100 Base-T Ethernet **___Yes; ___No**

10.2.2.2 Remote control of any networked (IP addressable) PCMS may be achieved from any host computer with Internet connectivity [either with standard NTCIP commands via SNMP (Simple Network Management Protocol) or SMTP (Simple Mail Transfer Protocol), or with Command Center]. Remote control software (Command Center) shall be provided free of charge (downloadable from vendor's website) with unit and function on any host computer, independent of operating system. Control console and remote control software shall incorporate a challenge/ response encrypted type password security system to prevent unauthorized access of any networked PCMS. 10.2.3 IP Addressable Cellular Transceiver Operation. **___Yes; ___No**

10.2.3.1 Wireless modem with up to a 3-Watt cellular transceiver. **___Yes; ___No**

10.2.3.2 MNP 2-4 Error Control - Automatic error detection and correction. **___Yes; ___No**

10.2.3.3 MNP 5 Data Compression - Higher data rates, shorter connection times. **___Yes; ___No**

10.2.3.4 MNP 10EC - Enhanced performance over noisy cellular connections. **___Yes; ___No**

10.3 Radar Speed Monitor

10.3.1 General

10.3.1.1 Operating Frequency - 24.15 GHz (K-Band) ___ **Yes**; ___ **No**

10.3.1.2 Antenna Beam width - 12⁰ (Circular Pattern) ___ **Yes**; ___ **No**

10.3.1.3 Capture Angle - 16.5⁰ typical (Circular Pattern) ___ **Yes**; ___ **No**

10.3.1.4 Target Speed Range - 5 to 125 MPH (20 to 200 km/h) ___ **Yes**; ___ **No**

10.3.1.5 Target Speed Accuracy - 1 MPH typical ___ **Yes**; ___ **No**

10.3.1.6 Detection Distance - 1,500 Feet (Automobile-size target) ___ **Yes**; ___ **No**

10.3.1.7 Radar unit shall install in the field with minimum effort. ___ **Yes**; ___ **No**

10.3.1.8 Message sign shall be pre-wired and pre-programmed for radar speed monitor option. ___ **Yes**; ___ **No**

10.3.2 Operating Features

10.3.2.1 Target Speed Display - The speed of the target may be displayed as part of any user-created messages, in any character size, in any position in the message. Multiple messages which include target speed can be stored in the message library. ___ **Yes**; ___ **No**

10.3.2.2 Triggered Display - A message may be displayed only when an acquired target exceeds a preset speed threshold. This message may include the display of the target speed. If no target is acquired; or if the acquired target is below the preset threshold, the default message will be displayed. Default message can be a blank display. ___ **Yes**; ___ **No**

10.3.2.3 Window Triggered Display - Upper and lower speed thresholds may be preset such that the special message is displayed only when the target speed is above the lower threshold but below the upper threshold. This message can include the display of the target speed. If no target is acquired; or if the acquired target is above or below the preset thresholds, the default message will be displayed. Default message can be a blank display. Multiple windows can be programmed each with a different message to be displayed when the acquired target speed is above the minimum speed but below the maximum speed threshold for that particular window. Each of these messages can include the display of the target speed. ___ **Yes**; ___ **No**

10.3.2.4 All necessary software features shall be included with the basic message sign package. ___ **Yes**; ___ **No**

10.3.3 Radar Statistical Data Collection

10.3.3.1 Control Console shall automatically log and record (to a standard USB memory stick) all raw data provided by the radar gun along with basic statistical information about the collected data in 15 minute intervals. The data shall be stored in two CSV (Comma Separated Value) files which may be opened in Microsoft Excel or any other

similar spreadsheet type application for viewing, manipulation and analysis. Additionally, the most recent 30 days worth of Radar Statistics (statistical radar data logged every 15 minutes) shall be maintained in the control consoles nonvolatile memory and shall be retrieved remotely via the Control Center with detail explanation in the Control Center manual. **Yes**; **No**

10.3.3.2 Data Provided

10.3.3.2.1 Raw Data File: (radar data file) - (Year, Month, Day, Time, Reading) – for every reading - readings recorded every 250ms while tracking a target. **Yes**; **No**

10.3.3.2.2 Statistical Data File: (radar statistics file) - (Year, Month, Day, Time, # of Readings, Mean, Median, Mode, Standard Deviation, Lowest Reading, Highest Reading) - based on all readings - readings are taken every 250ms while tracking a target. **Yes**; **No**

10.4 GSM Transceiver & GPS Receiver Module

10.4.1 Integrated into Control Console **Yes**; **No**

11. Delivery Requirements

11.1 Time Line and Delivery Location

11.1.1 The unit shall be delivered within 60 days of signing of the contract to the Piscataway DPW yard located at 505 Sidney Road, Piscataway, NJ 08854. **Yes**; **No**

EXHIBIT A

N.J.S.A. 10:5-31 and N.J.A.C. 17:27 MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE Goods, Professional Services and General Service Contracts (Mandatory Affirmative Action Language)

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation or sex. Except with respect to affectional or sexual orientation, the contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation or sex. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting for the provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation or sex.

The contractor or subcontractor, where applicable, will send to each labor union or representative or workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

The contractor or subcontractor agrees to make good faith efforts to employ minority and women workers consistent with the applicable county employment goals established in accordance with N.J.A.C. 17:27-5.2 or a binding determination of the applicable county employment goals determined by the Division, pursuant to N.J.A.C. 17:27-5.2.

The contractor or subcontractor agrees to inform in writing its appropriate recruitment agencies including, but not limited to, employment agencies, placement bureaus, colleges, universities, labor unions, that it does not discriminate on the basis of age, creed, color, national origin, ancestry, marital status, affectional or sexual orientation or sex, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.

The contractor or subcontractor agrees to revise any of its testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by the statutes and court decisions of the State of New Jersey and as established by applicable Federal law and applicable Federal court decisions.

In conforming with the applicable employment goals, the contractor or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and layoff to ensure that all such actions are taken without regard to age, creed, color, national origin, ancestry, marital status, affectional or sexual orientation or sex, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

The contractor and its subcontractors shall furnish such reports or other documents to the Division of Contract Compliance and EEO as may be requested by the Division from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Contract Compliance & EEO for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code at N.J.A.C. 17:27.

DATED: _____

(Signature)

(Name and Title)

(Company Name)

(Address)

(City, State, Zip Code)

(Corporate Seal)

Subscribed and sworn to before me this

_____ day of _____, _____.

Notary Public of the State of New Jersey

My Commission expires _____.

(SEAL)

TOWNSHIP OF PISCATAWAY

BIDDER’S CHECKLIST (GOODS & SERVICES)

THE ITEMS LISTED BELOW ARE MANDATORY AND THE FAILURE TO SUBMIT ANY ONE OF THE MANDATORY ITEMS SHALL BE DEEMED A FATAL DEFECT. THIS SHALL TENDER THE BID PROPOSAL UNRESPONSIVE AND CANNOT BE CURED BY THE GOVERNING BODY. **BUSINESS REGISTRATION AND PUBLIC WORKS REGISTRATION MUST BE SUPPLIED PRIOR TO CONTRACT EXECUTION.**

BIDDERS MUST INITIAL EACH ITEM BELOW INDICATING THAT THE REQUIRED DOCUMENTS HAVE BEEN PROVIDED WITH THE BID.

- EXHIBIT A – Mandatory Affirmative Action Language
(N.J.S.A. 10:5-31 AND N.J.A.C. 17:27) _____

- Bidder’s Affidavit _____

- Affidavit of Non Collusion _____

- Business Organization Disclosure Certification
(N.J.S.A. 52:25-24.2) _____

- Affirmative Action Questionnaire Form _____

- Receipt of Addenda (if any) _____

- Plan, Equipment and Experience Questionnaire _____

- Business Registration Certificate (Photocopy)**
(FOR PRIMARY & ALL NAMED/LISTED SUBCONTRACTORS) _____
- Public Works Contractor Registration Act Certificate
(PL 1999, C. 238) (Photocopy)
(FOR PRIMARY & ALL NAMED/LISTED SUBCONTRACTORS) _____

- Disclosure of Investment Activities in Iran _____

- Bid Bond (Bid Guarantee) (N.J.S.A. 40A:11-21) _____

- Certificate of Surety Company consenting to provide
Performance Bond (N.J.S.A. 40A:11-22) _____

- Proposal _____

BIDDER'S AFFIDAVIT

I, _____, being duly sworn, deposes that he/she

resides at _____

and that he/she is the _____ of _____
(Title) (Name of Bidder)

I am duly authorized to sign the bid and that bid is the true offer of the bidder, that the seal attached thereto is the seal of the bidder, and that each, every and all the declarations and statements contained in the bid and any and all affidavits, questionnaires and documents submitted pursuant to the proposal forbids are true to the best of my knowledge and belief.

(Affiant)

(Corporate Seal)

Subscribed and sworn before me this

_____ day of _____, _____.

(Notary Public)

My Commission expires _____.

(SEAL)

AFFIDAVIT OF NON-COLLUSION

The undersigned bidder of full age, being duly sworn according to law depose and hereby specifically certifies that:

- a. To the best of the bidder’s knowledge and belief, the annexed bid proposal for this project has not been prepared in collusion with any other bidder of like item or services and the prices, discounts, terms and conditions thereof have not been directly or indirectly communicated by or on behalf of the bidder to any person other than the recipient of the bid and will not be communicated to any person prior to the official opening of the bid.
- b. The bidder fully understands that no premiums, rebates, or gratuities are permitted either with, prior to, or after signing of contract. Any violation will result in cancellation and removal from the bid list.
- c. The bidder further certifies that the undersigned has the necessary authority to sign this stipulation stating that the bidder has not entered into any agreement, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

All references to the bidder are understood to include the undersigned and all principals, partners and officers of the bidder.

DATED: _____

(Signature)

(Name and Title)

(Company Name)

(Address)

(City, State, Zip Code)

(Corporate Seal)

Subscribed and sworn to before me this

_____ day of _____, _____.

Notary Public of the State of New Jersey

My Commission expires _____.
(SEAL)

BUSINESS ORGANIZATION DISCLOSURE CERTIFICATION

Name of Business _____

I certify that the list below contains the names and home addresses of all stockholders holding 10% or more of the issued and outstanding stock or interest in the business organization

OR

I certify that no one person or entity owns 10% or more of the issued and outstanding stock or interest in the business organization.

Check the box that represents the type of business organization:

Partnership

Corporation

Sole Proprietorship

Limited Partnership

Limited Liability Corporation

Limited Liability Partnership

Subchapter S Corporation

Sign and notarize the form below, and, if necessary, complete the list below.

Persons or entities holding a 10% or more interest:

Name: _____

Name: _____

Home Address: _____

Home Address: _____

Name: _____

Name: _____

Home Address: _____

Home Address: _____

Name: _____

Name: _____

Home Address: _____

Home Address: _____

Subscribed and sworn before me this ____ day of _____, 2__.

(Affiant)

(Notary Public)

My Commission expires:

(Print name & title of affiant)

(Corporate Seal if Applicable)

PROCUREMENT, PROFESSIONAL OR SERVICE CONTRACT

AFFIRMATIVE ACTION QUESTIONNAIRE

PLEASE COMPLETE THIS QUESTIONNAIRE AND RETURN IT WITH YOUR BID/QUOTE. IN THE EVENT YOUR COMPANY OR FIRM IS AWARDED A CONTRACT, WE WILL PROVIDE YOU WITH THE PROPER FORMS AS YOU HAVE INDICATED.

1. DOES YOUR COMPANY OR FIRM HAVE A FEDERAL APPROVED AFFIRMATIVE ACTION PLAN.

YES () NO ()

- IF YES, SUBMIT A PHOTOCOPY OF THE FEDERAL LETTER OR APPROVAL (FEDERAL LETTER MUST BE LESS THAN ONE YEAR OLD).
- IF YES, SUBMIT A PHOTOCOPY OF THE CERTIFICATE.

2. INDICATE IF NONE OF THE ABOVE. ()

AN AFFIRMATIVE ACTION EMPLOYEE INFORMATION REPORT (A.A. 302 DIV OF CONTRACT COMPLIANCE & EQUAL EMPLOYMENT OPPORTUNITY EMPLOYEE INFORMATION REPORT) WILL BE PROVIDED TO YOU AT THE TIME OF AWARD.

(TO BE RETURNED WITH YOUR CONTRACT DOCUMENTS.)

I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT TO THE BEST OF MY KNOWLEDGE.

DATED: _____

(Signature)

(Name and Title)

(Company Name)

(Address)

(City, State, Zip Code)

(Corporate Seal)

Subscribed and sworn to before me this

_____ day of _____, _____.

Notary Public of the State of New Jersey

My Commission expires _____.
(SEAL)

RECEIPT OF ADDENDA FORM

The Bidder hereby acknowledges the receipt of the following Addenda, if any, distributed by the Architect, Engineer and/or Township Official:

NO ADDENDA WAS RECEIVED FOR THIS BID _____

OR

ACKNOWLEDGEMENT OF ADDENDA BELOW

Addendum # _____ **dated** _____ **Addendum #** _____ **dated** _____

Addendum # _____ **dated** _____ **Addendum #** _____ **dated** _____

Addendum # _____ **dated** _____ **Addendum #** _____ **dated** _____

Addendum # _____ **dated** _____ **Addendum #** _____ **dated** _____

Addendum # _____ **dated** _____ **Addendum #** _____ **dated** _____

DATED: _____

(Signature)

(Name and Title)

(Company Name)

(Address)

(City, State, Zip Code)

(Corporate Seal)

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

Notary Public of the State of New Jersey

My Commission expires _____.
(SEAL)

PLAN, EXPERIENCE AND EQUIPMENT QUESTIONNAIRE

Submitted to _____

)A Corporation

By _____)A Copartnership

)An Individual

Principal Office _____

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made.

1) In what manner have you inspected the proposed work? (explain in detail)

2) Explain your plan or layout for performing the proposed work.

3) The work, if awarded to you, will have the personal supervision of whom?

4.1) How many years has your organization been in business under your present name?

4.2) Have you ever failed to complete any work awarded to you? Yes ____ No ____
(If yes, attach additional sheet with details and explanation.)

5) Do you intend to sublet any portion(s) of this work? Yes ____ No ____
If yes, state amount of sub-contract, and if known, the name and address of the sub-contractor, amount and type of his equipment and financial responsibility.

6.) What equipment do you own that is available for and intended to be used on the present project?

QUANTITY	ITEM	DESCRIPTION, SIZE, CAPACITY, ETC	CONDITION	YEARS OF SERVICE	PRESENT LOCATION

7.) What equipment do you intend to purchase or lease for use on the proposed work, should the contract be awarded to you?

QUANTITY	ITEM	DESCRIPTION, SIZE, CAPACITY, ETC	APPROXIMATE COST	
			PURCHASE	LEASE

8) Have you made contracts or received firm offers for all materials prices used in preparing your proposal ? Yes ____ No ____ **Do not** give names of dealers or manufacturers.

STATUS OF PRESENT AND PAST CONTRACTS

9) Give full information about past and present contracts, whether private or governmental contracts, whether prime or sub-contracts; whether completed or in progress or awarded but not yet begun; or whether you are low bidder pending award of contract.

OWNER	LOCATION	DESCRIPTION	ADJUSTED CONTRACT AMOUNT	AMOUNT COMPLETED AND BILLED	ADDITIONAL EARNED SINCE LAST ESTIMATE	BALANCE TO BE COMPLETED	ESTIMATED DATE OF COMPLETION

I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT TO THE BEST OF MY KNOWLEDGE.

DATED: _____

(Signature)

(Name and Title)

(Company Name)

(Address)

(City, State, Zip Code)

(Corporate Seal)

Subscribed and sworn to before me this

_____ day of _____, _____.

Notary Public of the State of New Jersey

My Commission expires _____.

(SEAL)

TOWNSHIP OF PISCATAWAY
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

Proposer: _____

Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that the person or entity, or one of the person or entity's parents, subsidiaries, or affiliates, is not identified on a list created and maintained by the New Jersey Department of the Treasury as a person or entity engaging in investment activities in Iran. If the Director finds a person or entity to be in violation of the principles which are the subject of this law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring, declaring the party in default and seeking debarment or suspension of the person or entity.

I certify, pursuant to Public Law 2012, c. 25, that the person or entity listed above for which I am authorized to submit a proposal: Must check appropriate boxes

- Is not providing goods or services of \$20,000,000 or more in the energy sector of Iran, including a person or entity that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran, and
- Is not a financial institution that extends \$20,000,000 or more in credit to another person or entity, for 45 days, or more, if that person or entity will use the credit to provide goods or services in the energy sector in Iran.

In the event that a person or entity is unable to make the above certification because it or one of its parents, subsidiaries, or affiliates has engaged in the above referenced activities, a detailed, accurate and precise description of the activities must be provided in part 2 below to the New Jersey Turnpike Authority under penalty of perjury. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

Part 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN

You must provide a detailed, accurate and precise description of the activities of the proposer, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

Name: _____ Relationship to Proposer: _____	
Description of Activities: _____	

Duration of Engagement: _____	Anticipated Cessation Date: _____
Proposer Contact Name: _____	Contact Phone Number: _____

Certification: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above referenced person or entity. I acknowledge that the Township of West Orange, State of New Jersey is relying on the information contained herein and thereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the Township to notify the Township in writing of any changes to the answers of information contained herein. I acknowledge that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with the Township of West Orange, State of New Jersey and that the Township at its option may declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print): _____ Signature: _____

Title: _____ Date: _____

**PROPOSAL FOR
SOLAR POWERED PORTABLE DOUBLE-SIDED DYNAMIC MESSAGE SIGN**

Honorable Mayor and Township Council
Township of Piscataway
455 Hoes Lane
Piscataway, NJ 08854

The undersigned bidder declares he/she has read the Notice to Bidders, Instruction to Bidders and Specifications attached, that he/she has determined the conditions affecting the bid and agrees, if this proposal is accepted, and contract purchase order awarded, to furnish the following:

SOLAR POWERED PORTABLE DOUBLE-SIDED DYNAMIC MESSAGE SIGN

TOTAL BID _____

TOTAL BID _____
(Amount Written in Words)

Respectfully Submitted,

NAME _____ **OF** _____ **BIDDER:** _____
(Typed or Printed)

SIGNED: _____
(Authorized Signature) (Date)

(Printed Name and Title of Person Signing)

ADDRESS: _____

TELEPHONE/FAX: _____ / _____

E-MAIL _____

NOTE: BID SHEET(S) WILL NOT BE ACCEPTED UNLESS SIGNED BY THE OWNER OR AUTHORIZED CORPORATE OFFICER.

THE UNIT SHALL BE DELIVERED 60 DAYS FROM THE DATE OF AWARD.