



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

General Information

Contact

Default Values

Discount

Document Information

Procurement Folder: 740516

SO Doc Code: CRFQ

Procurement Type: Central Master Agreement

SO Dept: 0803

Vendor ID: 000000180992

SO Doc ID: DOT2100000006

Legal Name: DIMENSIONAL PRODUCTS INC

Published Date: 8/4/20

Alias/DBA:

Close Date: 8/12/20

Total Bid: \$293,775.00

Close Time: 13:30

Response Date: 08/12/2020

Status: Closed

Response Time: 12:24

Solicitation Description: ADDENDUM 2 FULL MATRIX
TRAILER MTD. SOLAR MESSAGE

Total of Header Attachments: 9

Total of All Attachments: 9



Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Solicitation Response

Proc Folder : 740516

Solicitation Description : ADDENDUM 2 FULL MATRIX TRAILER MTD. SOLAR MESSAGE BOARD

Proc Type : Central Master Agreement

Date issued	Solicitation Closes	Solicitation Response	Version
	2020-08-12 13:30:00	SR 0803 ESR08122000000000875	1

VENDOR

000000180992

DIMENSIONAL PRODUCTS INC

Solicitation Number: CRFQ 0803 DOT2100000006

Total Bid : \$293,775.00

Response Date: 2020-08-12

Response Time: 12:24:45

Comments:

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Signature on File

FEIN #

DATE

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Full Matrix Trailer Mtd. Solar Powered Message Board	15.00000	EA	\$19,585.000000	\$293,775.00

Comm Code	Manufacturer	Specification	Model #
46161520			

Extended Description :	Full matrix trailer mounted solar powered message board
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Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
31 — Public Safety

Proc Folder: 740516

Doc Description: ADDENDUM 1 FULL MATRIX TRAILER MTD. SOLAR MESSAGE BOARD

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2020-07-24	2020-08-12 13:30:00	CRFQ 0803 DOT2100000006	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Dimensional Products Inc.
2601 Emory Road, Building #7
Finksburg, MD 21048
410-861-8654

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Signature X

FEIN #

37-1383283

DATE

8/11/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS TO ESTABLISH AN OPEN-END CONTRACT FOR FULL MATRIX TRAILER MOUNTED SOLAR POWERED MESSAGE BOARDS PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

INVOICE TO		SHIP TO	
DIVISION OF HIGHWAYS EQUIPMENT DIVISION RT 33 83 BRUSHY ROAD CROSSING, PO BOX 610 BUCKHANNON WV26201 US		DIVISION OF HIGHWAYS EQUIPMENT DIVISION 83 BRUSHY FORK RD CROSSING BUCKHANNON WV 26201 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Full Matrix Trailer Mtd. Solar Powered Message Board	15.00000	EA	\$18585.00	\$293775.00

Comm Code	Manufacturer	Specification	Model #
46161520	Solar Technologies, Inc.	Full Sise/Full Matrix Display VMS Trailer	Silent Messenger

Extended Description :

Full matrix trailer mounted solar powered message board

SCHEDULE OF EVENTS

Line	Event	Event Date
1	MANDATORY PRE-BID MEETING	2020-07-28
2	VENDOR QUESTION DEADLINE	2020-07-31

DOT2100000006	Document Phase Final	Document Description ADDENDUM 1 FULL MATRIX TRAILER MTD. SOLAR MESSAGE BOARD	Page 3 of 3
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions



Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
31 — Public Safety

Proc Folder: 740516

Doc Description: FULL MATRIX TRAILER MTD. SOLAR MESSAGE BOARD

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2020-07-20	2020-08-12 13:30:00	CRFQ 0803 DOT2100000006	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Dimensional Products Inc.
2601 Emory Rd., Building #7
Finksburg, MD 21048
410-861-8654

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Signature X

FEIN # 37-138-3283

DATE 8/11/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS TO ESTABLISH AN OPEN-END CONTRACT FOR FULL MATRIX TRAILER MOUNTED SOLAR POWERED MESSAGE BOARDS PER THE ATTACHED DOCUMENTS.

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Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Full Matrix Trailer Mtd. Solar Powered Message Board	15.00000	EA	\$19585.00	\$293775.00

Comm Code	Manufacturer	Specification	Model #
46161520	Solar Technology	Full Size/Full Matrix Display VMS Trailer	Silent Messenger

Extended Description :

Full matrix trailer mounted solar powered message board

SCHEDULE OF EVENTS

Line	Event	Event Date
1	MANDATORY PRE-BID MEETING	2020-07-28
2	VENDOR QUESTION DEADLINE	2020-07-31

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. REVIEW DOCUMENTS THOROUGHLY: The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. MANDATORY TERMS: The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. PREBID MEETING: The item identified below shall apply to this Solicitation.

☐ A pre-bid meeting will not be held prior to bid opening

☒ A **MANDATORY PRE-BID** meeting will be held at the following place and time:

Date and Time: July 28, 2020 at 11:00 AM

Location:

WV DOH Equipment Division Conference Room
83 Brushy Fork Road Crossing
Buckhannon, WV 26201

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting
Revised 01/09/2020

are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. VENDOR QUESTION DEADLINE: Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: July 31, 2020 at 10:00 AM

Submit Questions to: Crystal Hustead
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
Email: Crystal.G.Hustead@wv.gov

5. VERBAL COMMUNICATION: Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. BID SUBMISSION: All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile.

The bid delivery address is:
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID:

BUYER: Crystal Hustead
SOLICITATION NO.: CRFQ DOT2100000006
BID OPENING DATE: August 12, 2020
BID OPENING TIME: 1:30 PM
FAX NUMBER: 304-558-3970

The Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. Submission of a response to an Expression of Interest or Request for Proposal is not permitted in wvOASIS.

For Request For Proposal ("RFP") Responses Only: In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus n/a convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)

☐ Technical

☐ Cost

7. BID OPENING: Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: August 12, 2020 at 1:30 PM

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. ADDENDUM ACKNOWLEDGEMENT: Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. BID FORMATTING: Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. ALTERNATE MODEL OR BRAND: Unless the box below is checked, any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the

equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

☐ This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

11. EXCEPTIONS AND CLARIFICATIONS: The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.

14. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. PREFERENCE: Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and must include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at:

<http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

15A. RECIPROCAL PREFERENCE: The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. Any request for reciprocal preference must include with the bid any information necessary to evaluate and confirm the applicability of the preference. A request form to help facilitate the request can be found at: <http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES: For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or

minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. WAIVER OF MINOR IRREGULARITIES: The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. ELECTRONIC FILE ACCESS RESTRICTIONS: Vendor must ensure that its submission in wvOASIS can be accessed and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

19. NON-RESPONSIBLE: The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform, or lacks the integrity and reliability to assure good-faith performance.”

20. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b.”

21. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor’s entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled “confidential,” “proprietary,” “trade secret,” “private,” or labeled with any other claim against public disclosure of the documents, to include any “trade secrets” as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

22. INTERESTED PARTY DISCLOSURE: West Virginia Code § 6D-1-2 requires that the vendor submit to the Purchasing Division a disclosure of interested parties to the contract for all contracts with an actual or estimated value of at least \$1 Million. That disclosure must occur on the form prescribed and approved by the WV Ethics Commission prior to contract award. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

23. WITH THE BID REQUIREMENTS: In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or "Agencies" means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or "Proposal" means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or "Vendors" means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☒ **Term Contract**

Initial Contract Term: **Initial Contract Term:** This Contract becomes effective on Award _____ and extends for a period of One (1) year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to Three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

☐ **Alternate Renewal Term** – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that maintenance, monitoring, or warranty services will be provided for _____ year(s) thereafter.

☐ **One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Other:** See attached.

4. NOTICE TO PROCEED: Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

☒ **Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

☐ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

☐ **One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute a breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

☐ **BID BOND (Construction Only):** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

☐☐☐☐

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications regardless of whether or not that requirement is listed above.

8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed in this section.

Vendor must maintain:

- ☒ **Commercial General Liability Insurance** in at least an amount of: \$1,000,000.00--**See Below per occurrence.
- ☒ **Automobile Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.
- ☐ **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: _____ per occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.
- ☐ **Commercial Crime and Third Party Fidelity Insurance** in an amount of: _____ per occurrence.
- ☐ **Cyber Liability Insurance** in an amount of: _____ per occurrence.
- ☐ **Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.
- ☐ **Pollution Insurance** in an amount of: _____ per occurrence.
- ☐ **Aircraft Liability** in an amount of: _____ per occurrence.
- ☒ *****Please make insurance certificate to read as follows:**
State of WV, 1900 Kanawha Blvd E, Bldg 5, Charleston, WV 25305
- ☒ *****State of WV must be listed as additional insured.**

☐

☐

Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

9. WORKERS' COMPENSATION INSURANCE: The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. [Reserved]

11. LIQUIDATED DAMAGES: This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

☐ _____ for _____

☐ Liquidated Damages Contained in the Specifications

12. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

13. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

17. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

18. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

19. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

20. TIME: Time is of the essence with regard to all matters of time and performance in this Contract.

21. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

22. COMPLIANCE WITH LAWS: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

24. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

25. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

26. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

27. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

28. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

29. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

34. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. PURCHASING AFFIDAVIT: In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State. Vendors are required to sign, notarize, and submit the Purchasing Affidavit to the Purchasing Division affirming under oath that it is not in default on any monetary obligation owed to the state or a political subdivision of the state.

38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE: This Contract may be utilized by other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"), provided that both the Other Government Entity and the Vendor agree. Any extension of this Contract to the aforementioned Other Government Entities must be on the same prices, terms, and conditions as those offered and agreed to in this Contract, provided that such extension is in compliance with the applicable laws, rules, and ordinances of the Other Government Entity. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

39. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

40. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

☒ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

41. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision. The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Revised 01/09/2020

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
- c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a

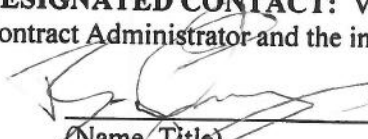
“substantial labor surplus area”, as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

44. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least \$1 million, the vendor must submit to the Agency a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-award interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

45. PROHIBITION AGAINST USED OR REFURBISHED: Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

 Sales

(Name, Title)
Brian Sweeney - Sales

(Printed Name and Title)
2601 Emory Rd., Building #7, Finksburg, MD 21048

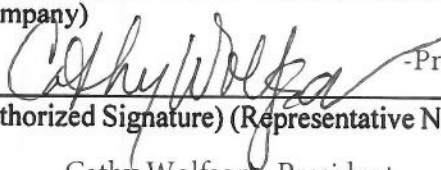
(Address)
P- 410-861-8654 / F- 410-861-8655

(Phone Number) / (Fax Number)
bsweeney@dpihighwaysystems.com

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Dimensional Products Inc.

(Company)
 -President

(Authorized Signature) (Representative Name, Title)
Cathy Wolfson - President

(Printed Name and Title of Authorized Representative)
8/11/2020

(Date)
P- 410-861-8654 / F- 410-861-8655

(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: CRFQ DOT2100000006

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- ☒ Addendum No. 1
- ☒ Addendum No. 2
- ☐ Addendum No. 3
- ☐ Addendum No. 4
- ☐ Addendum No. 5

- ☐ Addendum No. 6
- ☐ Addendum No. 7
- ☐ Addendum No. 8
- ☐ Addendum No. 9
- ☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Dimensional Products Inc.

Company

Authorized Signature

8/11/2020

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

REQUEST FOR QUOTATION
CRFQ DOT2100000006
Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

SPECIFICATIONS

- 1. PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids On behalf of the West Virginia Division of Highways, Department of Transportation to establish an open-end contract for Class 843 Full Matrix Trailer Mounted Solar Powered Message Board.
- 2. DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
 - 2.1 “Contract Item” or “Contract Items”** means the list of items identified in Section 3, Subsection 1 below.
 - 2.2 “Pricing Pages”** means the schedule of prices, estimated order quantity, and totals contained in wvOASIS or attached hereto as Exhibit A and used to evaluate the Solicitation responses.
 - 2.3 “Solicitation”** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
 - 2.4 “WVDOH”** means West Virginia Division of Highways.
 - 2.5 “NTPEP”** means National Transportation Product Evaluation Program.
 - 2.6 “MUTCD”** means Manual Uniform Traffic Control Devices.
 - 2.7 “PVMS”** means Portable Variable Message Signs.
 - 2.8 “NTCIP”** means National Transportation Communication For Its Protocol
 - 2.9 “BPS”** means Bits Per Second.
 - 2.10 “AASHTO”** means American Association of State Highway and Transportation Officials.
 - 2.11 “L.E.D.”** means lighting emitting diode.
 - 2.12 “LCD”** means liquid crystal display.
 - 2.13 “USB”** means universal serial bus.

REQUEST FOR QUOTATION
CRFQ DOT2100000006
Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

3. GENERAL REQUIREMENTS:

3.1 Contract Items and Mandatory Requirements: Vendor shall provide Agency with the Contract Items listed below on an open-end and continuing basis. Contract Items must meet or exceed the mandatory requirements as shown below.

3.1.1 Full Matrix Trailer Mounted Solar Powered Message Board

3.1.1.1 Unit must be as submitted by evaluation to AASHTO's National Transportation Product Evaluation Program (NTPEP)

3.1.1.2 The unit specified herein and offered shall be manufactured after January 1, 2020 and must be a new unit, not previously used or sold.

3.1.2 Sign Face

3.1.2.1 The sign face shall be of a sufficient size in order to display three (3) lines of eight (8) characters, each character must be minimum eighteen (18) inches tall by minimum twelve (12) inches wide. Characters must be spaced a minimum of three (3) inches apart.

3.1.2.2 The face of sign shall incorporate measures to prevent fading from UV light, such as a polycarbonate or Lexan face with UV inhibitors incorporated.

3.1.2.3 Optically enhanced L.E.D.s (lighting emitting diodes)shall have a minimum of 30° vertical and 30° horizontal cone of visibility.

3.1.2.4 Each pixel shall consist of a minimum of three (3) LED's (Lighting Emitting Diode)

3.1.2.5 Message color shall be a minimum 590 nanometers.

3.1.2.6 The sign shall have the capability to display up to six (6) messages in sequence, with variable timing in ¼ second increments under computer control.

REQUEST FOR QUOTATION
CRFQ DOT2100000006
Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

3.1.2.7 As part of the manufacturer's pre-programmed message sequences, arrow display and flashing caution functions shall be included. All arrow and flashing caution display described in the current MUTCD shall be provided.

3.1.2.8 All abbreviations used in pre-programmed messages shall be in compliance with the current MUTCD.

3.1.2.9 The sign shall be clearly visible a minimum of 4500 feet.

3.1.2.10 The sign legend shall be legible from a minimum distance of 1,000 feet under daylight conditions as defined by NTPEP for two- non-traffic word messages.

3.1.2.11 The sign legend shall be legible from a minimum distance of 900 feet under night-time conditions as by NTPEP for a two-non-traffic word message.

3.1.2.12 Under variable light conditions, the unit shall automatically adjust light source to meet the visibility requirements, without being too bright or too dim.

3.1.2.13 Entire sign shall have the capability to change all lines of message copy in not more than 100 milliseconds

3.1.2.14 Each character configuration shall contain 54 L.E.D. lamp pixels in a six (6) element horizontal by nine (9) element vertical arrangement. -Exception: Each character configuration contains 35-pixels in a 5-element horizontal by 7 element vertical arrangement.

3.1.3 Sign Panel

3.1.3.1 Length of sign panel shall not exceed 140 inches.

3.1.3.2 All exposed panels and seams shall be corrosion proof for a minimum of ten (10) years. With construction, all panels/parts shall be assembled as to prevent corrosion or to prevent dissimilar metal reaction from occurring.

3.1.3.3 The panel shall be supported on a telescoping upright member in order to permit raising the sign panel for operation and lowering the panel for transport. The upright must be capable of 360 degrees rotation and to

REQUEST FOR QUOTATION

CRFQ DOT2100000006

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

lock into any position to which it is manually or electrically rotated.

- 3.1.3.4 Raise and lower travel shall be minimum of four (4) feet and shall be accomplished by a hydraulic power pack.
- 3.1.3.5 The bottom of the sign shall be a minimum of seven (7) feet above ground level when in the raised position.
- 3.1.3.6 In transport position, the sign shall orient to the longitudinal axis of the trailer in a manner that effectively reduces aerodynamic drag during towing.
- 3.1.3.7 The solar panel generator array shall recharge the battery bank at a rate of 2.5 hours sun to one (1) 24-hour period of usage.
- 3.1.3.8 The sign panel frame shall be constructed of a welded assembly of aluminum alloy channel, or from steel panels powder coated in corrosion proof manner for a minimum of ten (10) years. -Exception: The sign panel frame is constructed of a bolted aluminum assembly.

3.1.4 Power Source

- 3.1.4.1 The full-matrix panel shall be powered by a bank of batteries in order to convey bright, distinctive messages to the traveling public.
- 3.1.4.2 Unit shall be designed to accept two (2) power sources: one (1) being a battery bank consisting of four (2) size 4-D, deep cycle, lead acid 12-volt DC batteries wired in parallel. -Exception: unit is designed with (8) 6-voltHD Deep Cycle batteries wired series/parallel for a 12-volt system.
- 3.1.4.3 Batteries shall be automatically recharged by a group of solar panels producing a minimum 165 watts of power, located at the highest point on the unit.
- 3.1.4.4 Unit shall be designed with sufficient energy backup to operate for a period of 30 days without any sun.
- 3.1.4.5 Unit shall provide a built-in battery charger with a minimum 25 ampere per hour rating.

REQUEST FOR QUOTATION

CRFQ DOT2100000006

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

3.1.4.6 Battery bank shall be housed in lockable heavy-duty weatherproof battery boxes.

3.1.4.7 Shall have a second power supply enables the unit to accept existing 120-volt commercial electric service.

3.1.4.8 Batteries shall be capable of being recharged by a commercial 110-volt battery.

3.1.5 Computer

3.1.5.1 The unit shall be controlled in all functions by an on-board dedicated computer of solid-state design and be removable.

3.1.5.2 Unit shall include a keyboard or graphic touch screen controller through which user originated messages may be entered for display or storage.

3.1.5.3 Computer shall store a minimum of 200 programmed messages for display when called upon by user through the keyboard.

3.1.5.4 Unit shall include an LCD display screen upon which messages can be reviewed before display on sign board.

3.1.5.5 Password coding or key entry is required for control programming to present sequences messages under operator control through keyboard entry; provide control for moving arrow displays.

3.1.6 Solar Panel Control Unit

3.1.6.1 The power control unit and computer shall be housed in a weather resistant, shock resistant lockable control box which includes lighting for night-time operation.

3.1.6.2 Power control unit shall contain two (2) current meters; one (1) to show amperage generated with the battery charge operating, and one (1) to indicate amperage generated from the solar panels to be stored in the battery bank.

REQUEST FOR QUOTATION
CRFQ DOT2100000006
Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

3.1.6.3 Message Cabinet dimensions shall be:

- A. Length: Maximum 140 inches.
- B. Height: Maximum 79 ½ inches.

3.1.6.4 The power control unit shall incorporate a PV regulator with thermal compensation for variances in ambient temperature to regulate the charge rate to battery bank.

3.1.6.5 The unit shall incorporate an automatic intensity control feature in order to keep L.E.D. lamp matrix intensity constant with a reduction in voltage.

3.1.6.6 The message unit shall provide a photocell in order to reduce the lamp intensity at night eliminating blinding.

3.1.7 Central Processing Unit

3.1.7.1 Microprocessor Based 27.1 MHz.

3.1.7.2 Power requirements: 175 mA DC at 12 volts DC.

3.1.7.3 Screen size: Minimum of three (3) lines, with Eight (8) characters per line.

3.1.7.4 Interfaces: (2) RS232 9 pin D connectors and documentation on port numbers and pins. In addition, one USB port or one Ethernet Port with USB adaptor shall be provided.

3.1.7.5 Code: Application source code shall be delivered with unit.

3.1.7.6 Documentation: Technical documentation and application programs shall be delivered with unit.

3.1.8 Communication

3.1.8.1 Unit shall be guarded from any unwanted outside RF interference which would include but not be limited to VHF/FM receiver, 2-way radio receiver, cell phones, etc.

**REQUEST FOR QUOTATION
CRFQ DOT2100000006**

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

- 3.1.8.2** Each PVMS shall be controlled and monitored by its own sign controller directly from the control console inside the control cabinet on the trailer itself.
- 3.1.8.3** The PVMS sign controller shall be able to receive instructions from and provide information to a computer containing PVMS control software compliant using NTCIP compliant communications modes.
- 3.1.8.4** The system communications backbone, as well as all field modems or signal converters, shall provide the PVMS sign controller with a RS232 signal having a baud rate between 2,400 bps and 115,200 bps. Remote Communications control via wireless communications with a remotely located computer.
- 3.1.8.5** Local Communications control shall be available via direct connection with a laptop computer that is connected directly to the sign control using a null modem connection and a baud rate between 2,400 bps and 115,200 bps.
- 3.1.8.6** Local Communications control via a keypad and LCD interface: Features shall include addition or removal of message or message(s) from the PVMS list of playing messages, adjustment of luminosity to manual or automatic, and monitor miscellaneous data like battery voltage, photocells reading, etc.

3.1.9 Trailer

- 3.1.9.1** Two (2) wheel trailer shall be structurally adequate to serve both platform for components.
- 3.1.9.2** Unit shall include LED taillights, stop lights, turn signals, license mount with light, and all necessary reflectors.
- 3.1.9.3** A two (2) inch ball type trailer hitch 6,000-pound capacity with double safety chains in accordance with SAE J684F shall be installed.
- 3.1.9.4** Trailer shall be 12-volt DC motor, pump, valve, reservoir, manual hand pump.

REQUEST FOR QUOTATION

CRFQ DOT2100000006

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

3.1.9.5 All trailer wiring shall be encased in heavy duty Hypalon type industrial wire looms clamped to underside of the trailer structural tubing.

3.1.9.6 Shall have a hydraulic brake actuator system and fenders one (1) each wheel, included on trailer.

3.1.9.7 Shall have Leveling Jacks: Four (4) crank type, heavy duty, industrial leveling jacks; one (1) at each corner of the trailer deck to be installed.

3.1.9.8 Shall have installation of trailer electrical cable and connector (7 Pole) compatible with towing vehicles.

3.1.10 Paint

3.1.10.1 Must be manufacturer standard color paint for this unit.

3.1.11 Miscellaneous:

3.1.11.1 Unspecified Accessories & Features: All parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, must be furnished with each unit and required to conform to strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry. All parts and accessories advertised and regularly supplied as standard shall be included, except those which would represent duplication of these specified and except those which, by specification, are not to be furnished. All standard safety features, required by Federal and State Law, shall be included.

3.1.11.2 Unit shall be delivered: to WVDOH with all manufacturers recommended safety related decals and safety features intact.

**REQUEST FOR QUOTATION
CRFQ DOT2100000006**

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

3.2.1 Vendor Responsibility:

3.2.1.1 The vendor is responsible to furnish a full matrix trailer mounted solar powered message board light that is properly engineered and that confirms to all and any laws governing such equipment.

3.2.2 Representative Unit for Test:

3.2.1.2 The successful vendor must (if specified) provide the DOH one (1) completed represented unit to be observed and evaluated on each order to in-sure compliance with specification. If requested, the time period for testing and evaluation shall be seven (7) working days following receipt of the unit. DOH will incur no obligation for deterioration of surfaces, finishes, seals, and mechanical or electrical parts on the unit resulting from operation and testing within the limits of these specifications; nor will DOH incur obligation for damage to the unit resulting from failure to meet specifications when due care and attention is given by DOH and testing is done within the limits of these specifications. Failure of the pilot unit to satisfactorily meet specifications as bid may be cause for cancellation of the purchase order and return of the delivered unit along with all associated equipment to the vendor at the vendor's expense.

3.2.3 Operating and Service Manuals and Parts Lists:

3.2.1.3 An operator's manual must be included with each unit upon delivery. A "line sheet" (if applicable) and the "Equipment Preventative Maintenance Questionnaire", (Exhibit "B") must be with pilot unit upon delivery, Attn: Todd Campbell. There must be 12 service/shop/maintenance manuals and 14 parts manuals; USB storage drive is preferred in lieu of parts manuals. Manuals and USB storage drive shall be delivered upon completion of delivery of total units. Failure to do so will delay payment.

REQUEST FOR QUOTATION

CRFQ DOT2100000006

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

3.2.4 Training:

3.2.1.4 Manufacturers and/or dealers will be required to stage a thorough seminar on the subjects of Preventative Maintenance, Operator, and Mechanic Training. In order to keep operators and mechanics updated, the successful vendor shall conduct training sessions covering the operation, maintenance, troubleshooting with each purchase order against this open-end contract.

Manufacturers and/or dealers shall be required to furnish the Training Academy with one (1) Operator's Manual to be shipped direct to:

WVDOH

Training Academy

P.O. Box 610

Buckhannon, West Virginia 26201

Prior to delivery of the pilot unit. Training seminar to be held at the WVDOT, Equipment Division, Buckhannon, WV.

3.2.5 Preventative Maintenance & Operator Procedures:

3.2.1.5 Manufacturers and/or dealers will be required to submit to the Equipment Division, in addition to the operating and service manuals, booklets and pamphlets explaining the Preventative Maintenance and Operator Procedures to be used by the operators of this equipment, and must include such things as daily prestart inspection procedure, service, schedule, and routine maintenance required, safety precautions, etc. The successful vendor shall furnish all training aids, i.e. videos, projectors as required in conducting the training.

3.2.6 Warranty and Service Policy:

3.2.1.6 The unit must be accompanied upon delivery by the unit's manufacturers executed standard warranty and service policy.

**REQUEST FOR QUOTATION
CRFQ DOT2100000006**

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

4. CONTRACT AWARD:

- 4.1 Contract Award:** The Contract is intended to provide Agencies with a purchase price on all Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.
- 4.2 Pricing Pages:** Vendor should complete the Pricing Pages (Exhibit A) by completing the Year, Make, Model, and inserting quoted unit price and multiply by the Estimated Quantities to calculate the Total Bid Amount. Vendor should complete the pricing pages in their entirety as failure to do so may result in Vendor's bids being disqualified.

The Pricing Page contains a list of the Contract Items and estimated purchase volume. The estimated purchase volume for each item represents the approximate volume of anticipated purchases only. No future use of the Contract or any individual item is guaranteed or implied.

Vendor should electronically enter the information into the Pricing Pages through wvOASIS, if available, or as an electronic document. In most cases, the Vendor can request an electronic copy of the Pricing Pages for bid purposes by sending an email request to the following address:
Crystal.G.Hustead@wv.gov.

5. ORDERING AND PAYMENT:

- 5.1 Ordering:** Vendor shall accept orders through wvOASIS, regular mail, facsimile, e-mail, or any other written forms of communication. Vendor may but is not required to accept on-line orders through a secure internet ordering portal/website. If Vendor has the ability to accept on-line orders, it should include in its response a brief description of how Agencies may utilize the on-line ordering system. Vendor shall ensure that its on-line ordering system is properly secured prior to processing Agency orders on-line.
- 5.2 Payment:** Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia.

6. DELIVERY AND RETURN:

- 6.1 Delivery Time:** Vendor shall deliver standard orders within 60 working days after orders are received. Vendor shall ship all orders in accordance with the above schedule and shall not hold orders until a minimum delivery quantity is met. A completed pilot model for inspection must be provided within 30 working day(s) after receipt of the purchase agreement by the successful vendor. Working day is

**REQUEST FOR QUOTATION
CRFQ DOT2100000006**

Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

defined as any weekday, Monday thru Friday, excluding Federal and State Holidays. Vendor shall ship all orders in accordance with the above schedule and shall not hold orders until a minimum delivery quantity is met.

- 6.2 Late Delivery:** The Agency placing the order under this Contract must be notified in writing if orders will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the delayed order, and/or obtaining the items ordered from a third party.

Any Agency seeking to obtain items from a third party under this provision must first obtain approval of the Purchasing Division.

- 6.3 Delivery Payment/Risk of Loss:** Standard order delivery shall be F.O.B. Destination to the Agency's location. Vendor shall include the cost of standard order delivery charges in its bid pricing/discount and is not permitted to charge the Agency separately for such delivery. The Agency will pay delivery charges on all emergency orders provided that Vendor invoices those delivery costs as a separate charge with the original freight bill attached to the invoice.

- 6.4 Condition of Unit(s) Upon Delivery:** All units must arrive at the prescribed delivery point having been completely pre-serviced with oil, lubricants, and coolant. All prescribed precautions pertaining to first operations and break-in of the unit are to be posted conspicuously on the unit for ready observance by the operator.

- 6.5 Delivery Point:** Delivery point of the completed representative unit will be the WVDOH, Equipment Division, 83 Brushy Fork Road Crossing, Buckhannon, WV 26201.

7. VENDOR DEFAULT:

- 7.1** The following shall be considered a vendor default under this Contract.

- 7.1.1** Failure to provide Contract Items in accordance with the requirements contained herein.
- 7.1.2** Failure to comply with other specifications and requirements contained herein.
- 7.1.3** Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.
- 7.1.4** Failure to remedy deficient performance upon request.

REQUEST FOR QUOTATION
CRFQ DOT2100000006
Full Matrix Trailer Mounted Solar Powered Message Board (7020EC14)

7.2 The following remedies shall be available to Agency upon default.

7.2.1 Immediate cancellation of the Contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:


8.1 No Substitutions: Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.

8.2 Reports: Vendor shall provide quarterly reports and annual summaries to the Agency showing the Agency's items purchased, quantities of items purchased, and total dollar value of the items purchased. Vendor shall also provide reports, upon request, showing the items purchased during the term of this Contract, the quantity purchased for each of those items, and the total value of purchases for each of those items. Failure to supply such reports may be grounds for cancellation of this Contract.

8.3 Contract Manager: During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Brian Sweeney
Telephone Number: 410-861-8654
Fax Number: 410-861-8655
Email Address: bsweeney@dpihighwaysystems.com

Exhibit A Pricing Page

CRFQ DOT2100000006					
Full Matrix Trailer Mounted Solar Powered Message Board					
Item No.	Description:	Make/Model & Year	Estimated Unit Quantity	Unit Price	Item Total Cost
1	Full Matrix Trailer Mounted Solar Powered Message Board		15	\$19585.00	\$293,775.00
Total Bid Amount 					\$293,775.00

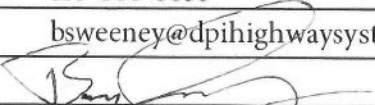
Vendor Information	
Company Name:	Dimensional Products Inc.
Contract Manager:	Brian Sweeney
Address:	2601 Emory Rd., Building #7
	Finksburg, MD 21048
Phone:	410-861-8654
Fax:	410-861-8655
Email:	bsweeney@dpihighwaysystems.com
Signature:	

EXHIBIT B**EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE**

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY BY SUCCESSFUL BIDDER OR MANUFACTURER'S TECHNICAL REPRESENTATIVE PRIOR TO DELIVERY TO THE WVDOH.

DESCRIPTION: Solar Powered Changable Message Sigh Trailer MAKE: Solar Technology
MODEL: MB-3048/Silent Messenger YEAR: 2020/current PURCHASE AMOUNT: \$19858.00
ENGINE: MAKE: N/A MODEL: N/A FUEL TYPE: N/A GALLONS: N/A
HORSEPOWER: N/A CYLINDER: N/A ENGINE SERIAL: N/A

BELTS: DESCRIPTION: PART NUMBERS:
N/A N/A
N/A N/A

GVW: 2900 lbs. GVWR: 2900 lbs. AXLE CAPACITY: FRONT: N/A REAR: One axle - load capacity 3400 lbs.

TIRES: FRONT MAKE & SIZE: Single axle tire size ST225/75R15 - Load Range C

REAR MAKE & SIZE: N/A

DIMENSIONS OF UNIT: LENGTH: 180 in. WIDTH: 92 in. HEIGHT: 162 in. in operating position

VENDOR CONTACT PERSON: Brian Sweeney PHONE: 410-861-8654

PARTS:

BATTERY MAKE: Crown MODEL: CR235 CCA: N/A
SPARK PLUGS OR FUEL INJECTORS MAKE: N/A PART #: N/A
FUEL PUMP OR INJECTION PUMP MAKE: N/A MODEL: N/A
ALTERNATOR MAKE: N/A PART #: N/A
STARTER MAKE: N/A PART #: N/A
TURBO CHARGER MAKE: N/A PART #: N/A
TRANS. MAKE: N/A MODEL: N/A AUTO/MANUAL: N/A
HYDRAULIC PUMP MAKE: N/A MODEL: N/A

FILTERS	MAKE	PART NO.	LUBRICANT	MANUFACTURER TYPE
OIL	<u>N/A</u>		ENGINE OIL WEIGHT	<u>N/A</u>
AIR INNER	<u>N/A</u>		TRANSMISSION FLUID TYPE	<u>N/A</u>
AIR OUTER	<u>N/A</u>		POWER STEERING FLUID TYPE	<u>N/A</u>
FUEL PRIMARY	<u>N/A</u>		HYDRAULIC OIL WEIGHT	<u>N/A</u>
FUEL SECONDARY	<u>N/A</u>		DIFFERENTIALS OIL WEIGHT	<u>N/A</u>
COOLANT	<u>N/A</u>		BRAKE FLUID TYPE	<u>N/A</u>
HYDRAULIC	<u>N/A</u>		COOLANT TYPE	<u>N/A</u>
OTHER	<u>N/A</u>		OTHER	<u>N/A</u>
OTHER	<u>N/A</u>		OTHER	<u>N/A</u>
OTHER	<u>N/A</u>		OTHER	<u>N/A</u>
OTHER	<u>N/A</u>		OTHER	<u>N/A</u>

West Virginia Ethics Commission



Disclosure of Interested Parties to Contracts

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of \$1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

"Business entity" means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation, but does not include publicly traded companies listed on a national or international stock exchange.

"Interested party" or *"Interested parties"* means:

- (1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;
- (2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and
- (3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

"State agency" means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of *W. Va. Code* § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: ethics@wv.gov; website: www.ethics.wv.gov.

West Virginia Ethics Commission
Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

Name of Contracting Business Entity: Dimensional Products Inc. **Address:** 2601 Emory Rd., Building #7
Finksburg, MD 21048

Name of Authorized Agent: Brian Sweeney **Address:** 2601 Emory Rd., #7, Finksburg, MD 21048

Contract Number: DOT2100000006 **Contract Description:** Full Matrix Solar Message Board Trl

Governmental agency awarding contract: West Virginia Division Of Highways

☐ Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

1. Subcontractors or other entities performing work or service under the Contract

☐ Check here if none, otherwise list entity/individual names below.

2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)

☐ Check here if none, otherwise list entity/individual names below.

Cathy Wolfson 51.5%
Steven Noel 39%

3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)

☐ Check here if none, otherwise list entity/individual names below.

Signature: *Cathy Wolfson*

Date Signed: *August 12, 2020*

Notary Verification

State of *MD*, County of *Carroll*:

I, *Cathy Wolfson*, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this *12* day of *August*, *2020*

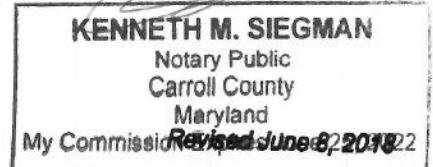
[Signature]
Notary Public's Signature

To be completed by State Agency:

Date Received by State Agency: _____

Date submitted to Ethics Commission: _____

Governmental agency submitting Disclosure: _____



STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Dimensional Products, Inc.

Authorized Signature: Cathy Weber

Date: August 12, 2020

State of MD

County of Calvert, to-wit:

Taken, subscribed, and sworn to before me this 12 day of August, 2020.

My Commission expires 6/25, 2022.


AFFIX SEAL HERE

KENNETH M. SIEGMAN
Notary Public
Carroll County
Maryland
My Commission Expires June 25, 2022

NOTARY PUBLIC

[Signature]
Purchasing Affidavit (Revised 01/18/2018)

Full Matrix Trailer Mounted Solar Powered Message Board

Item No.	Description:	Make/Model & Year	Estimated Unit Quantity	Unit Price	Item Total Cost
1	Full Matrix Trailer Mounted Solar Powered Message Board	Solar Technologies, Inc/Silent Messenger/2020 or current year	15	\$19,585.00	\$293,775.00
Total Bid Amount 					\$293,775.00

Vendor Information

Company Name: Dimensional Products Inc.

Contract Manager: Brian Sweeney

Address: 2601 Emory Road, Building #7, Finksburg, MD 21048

Phone: 410-861-8654

Fax: 410-861-8655

Email: bsweeney@dpihighwaysystems.com

Signature: 



Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
31 - Public Safety

Proc Folder: 740516

Doc Description: ADDENDUM 1 FULL MATRIX TRAILER MTD. SOLAR MESSAGE BOARD

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2020-07-24	2020-08-12 13:30:00	CRFQ 0803 DOT2100000006	2

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

WV 25305

US

VENDOR

Vendor Name, Address and Telephone Number:

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead

(304) 558-2402

crystal.g.hustead@wv.gov

Signature X

FEIN # 37-1383283

DATE 8/11/20

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS TO ESTABLISH AN OPEN-END CONTRACT FOR FULL MATRIX TRAILER MOUNTED SOLAR POWERED MESSAGE BOARDS PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL G HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

INVOICE TO	SHIP TO
DIVISION OF HIGHWAYS EQUIPMENT DIVISION RT 33 83 BRUSHY ROAD CROSSING, PO BOX 610 BUCKHANNON WV26201 US	DIVISION OF HIGHWAYS EQUIPMENT DIVISION 83 BRUSHY FORK RD CROSSING BUCKHANNON WV 26201 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Full Matrix Trailer Mtd. Solar Powered Message Board	15.00000	EA		

Comm Code	Manufacturer	Specification	Model #
46161520			

Extended Description :

Full matrix trailer mounted solar powered message board

SCHEDULE OF EVENTS

Line	Event	Event Date
1	MANDATORY PRE-BID MEETING	2020-07-28
2	VENDOR QUESTION DEADLINE	2020-07-31

SOLICITATION NUMBER: CRFQ DOT2100000006
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☐ Modify bid opening date and time
- ☐ Modify specifications of product or service being sought
- ☐ Attachment of vendor questions and responses
- ☐ Attachment of pre-bid sign-in sheet
- ☐ Correction of error
- ☒ Other

Description of Modification to Solicitation:

1. To provide WV DOT COVID-19 Guidelines for Pre-Construction & Pre-Bid Meetings

No other changes

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

Department of Transportation

COVID-19 Guidelines for Pre-Construction & Pre-Bid Meetings

The following guidelines are to be used when holding pre-construction and pre-bid meetings. Pre-construction and pre-bid meetings may require case-by-case analysis.

WV Purchasing Division Temporary Pre-bid Meeting Policy – COVID-19 Precautions

1. Pre-bid meetings must be removed from solicitations as a requirement, wherever possible, and replaced with publication of written materials conveying the needed information (except when contrary to agency policy).
2. In instances where site inspections are necessary for bidders to have a full understanding of the project, the Purchasing Division recommends that pre-bid meetings (and the underlying solicitation) be delayed until this period of heightened concern has ended. If delaying the solicitation is not possible or would cause an undue hardship on the spending unit, the pre-bid meeting should be conducted in a manner that minimizes the risk of COVID-19 transmission to the greatest extent possible.
3. Under no circumstances is a spending to conduct a pre-bid meeting that violates a policy or declaration of the Governor's Office.

For existing central solicitations, the spending unit should work with its designated Purchasing Division buyer to issue addenda to modify pre-bid meeting requirements where necessary. On agency delegated solicitations, the spending unit can make the necessary adjustments under their delegated authority.

Department of Transportation Pre-Construction and Pre-Bid Meetings Guidelines

- When possible, limit the number of representatives of each vendor to a maximum of two (2).
- Require each vendor representative to wear a mask upon entering and while moving throughout a DOT facility for the duration of the pre-construction and pre-bid meeting.
 - Any representative who arrives at a DOT facility without a mask will not be permitted to enter.
- In areas where a minimum 6ft distancing is not feasible amongst vendors, groups must be staggered during inspections.
- For pre-construction or pre-bid meetings located at the Capitol Complex:
 - Pre-construction or Pre-bid meetings can be conducted by using the West Virginia State Training Center located in Building 7, 2nd Floor.
 - For room scheduling/availability please contact the Facility Scheduler, Jeremy Walker, at 304-414-0840 or by email at dop.registrar@wv.gov
 - <https://personnel.wv.gov/ohrd/WVSTC/Pages/default.aspx>
- Vendor representatives must be met by a DOT employee conducting the meeting upon arrival to a DOT facility and escorted to the meeting location. After completion of the meeting, vendors must be escorted out of the facility.
- Upon completion of the meeting, all hard surfaces must be sanitized by the DOT employee(s) conducting the meeting.
- Pre-construction and Pre-bid meetings can be held outside of a DOT facility provided all safety guidelines can be met and no additional cost are incurred.
- Vendor representatives must provide their own refreshments.
- Delivery of bids to Building 5 must be scheduled. A DOT employee must meet the vendor representative at the Building 7 entrance and escort them to the bid box and back out of the facility. All facility COVID protocols apply.

June 17, 2020

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DOT2100000006

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Dimensional Products Inc.
Company
[Signature]
Authorized Signature
8/11/20
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.
Revised 6/8/2012



Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
31 — Public Safety

Proc Folder: 740516

Doc Description: ADDENDUM 2 FULL MATRIX TRAILER MTD. SOLAR MESSAGE BOARD

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2020-08-04	2020-08-12 13:30:00	CRFQ 0803 DOT2100000006	3

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

WV 25305

US

VENDOR

Vendor Name, Address and Telephone Number:

Dimensional Products Inc
2601 Emory Rd, Building #7
Finksburg, MD 21048
410-861-8654

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Signature X

FEIN #

37-1383283

DATE

8/11/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS TO ESTABLISH AN OPEN-END CONTRACT FOR FULL MATRIX TRAILER MOUNTED SOLAR POWERED MESSAGE BOARDS PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

INVOICE TO		SHIP TO
DIVISION OF HIGHWAYS EQUIPMENT DIVISION RT 33 83 BRUSHY ROAD CROSSING, PO BOX 610 BUCKHANNON WV26201 US		DIVISION OF HIGHWAYS EQUIPMENT DIVISION 83 BRUSHY FORK RD CROSSING BUCKHANNON WV 26201 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Full Matrix Trailer Mtd. Solar Powered Message Board	15.00000	EA	\$19585.00	\$293,775.00

Comm Code	Manufacturer	Specification	Model #
46161520	Solar Technologies, Inc.	Full Size/Full Matrix Display VMS Trailer	Silent Messenger

Extended Description :

Full matrix trailer mounted solar powered message board

SCHEDULE OF EVENTS

Line	Event	Event Date
1	MANDATORY PRE-BID MEETING	2020-07-28
2	VENDOR QUESTION DEADLINE	2020-07-31

SOLICITATION NUMBER: CRFQ DOT2100000006

Addendum Number: 2

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☐ Modify bid opening date and time
- ☐ Modify specifications of product or service being sought
- ☒ Attachment of vendor questions and responses
- ☒ Attachment of pre-bid sign-in sheet
- ☐ Correction of error
- ☐ Other

Description of Modification to Solicitation:

1. To provide answers to vendor questions
2. To publish the pre-bid meeting sign-in sheets

No other changes

Bid opening remains 08/12/2020 at 1:30 PM

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

ADDENDUM 2

CRFQ 0803 DOT2100000006

FULL MATRIX TRAILER MOUNTED SOLAR POWERED MESSAGE BOARD

The original language in contract will be listed first with question and answer to follow below.

1. Section 3.1.3.2 and 3.1.3.8 Sign Panel

3.1.3.2 All exposed panels and seams shall be corrosion proof for a minimum of ten (10) years. With construction, all panels/parts shall be assembled as to prevent corrosion or to prevent dissimilar metal reaction from occurring.

3.1.3.8 The sign panel frame shall be constructed of a welded assembly of aluminum alloy channel, or from steel panels powder coated in corrosion proof manner for a minimum of ten (10) years.

Question: "10 years of corrosion-proof manner," are you requesting for us to use stainless steel hardware where applicable to satisfy this request? Are you requesting a galvanized frame and a galvanized mast, this would have the greatest chance of meeting or exceeding the 10 year corrosion proof requirement. A Message Board frame and tower mast are the most critical structural connections of any Message Board.

Answer: Will accept stainless steel hardware.

- 2. 3.1.4.2** Unit shall be designed to accept two (2) power sources: one (1) being a battery bank consisting of four (2) size 4-D, deep cycle, lead acid 12 volt DC batteries wired in parallel.

Question # 1: Would WVDOH be accepting of 6V AGM maintenance free batteries wired in parallel producing a 12V system if the runtime requirements still meet and exceed the specified run time?

Question # 2: Please specify the requirements for the Power Source. This section states to provide two power sources, what are they? Does this section state four (4) 4D batteries, being one power source? Is the 165W Solar Panel the other power source?

Answer question #1: Will accept

Answer question #2: Power source one shall be the battery bank with solar panel. Power source number two shall be 120 volt AC power

Question # 3: The specification requests four 4D AGM batteries if we can provide formal data showing two 4D AGM batteries exceeding the 30 day run time (or the 10-year national averages of solar radiation), will this be acceptable?

Answer: Will accept

3. 3.1.4.3 Batteries shall be automatically recharged by a group of solar panels producing a minimum 165 watts of power, located at the highest point on the unit.

Question: Would the WVDOT be accepting of 160 watts of solar if it meets and exceeds the recharge/runtime requirements?

Answer: Will accept.

4. 3.1.4.6 Battery bank shall be housed in lockable heavy duty weatherproof battery boxes.

Question: The solicitation mentions two (2) battery boxes, the additional battery box will increase the price of the trailer and there is no added benefit with an additional battery box for the Message Board. Is one (1) battery box sufficient?

Answer: Will accept one battery box.

5. 3.1.9.6 Shall have a hydraulic brake actuator system and fenders one (1) each wheel, included on trailer.

Question: After talking to manufacturers, they have said that since the weight of the units have reduced so much over the years, that the standard is now electric braking systems. Will this be acceptable to the department?

Answer: Will accept electric brakes

6. **3.1.9.8** Shall have installation of trailer electrical cable and connector (7 Pole) compatible with towing vehicles.

Question: Are you requesting a 7 pole SAE or 7 pole RV style connector? The specification does not list these details, please advise?

Answer: 7 pole RV only. The use of 4 pole to 7 pole adapters will not be accepted.

7. **Question:** Do the message boards require modems for remote access for purposes of changing messages? If so, will the state pay for its own plan with associated modems? If the data plan is to be supplied by the vendor, for how long does it need to be supplied before the state takes over, and what are the requirements of said data plan?

Answer: AT&T is the state's preferred provider for service. The state will pay for its own plan

8. **Question:** Is the state requesting the Full Size Matrix Message Board or the Full Size Three Line Message Board? The title states the Full Size Matrix Message Board and the specification reflect the Full Size Three Line Message Board. A Full Size Matrix Message Board provides the ability to increase and decrease the font size as well as contains graphics capability. A Full Size Three Line Message Board simply provides three lines of eight characters with a default font size. There is no ability to adjust the font size on the Full Size Three Line Message Board.

Answer: The request is for full size full matrix message board.

9. **3.2.6 Warranty and Service Policy:**

3.2.6.1 The unit must be accompanied upon delivery by the unit's manufacturers executed standard warranty and service policy.

Question: The length of the standard warranty is not specified. If warranty duration is not noted, it allows for variances in quality, efficiency, and performance. Some manufacturers offer a one year warranty while other manufacturers offer five years. What duration of the warranty is required for this spec?

Answer: Minimum one year parts and labor.

10. Question: Will there be any bidding preference given to in state vendors as opposed to vendors from out of state?

Answer: Per Sections 15 and 15A of the Instructions to Vendors Submitting Bids, vendor preference is only applied in the purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects

15. PREFERENCE: Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and must include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at: <http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

15A. RECIPROCAL PREFERENCE: The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. Any request for reciprocal preference must include with the bid any information necessary to evaluate and confirm the applicability of the preference. A request form to help facilitate the request can be found at: <http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

11. Question: Want to verify that no bid bond or licensing is required to be submitted with the bid?

Answer: No bid bond is required.

Pre-Bid Sign-In Sheet

Solicitation Number: CRFQ 0803 DOT2100000006

Date of Pre-Bid Meeting: July 28, 2020 11:00 AM

Location of Prebid Meeting: Equipment Div. Buckhannon WV

Please Note:

Vendors must sign-in on this sheet to verify attendance at the Pre-Bid meeting.
Failure to legibly sign in may be grounds for declaring a vendor ineligible to bid.
For further verification, please also provide a business card if possible.

<u>Firm Represented:*</u>	<u>Rep Name (Printed):</u>	<u>Firm Address:</u>	<u>Telephone #:</u>	<u>Fax #:</u>	<u>Email:</u>
Mid Atlantic Maintenance	Cameron Morrison	3164 Southern Hwy Mineral Wells WV	304 346 5521	304 346 5554	cmorrison@midatlanticusa.com
Pam Hall	WV DOT	Buckhannon WV			pamela.j.hall@wv.gov
WVDOT	JD Haller	Buckhannon WV	304-475-5333		
WVDOH	Todd Campbell	" "	304-997-5916		A.Todd.Campbell@wv.gov
WV DOH	Tina Lewis	Charleston, WV	304-464-6859		tina.l.lewis@wv.gov

***One Vendor Per Representative** - No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.

Pre-Bid Sign-In Sheet

Solicitation Number: CRFQ 0803 DOT2100000006

Date of Pre-Bid Meeting: July 28, 2020 11:00 AM

Location of Prebid Meeting: Equipment Div. Buckhannon WV

Please Note:

Vendors must sign-in on this sheet to verify attendance at the Pre-Bid meeting.
Failure to legibly sign in may be grounds for declaring a vendor ineligible to bid.
For further verification, please also provide a business card if possible.

<u>Firm Represented:*</u>	<u>Rep Name (Printed):</u>	<u>Firm Address:</u>	<u>Telephone #:</u>	<u>Fax #:</u>	<u>Email:</u>
Dimensional Products Inc.	Brian Sweeney	2601 Emory Rd Building #7 Finksburg MD 21048	410-861 8654	410-861 8655	bsweeney@dpihighwaysystems.com
American Signal Company	Seth Johnson	2755 Bankers Industrial Dr. Atlanta, GA 30360	770-448-6650	770-448-8970	Sjohnson@amsig.com
VER-MAC	RICHARD TATKOW	4850 N. SAM HOUSTON PKWY HOUSTON, TX 77032	888-488-7444	410-654-0517	RICHARD.TATKOW@VER-MAC.COM
Safety Zone	HEATHER ROYLANCE	2318 OLD COMBEE Rd Building 2 Unit 107 Lakeland FL 33805	813-984-1385	813-984-0058	

***One Vendor Per Representative** - No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.



2318 Old Combee Rd.
Bldg. 2 Unit 107
Lakeland, FL 33805
Roll Up Signs & Stands
Barricades & Lights
Strobe & LED Lights
Stop/Slow Paddles & Flags
Marking Paint & Flagging Ribbon
Flashlights & Batteries
Safety Cans & Cabinets
Safety Fence & Tape
Arrow & Message Boards
863.984.1385
FAX: 863.984.0058

GSA GS-07F-0309L

Seth Johnson
Regional Sales Manager



AMERICAN SIGNAL COMPANY

Office: 770.448.6650 ext 112
Mobile: 404.978.5646
Fax: 770.448.8970
Email: sjohnson@amsig.com

2755 Bankers Industrial Dr. Atlanta GA 30360 | amsig.com

RICHARD TATKOW
NORTHEAST REGIONAL SALES MANAGER

VER-MAC

21 BEDMINSTER ROAD, RANDOLPH, NJ 07869
O: 973.387.5302 T: 973.482.7446
RICHARD.TATKOW@VER-MAC.COM
WWW.VER-MAC.COM

Dimensional  Products Inc.

safety beyond the lines
Roadside and Pedestrian Safety Hardware

Brian Sweeney, Product Consultant
bsweeney@dpihighwaysystems.com

O: 410-861-8654
C: 443-220-9780

2601 Emory Rd., Building 7
Finksburg, MD 21048

EXHIBIT B**EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE**

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY BY SUCCESSFUL BIDDER OR MANUFACTURER'S TECHNICAL REPRESENTATIVE PRIOR TO DELIVERY TO THE WVDOT.

DESCRIPTION: Solar Powered Changable Message Sigh Trailer MAKE: Solar Technology
MODEL: MB-3048/Silent Messenger YEAR: 2020/current PURCHASE AMOUNT: \$19858.00

ENGINE: MAKE: N/A MODEL: N/A FUEL TYPE: N/A GALLONS: N/A
HORSEPOWER: N/A CYLINDER: N/A ENGINE SERIAL: N/A

BELTS: DESCRIPTION: PART NUMBERS:
N/A N/A
N/A N/A

GVW: 2900 lbs. GVWR: 2900 lbs. AXLE CAPACITY: FRONT: N/A REAR: One axle - load capacity 3400 lbs.

TIRES: FRONT MAKE & SIZE: Single axle tire size ST225/75R15 - Load Range C

REAR MAKE & SIZE: N/A

162 in. in operating

DIMENSIONS OF UNIT: LENGTH: 180 in. WIDTH: 92 in. HEIGHT: position

VENDOR CONTACT PERSON: Brian Sweeney PHONE: 410-861-8654

PARTS:

BATTERY MAKE: Crown MODEL: CR235 CCA: N/A
SPARK PLUGS OR FUEL INJECTORS MAKE: N/A PART #: N/A
FUEL PUMP OR INJECTION PUMP MAKE: N/A MODEL: N/A
ALTERNATOR MAKE: N/A PART #: N/A
STARTER MAKE: N/A PART #: N/A
TURBO CHARGER MAKE: N/A PART #: N/A
TRANS. MAKE: N/A MODEL: N/A AUTO/MANUAL: N/A
HYDRAULIC PUMP MAKE: N/A MODEL: N/A

FILTERS MAKE PART NO. LUBRICANT MANUFACTURER TYPE

OIL N/A
AIR INNER N/A
AIR OUTER N/A
FUEL PRIMARY N/A
FUEL SECONDARY N/A
COOLANT N/A
HYDRAULIC N/A
OTHER N/A
OTHER N/A
OTHER N/A
OTHER N/A

ENGINE OIL WEIGHT N/A
TRANSMISSION FLUID TYPE N/A
POWER STEERING FLUID TYPE N/A
HYDRAULIC OIL WEIGHT N/A
DIFFERENTIALS OIL WEIGHT N/A
BRAKE FLUID TYPE N/A
COOLANT TYPE N/A
OTHER N/A
OTHER N/A
OTHER N/A
OTHER N/A



Silent Messenger Message Board Full-Sized

USES AND ADVANTAGES

The "Silent Messenger" full-sized Message Board is the cornerstone of the SolarTech product line. This rugged portable changeable message sign is designed to provide information to improve traffic flow and safety in work zones, for both drivers and workers.

The Silent Messenger consists of a 126" w x 76" h sign panel with a 27 x 48 pixel full matrix LED display, powered by a combination of solar panels and batteries. The sign telescopes on a lift and rotate mast, and can be rotated for optimal visibility.

The sign comes with integrated GPS receiver, a cellular transceiver and **FREE lifetime cellular service**. Use with Command Center software for remote communications - messages can be changed from a pc or a smartphone.



REMOTE CONTROL AND GPS TRACKING INCLUDED!

Command Center software allows you to track your equipment using the built-in cellular transceiver and GPS system.

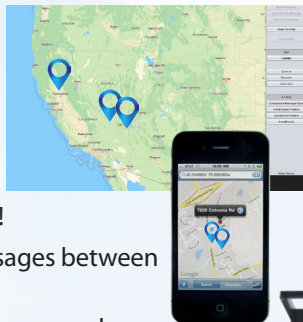
Access units from a map or list. Control units individually or broadcast to a group.

Manage your fleet from your laptop, pc or smartphone... without leaving your desk!

You can build a message library, share messages between boards, schedule messages and more.

Get automatic email notifications when a message changes, if the battery voltage is low, if a pixel fails, or if the unit moves.

Keep tabs on your whole fleet. No more misplaced equipment... fewer problems... less downtime!



EASY-TO-USE CONTROLLER

The touch-screen controller needs no manual - it's that easy to use! Includes:

- GPS receiver, cellular transceiver and free cellular service for the life of the board
- Password protection
- Intuitive icons for ease of use
- Scheduling capability
- Fully networkable
- NTCIP version 2 compatible
- Automatic software upgrades



Silent Messenger Message Board

DISPLAY

Panel Size	126" x 76" (320 cm x 193 cm)
Panel Construction	All aluminum, modular construction
Panel Face	3/16" polycarbonate, non-glare
Matrix Size	27 x 48 pixels
Pixel Pitch	2.6" x 2.6" (66 mm x 66 mm)
Number of Fonts	Twelve (12)
Character Height	13" to 68" (33 cm to 173 cm)
Graphics Capability	Full matrix with full animation
Display Technology	LED (amber, 592 nm)
Display Brightness	>10,000 candela per square meter
Viewing Angle	>30°
Display Life Expectancy	10 years typical
Lifting Mechanism	2,000 lb. capacity electro-hydraulic

TRAILER

Length Overall	180" (457 cm)
Width Overall.....	92" (234 cm)
Height Traveling	103" (262 cm)
Height Operating	162" (412 cm)
Ground Clearance	13" (33 cm) minimum
Weight (minimum)	2,400 lbs. (1,089 kg)
Weight (maximum)	2,960 lbs. (1,343 kg)
Coupler (Class III)	2" (50 mm) ball or 3" (76 mm) pintle ring
Axle/Suspension	Torq flex independent

MEGA-TECH CONTROL CONSOLE

Console Circuitry	Ultra-low power solid state
Console Touchscreen	Waterproof, backlit, full-color GUI, intuitive icon-driven, multi-lingual
Programming Software	Proprietary with automatic remotely managed upgrades (field upgradable for units not connected to Command Center)
Message Capacity	Pre-programmed and user-defined (> 250 each)
Message Display Time	User-selectable (0.1 to 99 seconds)
Display Update Time	Instantaneous
Non-Volatile Memory	4 GB Micro SD card
Password Protection	User-selectable, multi-level
Operator Interface	Easy-to-use icons (no manual required)
Connectivity	Supports NTCIP version 2 via UDP/IP over Ethernet, UDP/IP over the built-in cellular modem, and PMPP over RS-232.
Remote Control	Embedded cellular transceiver with free cellular service and fleet management software included
GPS	Integrated GPS receiver

ENERGY SOURCE

Operating Voltage	12 Volts DC (nominal)
Battery Type	6 Volt heavy duty, deep cycle (GC-2)
Number of Batteries	Four (4) standard lead acid (flooded)
Battery Bank Capacity	520 amp hours
Battery Status Indicator	Displays battery voltage, charging activity and low battery condition
Battery Security	Anti-theft steel battery frame bolted to trailer
Solar Array Construction	Top-mounted solar panels in aluminum frame
Solar Array Power Output	Standard 160 watt (nominal)
Solar Charge Controller	Automatic, temperature compensated
Auxiliary Battery Charger	45 amp, 120 volt AC



OPTIONS AND UPGRADES

DISPLAY PANEL

- High-Definition Display - 30 x 56 pixels 2.3" (58 mm) pixel pitch

SOLAR ARRAY OPTIONS

- Fixed: • 240 watt • 320 watt • 400 watt • 480 watt
Tilt and Rotate: • 160 watt • 240 watt • 320 watt

BATTERY UPGRADES

Type	Number	Capacity
Lead-Acid (flooded)	Six (6)	780 amp hour
	Eight (8)	1040 amp hour
	Ten (10)	1300 amp hour
	Twelve (12)	1560 amp hour
Gel Cell or AGM (maintenance free)	Four (4)	520 amp hour
	Six (6)	780 amp hour
	Eight (8)	1040 amp hour
	Ten (10)	1300 amp hour
	Twelve (12)	1560 amp hour

BATTERY CHARGER UPGRADE

- 90 amp - 120 volt AC

BRAKES

- Hydraulic Surge Brakes (5,000 lb. Capacity)
- Electric Brakes

SECURITY OPTION

Vandal-Proof Battery Box reinforced steel cage

RADAR OPTIONS

- Directional doppler K-Band. User-configurable KPH or MPH. Data Collection and Statistical Analysis Package included.



SOLAR TECHNOLOGY, INC.
7620 Cetronia Rd. Allentown, PA 18106
Phone: 800-475-5442 or 610-391-8600

www.solartechology.com





Harness the Power of the Sun

SOLAR TECHNOLOGY, INC

Comprehensive 5-Year Limited Warranty

Welcome to the SOLAR TECHNOLOGY family! Your purchase represents the very finest in traffic control devices. To insure the quality that goes into the design and manufacturing of every new SOLAR TECHNOLOGY product, we offer a Comprehensive Protection Program (CPP) which provides for a five-year limited warranty covering all Silent Messenger changeable message signs (message boards), Silent Sentinel advanced warning arrow panels (arrow boards) and Silent Advisor radar speed trailers (radar speed displays) purchased for U.S. Domestic and Canadian use. Additionally, Solar Technology, Inc. provides a ten-year limited warranty on all LED lamps used in its Silent Sentinel line of advanced warning arrow panels.

LIMITED WARRANTY

SOLAR TECHNOLOGY, INC. (STI) warrants that this product will conform to the manufacturer's standard specifications without defects in materials or workmanship for a period of five years. This is a "bumper to bumper" warranty that covers repair or replacement of all components, on an exchange basis, with the exception of vendor supplied items and consumables, including, but not limited to, modems, radar guns, tires, batteries and battery chargers. Other components may be warranted for an extended period of time. Components, sub-assemblies, and devices produced by other manufacturers not covered under this warranty are covered separately and individually under warranties provided by the specified manufacturer.

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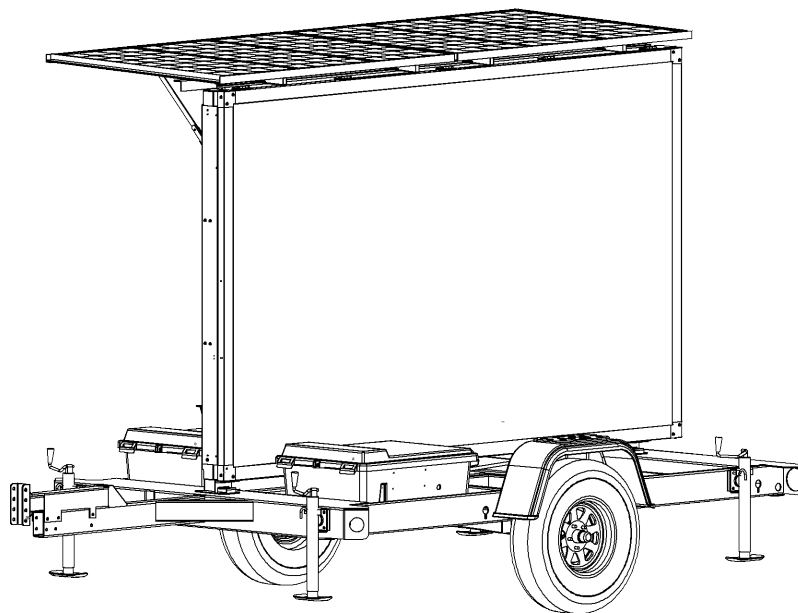
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This document presents a detailed specification for a full-size solar powered portable dynamic (changeable) message sign. This specification typically requires additions and/or modifications to meet a user's specific requirements.

This specification is subject to periodic revisions as required without notice.

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1. General

1.1 Product Description

The **SILENT MESSENGER** is a solar powered portable dynamic message sign. The **SILENT MESSENGER** consists of a sign display panel, a supporting structure for the sign display panel, a photovoltaic array, a battery power supply, an energy management system control unit and an electronic control console, 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.

1.2.2 Minimize operating cost by using a renewable energy source, requiring minimal maintenance.

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

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).

1.3 Performance Objectives

1.3.1 Visibility up to 1 mile.

1.3.2 Legibility up to 1/2 mile.

1.3.3 Minimal glare from sunlight and headlights.

1.3.4 Continuous, uninterrupted operation on solar power.

1.3.5 One month minimum, three month typical maintenance interval.

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 9001:2015 certified quality management system.

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.

1.4.3 Manufacturer shall have a factory authorized service center located within 150 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.

2. Physical

2.1 Dimensions

2.1.1 Length Overall - 180 in. (457 cm)

2.1.2 Width Overall - 92 in. (234 cm)

2.1.3 Height

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

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

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

2.1.5 Weight - 2,960 lbs. (1,343 kg) (maximum)

2.2 Environmental

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

2.2.2 Relative Humidity - 20% to 98%, non-condensing

2.2.3 Wind

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

2.2.3.2 Operating position, max. height, outriggers in place - 80 MPH (128 KPH) sustained

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

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) 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 crossmembers (2 x 4 x 11 gauge tubing) 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.

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.

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.

3.1.2 Suspension and Brake System (Note: brakes are an optional upgrade)

3.1.2.1 Trailer shall be equipped with an independent suspension, torsion-type #10 axle with either (optional) hydraulic surge or electric brakes. Axle load capacity shall be set to 3,400 pounds (Note: brakes are an optional upgrade).

3.1.2.2 Axle wheel spindles shall be equipped with grease fittings to accommodate wheel bearing lubrication.

3.1.2.3 Trailer shall be equipped with an optional bolt-on 7,500-pound capacity hydraulic surge brake actuator for axles equipped with surge brakes or an optional electric brake controller for axles equipped with electric brakes (Note: hydraulic surge or electric brakes are an optional upgrade).

3.1.2.4 Optional hydraulic surge brake actuator or optional electric 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 (Note: hydraulic surge or electric brakes are an optional upgrade).

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 or a 3-inch pintle ring coupler, both with minimum capacity ratings of 5,000 lbs.

3.1.3.2 Trailer shall be equipped with 36" long 1/4-inch safety chains with snap-type hooks for secure attachment to tow vehicle hitch.

3.1.3.3 All trailer hitch components shall comply with SAE J684 standards for Class II (2) trailers.

3.1.4 Surface Preparation and Finishing

3.1.4.1 Trailer chassis and superstructure shall be completely cleaned and deburred prior to finishing. All metal surfaces shall be prepared for finishing using an iron phosphate wash-down process.

3.1.4.2 A polyamide epoxy primer shall be applied to a dry film thickness of 1.5 mils.

3.1.4.3 A high gloss federal safety orange aliphatic acrylic urethane finish shall be applied to a dry film thickness of 1.25 mils.

3.1.5 Lighting

3.1.5.1 Trailer shall be equipped with sealed flush-mounted combination stop, tail and turn lights.

3.1.5.2 Trailer shall be equipped with flush-mounted front and rear side marker lights.

3.1.5.3 Trailer shall be equipped with a rear center identification light bar.

3.1.5.4 Trailer shall be equipped with a lighted license plate holder.

3.1.5.5 Trailer wiring harness shall be completely sealed and water resistant.

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.

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.

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 at each corner of the trailer frame.

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.

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.

3.1.8 Tires and Wheels

3.1.8.1 Tires shall be ST225/75R15 Load Range C.

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.

3.1.8.3 Wheels and tires shall be sized in accordance with load requirements of trailer and axle.

3.2 Sign Support

3.2.1 Sign panel shall be attached to a telescoping mast assembly to facilitate raising and rotating the display panel from the transport position to the operating position safely and quickly by an unassisted operator.

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 panel.

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 panel 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 or total loss of electrical power.

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.

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

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 panel 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 mechanisms are not acceptable as slippage can occur in high wind conditions.

3.2.8 The message display panel support mechanism shall be capable of being rotated through 360° and locked into position, at any angle.

3.2.9 The message display panel rotation locking mechanism shall permit the operator to lock the message display into position, safely, at ground level, prior to elevation to full operating height.

3.2.10 The message display panel shall be equipped with a sighting device to facilitate proper alignment during setup.

3.2.11 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.

3.2.12 Message display panel support structure shall be of non-welded, modular construction to facilitate quick easy repair in the event of accidental damage.

3.2.13 Message display panel shall be secured to a steel superstructure with stainless steel hardware and nylon spacers to minimize the effects of corrosion.

3.2.14 All mounting hardware shall be locking-type.

3.2.15 Heavy gauge steel cradles equipped with rubber bumpers and HDPE wear pads shall securely support sign panel against vertical and lateral movement during transport. No locking pins or latches will be permitted. Sign panel shall automatically lock into the transport position, without operator intervention, when the sign panel upper mast is fully retracted.

4. Message Display Panel

4.1 Dimensions

4.1.1 Width Overall - 126 in. (320 cm)

4.1.2 Height Overall - 76 in. (193 cm)

4.1.3 Depth Overall - 6 in. (15 cm)

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 powered coated stainless steel torx head screws and nylon insert locknuts.

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.

4.2.1.3 Interior of message display panel case shall be equipped with fabricated extruded aluminum channels to reinforce the display case and to support internal wiring and cables.

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

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 powered coated stainless steel torx head screws and nuts.

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.

4.2.2.3 A rubber seal shall be located inside of the flange on the case frame to provide a water tight, dust tight closure.

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.

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.

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.

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

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.

4.2.3 Surface Preparation and Finishing

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

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

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

4.3 Display Characteristics

4.3.1 The message display area shall be approximately 120 inches in width by 70 inches in height.

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 (models MB-1548, MB-2248, MB-3048, MB-3748 and MB-4048), or 56 pixels in width by 30 pixels in height when equipped with the optional high definition display (models MB-1556, MB-2256, MB-3056, MB-3756 and MB-4056).

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.

4.3.4 The display color shall be amber (592 nanometer wavelength).

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

4.3.6 The display shall produce a minimum viewing angle of 24 degrees standard (60 degrees when equipped with optional MegaFlux LED display), with consistent intensity and color across the entire display panel.

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 13 inches (33 cm) to a maximum of 52 inches (132 cm).

4.3.8 The message display panel shall be capable of displaying three lines of text with a minimum of three pixels (7.5 inches / 19 cm) between lines.

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 (56 pixel width by 30 pixel height when equipped with the optional high definition display).

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.

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.

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.

4.4.4 Display module control circuitry shall be designed to accommodate "hot swapping" - exchange of display modules while sign is operating.

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.

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

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.

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.

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

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

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

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.

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.

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

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.

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.

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.

5.2 General Operation

5.2.1 Control console shall provide for full local and remote (via integrated 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.

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 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 from date of purchase (i.e. cellular service shall be included free from date of original purchase for life of the unit).

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, NTCIP, and UTMCI). 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.

5.2.4 Control console embedded CPU shall incorporate an ARM 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.

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.

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.

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

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 cellular transceiver and included remote control service from date of original purchase.

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).

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.

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.

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.

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. 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.
User Menu	Create, Edit, Delete, Save, Display, and Schedule messages. Create, Assign and Edit Quick-Picks. Check System Status and perform basic diagnostics.
Supervisor Menu	All User Menu Functions. Create and delete Quick-Picks and User passwords. Set system operating parameters.
Administrator Menu	All Supervisor Functions. Create and delete Administrator and Supervisor passwords. Set controller operating parameters.

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.

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.

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.

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.

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.

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).

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.

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.

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.

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.

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.

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 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.

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.

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.

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 known 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.

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).

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.

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 installations.

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

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.

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

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.

Unit shall support up to 65,535 user-defined permanent messages.

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.

Unit shall support a configurable number of volatile (nonpersistent) messages. This number shall be configurable between 1 and 65,535, and shall default to 32.

Each message shall support at least 16 pages.

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

Unit shall support at least 255 graphics via the monochrome 1 bit color scheme.

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

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
- 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
- Blank the unit's sign panel
- Select, preview, edit and activate any message from the unit's message library
- Create, edit, preview and activate a new multi-page text message (up to 6 pages)
- Turn NTCIP control on/off if NTCIP control is enabled on control console

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.

6. Power System

6.1 General

6.1.1 Operating Voltage - 12 Volts DC nominal

6.1.2 Operating Energy Requirement - approx. 30 Amp Hours per day nominal at Spring or Fall Equinox
(i.e. 12 hours of daylight, 12 hours of darkness)

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.

6.2 Battery Bank

6.2.1 Number of batteries: Specify four (4), six (6), eight (8), ten (10) or twelve (12)

6.2.2 Battery type: 6-Volt, heavy duty, deep cycle - Specify Flooded Lead-Acid, Gel-Cell or AGM.

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 greater than 30 days, without any energy input from the solar array.

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.

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

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

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.

6.2.4.5 Lid shall be secured to compartment by an integral plastic hinge that permits the lid to be completely removed from the compartment for service. Lid on the compartment containing the control console shall be automatically supported in the open position by a telescoping lid support.

6.2.4.6 Compartments shall be designed to provide adequate ventilation for the batteries during charging yet prevent the ingress of water during use or transport.

6.2.4.7 Each compartments shall be capable of housing four (4) BCI Group GC-2 batteries.

6.3 Solar Array

6.3.1 Photovoltaic module type - Single crystal (monocrystalline) silicon

6.3.2 Number of solar cells per module - 36

6.3.3 Solar array power output: Specify 160, 240, 320, 400 or 480 Watts peak (min.)

NOTE: Solar energy system performance charts are available to assist in selection of appropriate solar array power output requirements.

6.3.4 Solar array shall tilt down for fast, easy cleaning and maintenance.

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. (Note: An optional tilt and rotate system or an automatically operated linear actuator may be provided to provide for automatic removal of snow and/or ice from solar array for units specified for extreme climates and/or extreme latitudes.)

6.3.6 Photovoltaic module junction boxes shall be equipped with watertight strain reliefs at all cable entry points.

6.4 Wiring and Cabling

6.4.1 All power and control wiring and cables shall be in nonmetallic, flexible, liquid tight conduits.

6.4.2 All conduit fittings shall be sealed at bulkheads or enclosure entry points.

6.4.3 All wiring shall be marine grade, multi-strand, tin-plated copper with PVC insulation rated for outdoor use.

6.4.4 All power system wire terminals shall be tin-plated copper to minimize the effects of galvanic corrosion.

6.4.5 Main power wiring shall be 8 AWG minimum.

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.

6.4.7 Solar panel terminations shall consist of stainless steel screws with #8 tin-plated copper snap spade terminal.

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

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.

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.

6.5.3 Energy management system control unit shall monitor solar array voltage, solar array current, battery voltage, battery current and ambient temperature.

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.

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.

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.

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.

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.

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.

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.

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.

7. Documentation

7.1 Operation and Maintenance Manual - available on-line at www.solartechtechnology.com

7.1.1 Setup and Operation

7.1.2 Programming

7.1.3 Maintenance

7.1.4 Troubleshooting and Repair

7.1.5 Assembly Diagrams and Parts Lists

7.1.6 Specifications

7.1.7 Appendix

7.2 Command Center - Users Manual - available on-line at www.solartechtechnology.com

7.2.1 Installation and Setup

7.2.2 Command Center Operation

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.

7.3.3 Basic programming instructions.

7.3.4 Basic system status evaluation.

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

7.4 Integration Support Documentation - Per request from customer support (1-800-475-5442)

7.4.1 Proprietary Protocol Documentation for Custom System Integrators

7.4.2 NTCIP Support Documentation for NTCIP System Integrators

7.4.3 Web-Server Protocol Documentation for Web Based Application System Integrators

8. Maintenance

8.1 Scheduled Maintenance

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

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

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 - consult factory for terms & conditions

9.1.2 Solar Panels - Ten years

9.2 Extended Warranty - Consult factory

10. Options

10.1 Battery Charger

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

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

10.1.3 Available models with typical recharge times.

10.1.3.1 45-Amp - 36 hours (12 batteries), 24 hours (8 batteries), 12 hours (4 batteries)

10.1.3.2 90-Amp - 22 hours (12 batteries), 16 hours (8 batteries), 8 hours (4 batteries)

10.1.3 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. 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.

- Sending a message to one or more remote PCMS for immediate display.
- Receiving the message currently displayed on all remote PCMS.
- Managing the message libraries and message schedules & events on all remote PCMS.
- 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.
- Reporting and managing NTCIP status of all PCMS.
- 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).
- Provide for the ability to perform various system resets including a complete re-boot/restart of the system for all PCMS.

10.2.1.3 Communication Protocol - Proprietary with complete CRC error detection and correction and full challenge-response password authentication.

10.2.1.4 Data Format - Data is encrypted and compressed for added security and reliability.

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.solartechtechnology.com).

10.2.2 TCP/IP Network Communications (Dynamic or Static IP Address)

10.2.2.1 Data rate - 10/100 Base-T Ethernet

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 or STMP, or with Comamnd Center). Remote control software (Command Center) shall be provided free of charge (downloadable from www.solartechtechnology.com) 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

10.2.3.1 Wireless modem with up to a 3-Watt cellular transceiver.

10.2.3.2 MNP 2-4 Error Control - Automatic error detection and correction.

10.2.3.3 MNP 5 Data Compression - Higher data rates, shorter connection times.

10.2.3.4 MNP 10EC - Enhanced performance over noisy cellular connections.

10.3 Radar Speed Monitor

10.3.1 General

10.3.1.1 Operating Frequency - 24.15 GHz (K-Band)

10.3.1.2 Antenna Beamwidth - 12° (Circular Pattern)

10.3.1.3 Capture Angle - 16.5° typical (Circular Pattern)

10.3.1.4 Target Speed Range - 5 to 125 MPH (20 to 200 km/h)

10.3.1.5 Target Speed Accuracy - 1 MPH typical

10.3.1.6 Detection Distance - 1,500 Feet (Automobile-size target)

10.3.1.7 Radar unit shall install in the field with minimum effort.

10.3.1.8 Message sign shall be pre-wired and pre-programmed for radar speed monitor option.

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.

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.

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.

10.3.2.4 All necessary software features shall be included with the basic message sign package.

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 Control Center 3000 - see Control Center 3000 manual for further details.

10.3.3.2 Data Provided

10.3.3.2.1 Raw Data File: (radar_data file) - (Year, Month, Day, Time, Reading) - every reading - readings recorded every 250ms while tracking a target

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

10.4 Cellular Transceiver & GPS Receiver Module

10.4.1 Integrated into Control Console - proprietary

10.5 Sign Panel Flux-Gate Digital Compass

10.5.1 General

10.5.1.1 Operating Voltage: 8-28 Vdc

10.5.1.2 Input Current: 40 mA @ 12 Vdc maximum

10.5.1.3 Operating Temperature Range: -40C to +65C (-40F to +150F)

10.5.1.4 Shock/Vibration: meets MIL-STD-810 requirements

10.5.1.5 Altitude: 40,000 ft. maximum

10.5.1.6 Reliability: MTBF > 30,000 hours

10.5.1.7 Accuracy: +/-0.5 degrees

10.5.1.8 Repeatability: +/-0.2 degrees

10.5.1.9 Resolution: 0.1 degrees

10.5.1.10 Dip Angle: +/-80 degrees

10.5.1.11 Tilt Angle: +/-16 degrees

10.5.1.12 Response Time: 1 second

10.6 PTZ (Pan Tilt Zoom) Camera System

10.6.1 Camera Mount

10.6.1.1 Camera shall be supported by a mount bolted to the back of the sign panel that is capable of being raised/lowered via a 1,000 lb. capacity automatic brake winch and an extendable mast such that the camera can be raised (from below the top of the sign panel when in the lowered/transport position as to prevent damage to the camera during transport) to a minimum height of 19" above the top of the sign panel (extendable mast full retracted) to a maximum height of 50" above the top of the sign panel (extendable mast fully extended) providing a range of 15 ft. to 17 1/2 ft. above the ground when the sign panel is fully raised to the deployed position. Camera mount shall be bolted to the left-hand side of the sign panel such that it is in the best possible location for viewing all traffic on the roadway upon which the sign is deployed. Mount shall be lockable in both the raised and lowered position via a standard safety pin as to prevent inadvertent movement. Camera shall be easily removable (and installable) via a quick disconnect system for quick and easy removal and/or installation for storage and/or transport as desired for additional safety and/or security.

10.6.2 Camera General

10.6.2.1 Power Supply: DC/AC Inverter - 10-15 VDC Input - 24 VAC (+/-10%) 60Hz Output - 100W

10.6.2.2 Camera: Bosch Autodome 7000 IP 36X Day/Night (Note: see BOSCH AUTODOME 7000 IP Data Sheet for full current details and specifications)

10.6.2.2.1 Imager - 1/4 in. - type Exview HAD CCD (progressive scan)

10.6.2.2.2 Effective Picture Elements - PAL: Approx. 440,000; 752(H) x 582(V) / NTSC: Approx. 380,000; 768(H) x 494(V)

10.6.2.2.3 Lens - 36x Zoom (3.4-122.4mm) F1.6 to F4.5

10.6.2.2.4 Focus - Automatic with manual override

10.6.2.2.5 Iris - Automatic with manual override

10.6.2.2.6 Zoom Movement Speed - 2.1 sec. (min) - 6.0 sec. (max) depending on mode of operation

10.6.2.2.7 Optical Zoom Field of View (FOV) - 1.7 deg. to 57.8 deg.

10.6.2.2.8 Minimum Working Distance - 320mm (wide) to 1500mm (tele)

10.6.2.2.9 Gain Control - Auto/Manual/Max. (-3dB to 28 dB, 2 dB steps)

10.6.2.2.10 Synchronization - Line-Lock (-120 deg. to 120 deg. vertical phase adjust) or int. crystal

10.6.2.2.11 Aperture Correction - Horizontal and vertical

10.6.2.2.12 Digital Zoom - 12x

10.6.2.2.13 Sensitivity - Day Mode (.04 lux to .66 lux) / Night Mode (.0052 lux to .209 lux) depending on operating mode

10.6.2.2.14 Electronic Shutter Speed - NTSC: 1/4 to 1/10,000 sec., 20 steps / PAL: 1/3 to 1/10,000 sec., 20 steps

10.6.2.2.15 Wide Dynamic Range (WDR) - 92 dB (50 dB with WDR Off)

10.6.2.2.16 Signal-to-Noise Ratio (SNR) - >50 dB (Weighting ON)

10.6.2.2.17 Backlight Compensation (On/Off)

10.6.2.2.18 White Balance - ATW, Indoor, Outdoor, AWB Hold, Extended ATW, Manual, Outdoor Auto, Sodium Lamp Auto, Sodium Lamp

10.6.2.2.19 Day/Night - Monochrome, Color, Auto

10.6.2.2.20 Stabilization - On/Off

10.6.2.2.21 Pan Range - 360 deg. continuous

10.6.2.2.22 Tilt Angle - 18 deg. above horizon

10.6.2.2.23 Pre-position speed - Pan: 400 deg./sec. / Tilt: 300 deg./sec.

10.6.2.2.24 Input Voltage: 21-30 VAC, 50/60 Hz or High PoE

10.6.2.2.25 Power Consumption typical - 60W (heaters on) / 24W (heaters off)

10.6.2.2.26 Video Compression - H.264 (ISO/IEC 14496-10), M-JPEG

10.6.2.2.27 Encoding/Streaming - H.264 and MJPEG

10.6.2.2.28 Ingress Protection Rating - IP66

10.6.2.2.29 Operating Temp. - -40F to 131F (-40C to 55C)

10.6.3 Additional Requirements for Camera System Installation and Operation

10.6.3.1 Camera system requires upgrading the Solar Array to a 320W Tilt and Rotate Solar Array

10.6.3.2 Camera system requires upgrading the Battery Bank to a minimum of Eight (8) batteries

10.6.3.3 Camera system requires the installation (and activation) of a separate 4G LTE digital cellular modem router - recommend model is a DIGI TRANSPORT WR44R - P/N: WR44-L500-CE1-RF (4G LTE, Non-Wifi Non-GPS) with separate data service (set up by the owner of the sign/camera system through Verizon, AT&T, Sprint, etc. as appropriate for the installed modem) with sufficient bandwidth and data capacity suitable for remote video streaming/monitoring and control of the camera system. See DIGI TRANSPORT WR44R Data Sheet for more detailed information on the DIGI TRANSPORT WR44R Digital Cellular Modem Router.