

PO BOX 4087

2500 PRODUCTION DR

SAINT CHARLES IL 60174

State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

WORK AREA PROTECTION CORPORATI

630-377-9100

# Request for Quotation

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ADDRESS CORRESPONDENCE TO ATTENTION OF

MICHAEL AUSTIN 304-558-2402

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DIVISION OF HIGHWAYS EQUIPMENT DIVISION ROUTE 33 BRUSHY FORK ROAD BUCKHANNON, WV

26201

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DIVISION OF HIGHWAYS EQUIPMENT DIVISION ROUTE 33 BRUSHY FORK ROAD

BUCKHANNON, WV

26201 304-472-1750

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State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

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**\*709032901** 630-377-9100 WORK AREA PROTECTION CORPORATI PO BOX 4087 2500 PRODUCTION DR SAINT CHARLES IL 60174

DIVISION OF HIGHWAYS **EQUIPMENT DIVISION** ROUTE 33 **BRUSHY FORK ROAD** BUCKHANNON, WV 26201 304-472-1750

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### WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS EQUIPMENT DIVISION

# PROCUREMENT SPECIFICATIONS NO. 839-1-K

### OPEN END CONTRACT TRAILER MOUNTED, SOLAR POWERED ELECTRIC ARROWBOARD

#### 1.0 PURPOSE

It is the purpose of these specifications to describe a Trailer Mounted, Solar Powered Electric Arrowboard (hereinafter referred to as a "unit") to be purchased for use by the West Virginia Division of Highways (DOH) on an Open End Contract basis.

#### 2.0 BIDDING PROCEDURES

The current purchasing procedures regarding bidding as established by the Department of Administration, Purchasing Division, shall apply. Failure to submit the "Request for Quotation" forms, complete in its entirety and according to directions indicated, may subject the bidder to disqualification. Each bid submitted shall also be accompanied by a Bidder's Evaluation Report completed in detail. Addendums in order, along with exception sheets, should be with Bidder's Evaluation Report. FAILURE TO SUBMIT THE BIDDER'S EVALUATION REPORT, COMPLETE IN ITS ENTIRETY, MAY RESULT IN AUTOMATIC DISQUALIFICATION.

#### 3.0 SPECIFICATIONS

The specifications named herein, mandatory and non-mandatory, establish the acceptable level of quality only and are not intended to reflect a preference or favor any particular brand or vendor.

### 3.1 EXCEPTIONS TO NON-MANDATORY SPECIFICATIONS

Exception to a non-mandatory unit specification may be made by the bidder, providing the exception is not available from the manufacturer. Any such exception must be noted on the bidder's evaluation report and should be accompanied by supporting documentation/literature from the manufacturer. Any exception must be indicated on a separate attachment to the bidder's evaluation report and labeled as "Exception to Specifications". The state reserves the right to determine whether the stated exception does or does not reduce the quality and performance of the unit. Failure to provide information for any exceptions may be grounds for rejection of the bid. The state reserves the right to waive minor irregularities in bids or specifications in accordance with §148-1-4(f) of the WV Legislative Rules and Regulations.

#### 3.2 MANDATORY SPECIFICATIONS

All specifications preceded by "shall and/or must" or are stated as a "minimum and/or maximum" are mandatory. Any bid failing to meet any mandatory item shall be immediately disqualified. Failure to respond in the appropriate evaluation section may also be grounds for immediate disqualification at the discretion of the State.

A mandatory pre-bid conference is scheduled for this equipment purchase as stated in the RFQ. Vendors having products with variations or exceptions in specified mandatory items are expected to address any such variations or exceptions during the pre-bid conference. The State shall review and consider any such variation or exception, and may at its sole discretion, issue an addendum to change mandatory specifications deemed to be in the State's best interest. Bids from any vendor failing to attend the mandatory pre-bid shall be disqualified. Bids containing any variation or exception to a mandatory specification that was not addressed during the pre-bid conference and accepted by the issuance of an Addendum shall be disqualified.

#### 4.0 REPRESENTATIVE UNIT FOR TEST

The successful vendor must (if specified) provide DOH one (1) completed representative unit to be observed and evaluated on each order to insure 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 shall 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.

# 4.1 CONDITION OF UNIT(S) UPON DELIVERY

All units must arrive at the prescribed delivery point having been completely preserviced 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.

#### 4.2 DELIVERY

Delivery point of the completely assembled representative unit will be the DOH, Equipment Division, Route 33 at Brushy Fork Road, Buckhannon, West Virginia (26201).

The vendor is responsible for guaranteeing delivery of the completed units within the time specified and agreed to by the State. Delivery is preferred within 35 days after receipt of purchase agreement. The vendor is responsible for establishing and coordinating delivery terms with allied manufacturers or suppliers. Delivery terms shall be stated in the bid and the State reserves the right to accept or negotiate such terms. Failure to reach an agreement may result in rejection of the bid. The successful bidder shall provide their manufacturer's confirmation of the order to the WVDOH

contact person within seven (7) working days after receiving the approved purchase order.

A completed pilot model for inspection must be provided within 20 calendar days after receipt of the purchase agreement by the successful vendor.

Delivery is an integral part of this specification and failure to comply will be cause to initiate a D.O.T. Administrative Form WV-82, Vendor Performance Form. The WV-82 Form will provide a means of officially notifying the Purchasing Division and the vendor of unsatisfactory performance; such as late deliveries, poor service, inadequate parts supplies, etc.

The decision to initiate subject Form will be at the sole discretion of the D.O.H. Commissioner's established Equipment Review Board.

Issuance of the WV-82 Vendor Complaint Form on unsatisfactory delivery against any vendor will be cause to refuse to consider similar items from those vendors on future Request For Quotations.

(NOTE: Delivery time could be altered due to labor strikes, severe inclement weather conditions, etc.)

- 5.0 AWARD CRITERIA
- 5.1 DOH will recommend the award in accordance with the RFQ evaluation criteria described in the requisition. The award shall be made to the lowest unit cost vendor that meets or exceeds the specifications.

Prices for the units shall be in quantities of 1-10, 11-20, and 21 and over. However, for evaluation purposes, we will use quantities 1-10. DOH reserves the right to place multiple orders in any quantity.

- 6.0 SPECIFICATIONS AND GUIDELINES GENERAL
- 6.1 IDENTIFICATION OF THE UNIT BEING PROPOSED

The bidder must identify the unit by manufacturer, model, series, and year of manufacture, in the bid to enable identification by DOH in the manufacturer's specifications of the proposed unit. The bidder will submit complete descriptive literature of the proposed unit, to establish that the bid is the manufacturer's most current model, including latest engineering improvements, which have been, or will imminently be, regularly advertised and sold on the open market. The unit specified herein and offered to be manufactured after January 1, 2007 and be clearly identified and marked with date of manufacture.

OPERATING AND SERVICE MANUALS AND PARTS LISTS
An operator's manual must be included with each unit upon delivery. A "line sheet" (if applicable) and Equipment Preventative Maintenance Questionnaire (as shown in X6.2 of the Bidder's Evaluation Report) must be with pilot unit upon delivery. In addition, there must be 12 service, shop, or maintenance manuals; ten (10) to be distributed to the Districts and two (2) for the Equipment Division. Also,

# \* NOTE: MANUALS SHALL BE DELIVERED UPON COMPLETION OF DELIVERY OF TOTAL UNITS. FAILURE TO DO SO WILL DELAY PAYMENT.

#### 6.3 TRAINING:

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 the operators and mechanics updated, the successful vendor shall conduct training with each purchase order against this open end contract. Training is preferred within 2 working days after delivery of the pilot unit on the individual purchase order.

Manufacturers and/or dealers shall be required to furnish the Training Academy with one (1) Operator's Manual to be shipped direct to Letha Lamb, WVDOH Training Academy, Post Office Box 610, Buckhannon, West Virginia 26201 prior to delivery of the pilot.

The seminar to be held at the W. Va. Division of Highways, Equipment Division, Buckhannon, West Virginia.

# 6.4 PREVENTIVE MAINTENANCE AND OPERATOR PROCEDURES:

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 Preventive 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, etc. required in conducting the training.

# 6.5 WARRANTY AND SERVICE POLICY

The Manufacturers warranty or service policy is to apply to the unit. Such warranty or service policy is to be recognized at any authorized unit dealer, representing manufacturer of proposed unit throughout the State of West Virginia. The applicable warranty or service policy will not be contingent upon obtaining routine service, lubrication, and servicing of the unit from factory authorized agencies. It will be the responsibility of the bidder to have available labor to repair or replace any defective replacement parts, components and materials, and to have available those replacement parts, components, and/or materials found to be defective during the terms of the warranty period. The bidder should state the labor rates, locations where parts will be stocked, availability of parts, and discounts offered for parts, when terms of the warranty offer a pro-rated cost for parts and labor. In addition, the successful bidder should offer field work to repair or replace defective parts, components, and materials found to be defective during the terms of the warranty and should provide mechanic's travel rates, mileage charges, field mechanic rates, and any surcharge for miscellaneous items, if applicable, for field work during the warranty period. Submit to Division of Highways any technical or engineering improvements during the term of the warranty. The unit

must be accompanied upon delivery by the unit's manufacturer's executed warranty or service policy.

A mandatory minimum two (2) year bumper to bumper basic parts and labor warranty is required for this unit.

THE "WARRANTY AND SERVICE POLICY QUESTIONNAIRE" ATTACHED IN THE BIDDER'S EVALUATION REPORT MUST BE COMPLETED IN ITS ENTIRETY BY THE SUCCESSFUL BIDDER OR MANUFACTURER PRIOR TO DELIVERY OF THE PILOT MODEL. (SEE SECTION X6.5 OF BIDDER'S EVALUATION REPORT).

# 6.6 EVALUATION COMMITTEE REQUIREMENTS

Detailed component specifications, product literature, component models, required for specification compliance determination by the Evaluation Committee should be provided with each bid. Any information supplied that is contrary to/or conflicting with the specifications and/or attached Bidders Evaluation Report may be sufficient cause for rejection of bid.

### 6.7 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.

### 7.0 SPECIFICATIONS OF THE QUOTED UNIT ARE AS FOLLOWS:

Unit shall have built in auxiliary battery charger which would enable the batteries to be hooked up to an AC power source at the storage yard or off of a generator in the field so that the batteries could be fully charged. Charge time and charger version shall be based on the manufacturers battery configuration.

- 7.1 Arrowboard:
- 7.1.1 The arrowboard to be a weather-tight panel approximately 48 inches high by 96 inches wide.
- 7.1.2 The height from the bottom of the panel to the roadway should be seven (7) feet above the roadway.
- 7.1.3 The face of the panel should be flat back with 15 hooded lamps.
- 7.1.3.1 Lamp shall be five (5) inch amber LED with minimum angularity of 33 degrees.
- 7.1.4 The unit to have the capability of the following modes of operations:
- 7.1.4.1 Right Arrow ten (10) lamps flashing in unison.
- 7.1.4.2 Left Arrow ten (10) lamps flashing in unison.
- 7.1.4.3 Double Arrow five (5) lamps in each arrowhead and three (3) lamps in shaft, all flashing in unison.
- 7.1.4.4 Warning Bar seven (7) horizontal lamps flashing in unison.
- 7.1.4.5 Four Point Caution four (4) outermost corner lamps flashing in unison.
- 7.1.4.6 Indicator Lights on back of panel.
- 7.1.5 The flash rate should be 30 fpm and the flash cycle time to be two (2) seconds with 50 percent on time.
- 7.1.6 The unit should reduce lamp brightness when the ambient light level drops below five (5) foot candles, plus or minus one (1) foot candle, and shall increase lamp brightness when the ambient light level increases to five (5) foot candles, plus or minus one (1) foot candle.
- 7.1.7 Unit should have minimum legibility distance of one (1) mile.

7.2 <b>7.2.1</b>	Electrical System:  The solar generator shall incorporate a 12 Volt DC Photovoltaic Solar Panel mounted on a self-erecting, automatic positioning device located above the unit.
7.2.2	The battery bank shall be of sufficient size and capacity to power the unit for 30 days with no solar assist.
7.2.3	The batteries to be protected to prevent damaged due to overcharging or discharging too deeply at any temperature.
7.2.4	The unit to have an external warning light, or other device to indicate when the unit is in need of auxiliary charging prior to arrow shutoff.
7.2.5	The battery compartment should be vented, protected by a special acid-resistant finish, and lockable.
7.2.6	The arrowboard controller shall be housed in a weatherproof, lockable enclosure.
7.2.7	Unit shall be safe 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.
7.2.8	The unit to be equipped with an hour meter.
7.3 7.3.1	Trailer: The trailer to be equipped with the following:
7.3.1.1	2,000 lb. axle with leaf springs.
7.3.1.2	Tubeless, standard tread tires and wheels.
7.3.1.3	Heavy duty pintle eye hitch
7.3.1.4	Adjustable jack stand on trailer tongue.
7.3.1.5	Adjustable jack stands to stabilize unit while in operation.
7.3.1.6	Approved lighting and safety chains for highway use.
7.3.1.7	Heavy duty light wiring for towing of unit with quick disconnect plug Cole Hersee Part Number 12081 male or equal.
7.3.1.8	License plate brackets.
7.3.1.9	Wheel fenders.
7.3.1.10	The arrowboard to be raised and lowered using a hand operating winch (or hydraulic pump and ram) and locked into place using latches of steel pins with keeper chains permanently attached to the unit.

- 7.4 Paint:
- 7.4.1 The unit to be painted the manufacturers standard color except that the arrowboard will be painted flat black.
- 7.5 Vendor must certify that the arrowboard offered will meet or exceed the "Occupational Safety and Health Act of 1970" or subsequent changes that are in effect at time of manufacture of the unit.
- 7.6 Advertising: No visible decals or nameplates or painted on names representing the manufacturer or model number or trademark should appear on the exterior surfaces of the unit. Such logos created through the stamping or casting process of manufacture are accepted.
- 7.7 All other features considered as standard equipment but not specifically addressed above.
- 7.8 Preventive Maintenance & Operator's Training School:

Manufacturers and/or dealers will be required to stage a thorough seminar on each order on the subjects Preventive Maintenance and Operator Training. The seminar should be held at the Equipment Division.

In addition to the operating and service manuals, booklets and pamphlets explaining the Preventive Maintenance and Operator Training procedures to be used by the operators of this equipment are also required. Must include such things as daily prestart inspection procedure, service schedule and routing maintenance required, safety precautions, etc.

Bidder to attach a copy of the proposed program with his bid, state the time required to perform the program, and briefly describe his program.

The successful vendor to furnish all training aids; i.e. videos, projectors, etc., required in conducting the training.

### WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

NOTE: Vendor should type Bidder's Evaluation Report DIVISION OF HIGHWAYS EQUIPMENT DIVISION

#### BIDDER'S EVALUATION REPORT

# PROCUREMENT SPECIFICATIONS FOR OPEN END CONTRACT NO. 839-1-K

# OPEN END CONTRACT TRAILER MOUNTED, SOLAR POWERED ELECTRIC ARROWBOARD

NOTE TO BIDDER: Procurement Specification No. 839-1-K, Paragraph 2.0 recommends the completion and submittal of this Report with your bid. Purpose of this Report is to enable the West Virginia Division of Highways Evaluation Committee to make full and fair evaluation of the bid. Addendums in order, along with exception sheets, should be with Bidder's Evaluation Report. FAILURE TO SUBMIT THIS REPORT, COMPLETE IN ITS ENTIRETY, MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

	Reference Requisition No.: 708EC006	
	Bidder's Name: Work Area Protection Corporation	
	Address: 2500 Production Drive, St. Charles, Illinois 60174	
	Telephone Number: 630-377-9100	
	Years Bidder has been registered to do business with the State of West Virginia: 10+	YRS
	Years Company has been an authorized dealer for proposed unit:  16	YRS
X3.2	Have you complied with all mandatory specifications? YES X NO See att	ached.
X4.2 <b>X4.2.1</b>	DELIVERY:  1 Delivery date of completed representative unit:  45 Calendar Days After  Receipt of Purchase Agre	ement
X4.2.2	2 Delivery date of balance of completed units: 45 Calendar Days After Receip	

# **BIDDER'S EVALUATION REPORT**

# **EXCEPTION TO SPECIFICATIONS**

We will provide a spring-loaded trip latch and rubber draw latch in lieu of steel pins with keeper chains.

X5.0	AWARD CRITERIA;			
X5.1	Prices for unit in quantities of	1-10	\$3960.00	per unit
		11-20	\$3438.00	per unit
		21 and over	\$3305.00	per unit
	SPECIFICATIONS - GENERAL  Manufacturer, model, series, and date of manufacturer	acture of propos	ed unit:	
	Work Area Protection Corporation, (2838)	WAAW15SB-WA-M	90EZ, 2008	
	Is descriptive literature, fully describing proposed	unit attached to y	our bid?X	YESNO
	If not, why?			
X6.2	Will the required number of service manuals, as Equipment Division at Buckhannon upon comp	nd complete par letion of deliver	y of total units?	red to the
	Will the required Equipment Preventive Mainte Report) be provided upon inspection of the pilot			idders Evaluation ES NO

# EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE

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

DESCRIPTION:							
М	ODEL:		YEAR:	PU	RCHASE AMOUN	T:	
ENGINE:	MAKE:		MODEL:		FUEL TYPE:		
	HORSEPOWER: _		CYLINDER: _	EN	GINE SERIAL:		
	COOLING SYSTEM	I CAPACITY: _					
BELTS:	DESCRIPTION:			PART NUM	MBERS:		
GVW:	1000	_AXLE CAPAC	TITY: FRONT:	2000	-	REAR: N/A	
TIRES:	FRONT MAKE & S						
	REAR MAKE & SIZ	Œ: <u>N/A</u>			611 hoard		
DIMENSIO	ONS OF UNIT:	LENGTH: 110	0"	WIDTH: 6	8" fenders	LENGTH:	
VENDOR (	CONTACT PERSON:				PHONE:	14 - 18-48 - 18	
PARTS:							
SPARK PL FUEL PUN ALTERNA	UGS OR FUEL INJECTION PUTOR MAKE:	CTORS MAKE: _ JMP MAKE:		PART # MODEL: PART #: PART #:		: 600 CCA @ 0 degreesE	
TRANS. M HYDRAUI	IAKE: LIC PUMP MAKE:	MODI	5L	MODEL: _	AUTO/MANU	NL.	
FILTERS	MAKE	PART NO.	LUBR	ICANT	MANUFACT	URER TYPE	
AIR OUTE FUEL PRII FUEL SEC COOLANT	R CR MARY CONDARY		TRAN POWE HYDR DIFFE BRAK COOL	SMISSIONER STEERING LAULICERENTIALS E FLUID LANT			

X6.3	TRAINING:			•
	Will training seminar be conducted on Preventive Maintenance, C		r and Mech _YES	
	Will you conduct training with each purchase order against th		n end cont _YES	
	Will training be conducted within 2 working days from the deliver individual purchase order?			
	If NO, explain time frame within 10 working days			
	Will an Operator's Manual be furnished directly to Letha Lar to the delivery of the pilot?		aining Aca YES	
X6.4	If you are the successful vendor, will you furnish all training a required in conducting the training?			rojectors,
X6.4.1	Will all manuals, booklets, etc. explaining preventive main procedures, and service schedule be delivered with each un If NO, explain	it? <u>X</u>	YES_	
X6.5	WARRANTY AND SERVICE POLICY			
	Will the warranty and service you provide comply with all areas as specifications		in Section YES	
	Is warranty literature attached?	X	YES	_NO
	Is a minimum two (2) year bumper to bumper basic parts and	labor y	warranty i YES	included?
	Describe:		_ 126	_110
	See attached copy.			

# X6.5 WARRANTY AND SERVICE POLICY QUESTIONNAIRE

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY BY THE SUCCESSFUL BIDDER OR MANUFACTURERS TECHNICAL REPRESENTATIVE PRIOR TO DELIVERY OF PILOT MODEL TO THE WVDOH (If additional lines are needed, make copies of form.)

	efine the terms of the state attached copy.	andard warranty. If not offered, so state. (Attach c	opy) 		
manı	ifacturer's representativ	o be performed at DOH facilities and warranty serve facility. List name and location of manufacturer replacement of parts.			
Tir	n Hohman, 1310 Wilds	wood Drive, Wooster, OH 44691			
level	s, if known. Protect	ventories that are within the State of West Virginia. ction Services, Inc. l Park, 4 Craddock Way, Poca, WV 25159	Also, list availability		
4 D:	uring the term of warrar	ty, list the guarantee discount to manufacturer's pu	blished list price for		
	that bidder will sell the		F		
A. B. C.	Terms: Net 30 Terms: Net 60 Terms: Net 90	Manufacturer's published list price less:25Manufacturer's published list price less:25Manufacturer's published list price less:25	% discount % discount % discount		
	aring the term of warran	ity, will all manufacturers or engineering improvem	ents be submitted toYESNO		
6. Dı	uring the term of warran	ty, list the guaranteed rates charged for repair to the	e unit. *		
A.	Shop Rate	\$ N/A per mechanic hour	*No charge during		
B.	Travel Time Charge (Specify if one-way)	\$ N/A per mechanic hour ; port to port	warranty period.		
C.	Mileage Charge (Specify if one-way	\$ N/A per vehicle mile ; port to port			
D.	Field Mechanic Rate	\$N/A per mechanic hour			
E.	Specify period of tim	e that prices are in effect: N/A			
F.	Surcharge for miscell	laneous items: N/A %			

X6.6	6 EVALUATION COMMITTEE REQUIREMENTS							
	Is all component specifications, product literature, comp Committee bid determination?	onent mod	_		or EvaluationNO	n		
X6.7	Will all parts, equipment, accessories, material, desig specified herein, but which are necessary to provide a unit and conform in strength, quality of material, and which are advertised and provided to the market in g	a completed quality (	e unit, of wor the u	be furn kmansh	ished with t ip to those stry?			
X6.7.1	Are all parts and accessories adequate and regularly except those which may be duplications of specification specification are not to be furnished?		, and		hese by	1		
X6.7.2	Are all standard safety features that are required by included?	Federal a		te statu YES				
X7.0	SPECIFICATIONS OF THE QUOTED UNIT The bidder should complete the following schedule in or actual bid unit to the specifications. Should the bidder ex may be only on the basis that such feature is not offered have the sole discretion as to whether the bidder's substit specifications.	xcept a req by the mar	luirem nufacti	ent, then arer. The	such except Division w			
	Does unit have built in auxiliary battery charger which hooked up to an AC power source at the storage yard	or off of	a gene	rator in				
	Is charge time and charger version based on manufac	turer's ba			ration NO			
	Describe: AC to DC Converter charges the batter	ries.				_		
	Manufacturer: NAPA Moo	iel: <u>85-32</u>	27		_			

X7.1 A	rrowboard:							
X7.1.1	Is the arrowboard panel weather-tight:	YES _ <u>x</u>	_NO					
	Describe weather-tight design and materials used:							
	Arrow Board panel dimensions: 48 inches high x	96 inches wi	le					
X7.1.2	Height from bottom of panel to roadway _ 7 feet al	oove roadway						
X7.1.3	Is the face of the panel flat black, with fifteen (15) hooded lamps?							
X7.1.3.1	Does lamp have five (5) inch amber LED with mini	mum angularityXYES	_					
X7.1.4	Modes of operation capability:							
X7.1.4.1	Right arrow – 10 lamps flashing in unison	X YES	NO					
X7.1.4.2	Left arrow – 10 lamps flashing in unison	x_YES	_NO					
X7.1.4.3	Double arrow – 5 lamps in each arrowhead and 3 l unison	amps in shaft, all  X YES	_					
X7.1.4.4	Warning bar - 7 horizontal lamps flashing in uniso	onX_YES	_NO					
X7.1.4.5	Four Point Caution – 4 outermost corner lamps flas	shing in unison XYES	_NO					
X7.1.4.6	Indicator lights on back of panel	X_YES	_NO					
X7.1.5	Is the unit flash rate 30 flashes per minute with a flash with 50 percent on time?	cycle time of two	* *					
X7.1.6	Will the unit reduce lamp brightness when the ambient (5) foot candles, plus or minus one (1) foot candle, and when the ambient light level increases to five (5) foot candle?	l increase lamp l	orightness r minus one (1)					
X7.1.7	Unit's minimum distance of legibility: 1	nile(s)						

X7.2	Electrical System:	
X7.2.1	Does the solar generator incorporate a 12 Volt DC on a self-erecting automatic positioning device local	photovoltaic solar panel mounted ated above the unit?  XYESNO
X7.2.2	Is the battery bank of sufficient size and capacity t without solar assist?	o power the unit for 30 daysX_YESNO
X7.2.3	Are the batteries protected in a manner that will preve or discharging to deeply at any temperature?	ent damage due to overcharging  XYESNO
X7.2,4	Does the unit have an external warning light, or other indicate when the unit is in need of auxiliary charging	
X7.2.5	Is the battery compartment vented, protected by an ac-	id-resistant finish, and lockable? YES NO
X7.2.6	Is the arrowboard controller housed in a lockable v	weatherproof enclosure?NO
X7.2.7	Is unit safe guarded from any unwanted outside Rl but not be limited to VHF/FM receiver, 2-way radi	
X7.2.8	Is the unit equipped with an operational hour meter?	NO
X7.3	Trailer:	
X7.3.1	Is the trailer equipped with the following:	
X7.3.1.1	2,000 lb. axle with leaf springs	x_YESNO
X7.3.1.2	Tubeless standard tread tires and wheels	X_YESNO
X7.3.1.3	Heavy duty pintle eye hitch	x_YESNO
X7.3.1.4	Adjustable jack stand on trailer tongue	x_YESNO
X7.3.1.5	Adjustable jack stands to stabilize unit while in ope	erationx_YESNO
X7.3.1.6	Approved lighting and safety chains for highway us	se_x_YESNO

X7.3.1.7		Heavy duty light wiring for towing of unit with Hersee Part Number 12081 male or equal	n quick disconnect plug Cole  XYESNO
X7.3.1.8		License plate brackets	X_YESNO
X7.3.1.9		Wheel fenders	X YES NO
X7.3.1.10		Arrowboard raised and lowered using a hand of pump/ram) locked into place using latches of st permanently attached to the unit	
X7.4	Paint	::	
X7.4.1	. De	escribe proposed method of painting the unit: Af	r-dried conventional spray gun.
X7.5		the proposed unit meet or exceed the "Occupa rements and/or any subsequent changes at the	
X7.6	Does t	he unit conform to advertising guidelines?	x_YESNO
X7.7		l other standard features considered as standard e specifications: None	equipment but not specifically addressed

X7.8	Preventive Maintenance and Operator's Training School:						
	Will a preventative maintenance and operator's training seminar be provided with each order?  YES NO						
	If you are the successful vendor, will you furnish all training aids, i.e., videos, projectors, required in conducting the training?						
	Will all manuals, booklets, etc. preventive maintenance, operator procedures, and service schedule be delivered with each unit?  YES NO						
	If NO, explain						
	Have you attached a copy of the proposed program with your bid, stating the time required to perform the program and brief description of program YES X NO						

RFQ No. $70$	)8EC006
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# STATE OF WEST VIRGINIA Purchasing Division

# PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: 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 the debt owed is an amount greater than one thousand dollars in the aggregate

#### **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.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "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 exceed five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this 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.

LICENSING: Vendors 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 agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

**CONFIDENTIALITY:** The vendor agrees that he or she 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. Vendors should visit **www.state.wv.us/admin/purchase/privacy** for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Vendor's Name: _	Work A	rea Protection	Corporation		
Authorized Signat	ture:	Guhanda B	mishi	Date: _	11/21/07



PO BOX 4087

2500 PRODUCTION DR

SAINT CHARLES IL 60174

State of West Virginia Request for Department of Administration Quotation Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

WORK AREA PROTECTION CORPORATI

630-377-9100

RFQ NUMBER 708EC006

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MICHAEL AUSTIN 304-558-2402

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DIVISION OF HIGHWAYS **EQUIPMENT DIVISION** ROUTE 33 **BRUSHY FORK ROAD** BUCKHANNON, WV

26201 304-472-1750

ADDRESS CORRESPONDENCE TO ATTENTION OF:

DATE PRIN			MS OF SAL	Ε	SHI	<sup>o</sup> VIA	F.O.B.	FREIGHT TERMS
11/01/2007		Net 30			Best Way		Destination	Delivered
BID OPENING DATE:	Housestanders	11/27/	2007		1	BID	OPENING TIME	01:30PM
LINE	QUAN	ITITY	POU	CAT. NO.	ITEM N	UMBER	UNITPRICE	AMOUNT
	MANDAT	ORY PR	1	ENDUM	NO. 1 ERENCE D	ATE CHAN	GED	
	FROM:				00 A.M.			
	NO OTH	ER CHA	NGES.					
0001	TRAILE	1	EA TED S		550-96 POWERED	ELECTRIC	ARROWBOARD	
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#### SOLAR ASSIST ADVANCE WARNER

#### Warranty Statement

- 1. The manufacturer warrants that each new LED 46 Solar Assist Advance Warner will be free from defects in material and workmanship for a period of two (2) years from date of sale, subject to the conditions and restrictions contained herein.
- 2. The manufacturer further warrants parts furnished under this warranty, for a period that expires upon the termination of the warranty, applicable to the Advance Warner onto which these parts are installed. Parts furnished outside of this contract are warranted for a period of ninety (90) days from date of shipment and are subject to the conditions and restrictions applicable at shipment.
- 3. Exceptions to the general warranty statements above pertain to the following equipment installed at the factory:
  - A. Work Area Protection will provide only the original manufacturer's warranty as it applies to solar panels, batteries and tires.
  - B. LED 46 lamps are warranted against defects in materials and workmanship for a period of five (5) years from date of shipment, subject to the conditions and restrictions contained herein.
  - C. Electronics are warranted against defects in materials and workmanship for a period of two (2) years from the date of shipment, subject to the conditions and restrictions contained herein.
- 4. This warranty does not apply to a product that has not been installed or maintained in accordance with the manufacturer's instructions, has been subjected to damage in an accident, abused or neglected during operation, repaired or modified by persons other than the manufacturer, its employees or authorized agents, or failed to have normal maintenance.
- 5. The buyer expressly agrees that the buyer's sole remedy and the manufacturer's sole responsibility, in respect to a warranty claim, is exclusively limited to repair or replacement at the manufacturer's option of product or a portion thereof found by the manufacturer to be defective. The manufacturer is not responsible for labor or other expended charges by buyer including transportation charges and shall not be liable for any incidental or consequential damages connected with repair of a product deemed to be defective or with installation or replacement of repaired product. Further, the manufacturer disclaims any liability for any incidental or consequential damages, including lost or duplicated time or expense accruing for any reason, to the owner or user of any products sold by the manufacturer, whether claim is made in contract or in tort or under any theory of warranty, negligence or otherwise.
- 6. The manufacturer reserves the right to make changes in its products from time to time, without incurring any obligation to incorporate such improvements in any products previously sold or in service.
- 7. The terms and conditions of the warranty cannot be altered without the written consent of the manufacturer.
- 8. The foregoing warranty is exclusive and in lieu of all other express, statutory and implied warranties, including those of merchantability and fitness for any particular purpose. There are no warranties that extend beyond the language in the previous eight (8) paragraphs.

# SPECIFICATIONS FOR THE WAAW-15SB-WA-M90EZ SOLAR ASSISTED ARROWMASTER V ARROWBOARD

- Sign panel consisting of 15 minimum-glare, 5" LED 46 sealedbeam lamps, with 33° horizontal by 11° vertical beam spread.
- Control system of solid-state design with automatic tracking, brightness adjustment and non-blinding optics.
- 3. Single Sign/Solar Panel-lifting mechanism.
- 4. Sign-supporting frame.
- 5. Photovoltaic Solar Generator, D.C. voltage, 55-watt power supply.
- 6. Meets the requirements of the Federal Manual of Uniform Traffic Control Devices.

#### Function (General):

The WAAW-15SB-WA-M90EZ 15-Light Solar Assisted Arrowboard is an all-weather, self-contained, battery/solar-powered system. The purpose is to signal, control, and direct high-speed vehicular traffic both day and night for extended periods of time. This system incorporates a "non-blinding", minimum-glare, electro-optical design to reduce nighttime blinding problems which exist on conventional advance warners.

# Specifications (General):

The 48"x96" aluminum sign panel, which contains 15 hooded lamps, is trailer-mounted and will operate while being towed or while in a stationary position. It is capable of displaying the following mode configurations:

- 1. Right Arrow-10 lamps flashing in unison, forming an arrow.
- 2. Left Arrow-10 lamps flashing in unison, forming an arrow.
- 3. Double Arrow-5 lamps in each arrowhead and 3 lamps in a common shaft, all flashing in unison.
- 4. Warning Bar or Caution Bar-7 horizontal lamps flashing in unison.
- 5. Four-Point Caution-4 outermost corner lamps flashing in unison.
- 6. Sequencing Arrow Left-5 lamps in the arrowhead and 5 lamps in the shaft, sequencing left.
- 7. Sequencing Arrow Right-5 lamps in the arrowhead and 5 lamps in the shaft, sequencing right.

#### DETAILED SPECIFICATIONS

#### Sign Panel:

 The front and back panels of the sign shall be aluminum alloy, .063 thick x 48" high x 96" long.

2. The perimeter frame and internal vertical members are manufactured from extruded aluminum channel 1/8" x 3" x 1". Corners and internal cross-members are supported by aluminum gussets and riveted for extra strength.

3. Access to the internal terminal strip is provided through

rear access panel.

4. The lamps are minimal glare, 5" amber, LED 46 sealed beam, with 33° horizontal by 11° vertical beam spread.

5. The lamp hoods/retainers are formed from high-impact plastic,

with four keyhole-indexing mounting holes.

6. The wire harness is fabricated from insulated stranded wire with PVC jacket to resist moisture. Strain relief is provided using a 90° Squeeze Tight connector. The solar panel output wiring is incorporated into the sign panel wiring via insulated slip connectors.

7. The panel is primed with a 2 coat system consisting of a polyurethane primer and flat black polyester top coat baked

at 450 degrees.

### Control System:

 Sophisticated microprocessor design with user-friendly rotary switch operation.

2. The system incorporates LED display which shows mode of

operation and system status.

3. The system operates on a 12VDC input to the controller. The system incorporates "Auto-Trak", a full-time tracking system designed to track ambient light 24 hours a day, providing maximum system efficiency. Dimming occurs at 5 foot-candles to eliminate glare through the non-blinding optics.

4. The lamps shall be electronically operated by means of solidstate microprocessor-controlled circuitry. An automatic lamp intensity regulator holds the lamp output constant with

varying battery voltage.

5. All wire harnesses shall be enclosed in weatherproof-jacketed cable and shall be routed to minimize chafing and interference with moving parts. Connectors shall be Amp CPC type for corrosion resistance.

6. The controller shall be in a weatherproof, ventilated,

lockable enclosure.

7. The system continuously monitors the battery bank voltage with two stages of low-voltage warning and shutdown to prevent deep discharge of batteries.

1 - Upon detection of an 11.2-volt battery bank reading the controller will automatically change to the Four-Point Caution Mode to continuously provide a caution indication to motorists and to give operators a warning that a lowbattery condition exists. This condition will continue for 48 hours.

2 - After the 48-hour period, with the battery voltage continuing to decrease, the system will detect the second stage of low-voltage shutdown and completely turn off all lamps and switch to a low power consumption mode to

protect the battery bank from complete discharge.

8. The "on-board" 110VAC/12VDC battery charger is provided for in-house or remote charging. A weatherproof male receptacle accepts the female end of a standard AC extension cord. The charger may be used as an AC to DC Converter allowing AC service to power the system. The solid-state regulator regulates the solar panel charge, protecting the battery bank from over-charging. An indicator light is provided to monitor the AC charge rates when the optional AC/DC charger is installed. This on-board charger is optional.

9. Thermal compensation is provided to adjust the system's

charge rate with variances in temperature.

10. Short-circuit protection is provided for the lamps and the

wiring harnesses.

11. A battery condition indicator and test modes are provided to monitor the system's battery charge. A solar panel charging indicator is provided to continuously detect solar panel charge to battery bank.

12. The controller is equipped with an automatic delay function to prevent false triggering of the Auto-Trak intensity

control.

13. The flash rate is 25-40 flashes per minute.

14. The "on time" is 50% of the cycle.

15. The system's controller/charger electronics carry a two-year warranty against material defects and workmanship under normal use. The charger carries a 90 day warranty.

# Sign/Solar Panel Lifting Mechanism:

 The panel lifting arms shall be fabricated from 11 ga x 2" square carbon steel tubing.

 The lifting mechanism shall be a 1,200-pound capacity, handoperated braking winch using 3/16" wire cable and pulley

mechanism.

3. Locking devices to secure the panel in a raised or lowered position shall be heavy-duty steel, spring-loaded latches and a heavy duty rubber draw latch locking device for the lowered position.

1. The sign supporting frame shall be fabricated from 1/8" wall x 2" x 2" square tubing. The complete unit is engineered and designed to be welded together for greater stability.

2. The sign panel is secured to the sign support frame with four

(4) formed panel clamps.

3. The sign panel lifting assembly while in both the display and travel modes are locked in position by a spring-loaded latch assembly.

### Power Supply (DC voltage):

The solar generator shall incorporate a 12 VDC, 55-watt, single-crystal photovoltaic solar panel array mounted on a self-erecting, automatic positioning apparatus. The solar panel provides a maximum charge to the battery bank while exposed to the sun due to the shadow-free top-mount design.

2. The battery bank consists of two deep-cycle, 234 amp hour, 12VDC batteries, providing a total storage capacity of 468

amp hours at the 100-hour rate.

3. The battery bank shall be of sufficient capacity to power the unit 30 days with no solar assist. (No sun operation with 100% battery bank charge, @78° F, single arrow mode, 24 hours

per day in "Auto-Trak").

The batteries shall be regulated and protected by solid-state microprocessor-controlled electronics. A low-voltage disconnect will protect the battery bank from over discharge. Upper-end float regulation will prevent over charging by the solar panel and the on-board AC charger. Thermal compensation adjusts the system's charge rate with variances in temperature.

5. The batteries shall be housed in a ventilated, weatherproof housing. The enclosure shall have an access panel which

allows the batteries to be easily removed and replaced.

6. The battery bank wiring harness shall have polarized or color-coded connectors to prevent incorrect connections.

# <u>Trailer:</u>

1. The trailer shall be an open-deck design fabricated from 11-gauge x 3" x 2" square steel tubing.

2. The trailer uprights and horizontal bracing shall be 11 ga. x

2" x 2" steel square tubing.

3. The pivot support arms/lifting mechanism shall be 11 ga. x 2"

x 2" steel square tubing.

4. The battery box shall be constructed from 14 ga. steel. The batteries are secured in position by a holddown assembly. The battery enclosure lid and access panel are lockable using the single latch/locking device.

5. The axle shall be 2,000-pound capacity rated and equipped

with 1,400 lb. leaf springs, roller bearings and hubs.

6. The tires shall be P185/70R14.

7. The fenders shall be made from black heavy duty plastic.

8. The hitch shall be a 2" ball. A 2 ½" or 3" pintle ring hitch is optional.

9. The trailer shall have 1/4" safety chains equipped with 2600

pound slip safety hooks.

The trailer shall be equipped with four (4) telesparadjustable jackstands, one mounted on each corner of the unit, and one top-crank/swing-type jackstand mounted on the tongue.

11. The trailer tongue shall be .250" thick  $\times$  2 1/2" square tubing  $\times$  60" overall length. The tongue is removable to prevent theft.

12. The trailer shall have reflectors on each side, 2 amber at front, 2 red at rear. Combination marker lights/stop-tail light assemblies, one (1) with license bracket, are mounted at rear of trailer.

13. The unit shall incorporate a "Target Sight" to aid the user for positioning of the unit prior to use.

14. The trailer shall have the grease and wax removed prior to applying one coat of primer and one coat of safety orange.

#### Capacities & Weights

#### Trailer Dimensions

\*Shipping Weight:1000 lbs.

Length - 110 inches (includes tongue)

\*Tongue Wt. Panel Down:75 lbs. Width - 96 inches Board Width -68 inches Fenders

\*Tongue Wt. Panel Up: 135 lbs. Travel Height - 88 inches

Operating Height 142 inches from top of
Board to ground
84 inches from bottom of
Board to ground

\*SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

# Work Area Protection



A Division Of Stabler Companies Inc.



# Work Area Arrowmaster™ Solar-Assisted Advance Warner



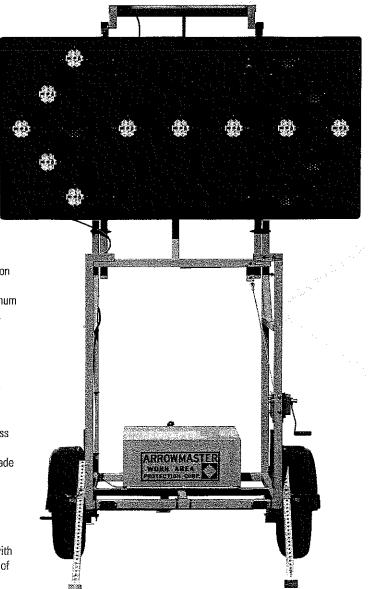
The Arrowmaster<sup>TM</sup> Solar-Assisted Advance Warner is a versatile, low-operating-cost arrow board that provides maximum visibility at all times while directing traffic through construction zones. This system is powered by a battery storage bank

charged by a self-erecting, shadow-free solar panel. The Arrowmaster conforms to and, in most cases, exceeds all federal and state MUTCD specifications.

Available with 15 or 25 lights in both the standard and wide-angle models.

# Features

- **Solar Panel**: Single, top-mounted unit in constant horizontal position.
- Battery: Series 27, 315-amp, marine deep-cycle on 15-light unit; SRM-4D 390-amp, deep-cycle on 25-light unit.
- Lamp: Fully sealed, 5" PAR 46 LED with high-impact plastic hoods.
- Autonomy: 30 days of continuous operation without sun.
- Sign Panel: Full-sized 48" x 96" all-aluminum construction, sealed against the elements.
- Controller: Solid-state with durable rotary switch, full-mode configuration and LED display.
- Frame Construction: Fully welded with 2,000-lb. axle, 1,400-lb. leaf springs, roller bearings and hubs.
- Tire Size: P185/70R14.
- Maintenance Access Cover: Easy-access design to reach batteries, controller and battery charger in a lockable enclosure; made of 14-GA steel.
- Removable Tongue: Designed for safety and security.
- Hitch: 2" ball standard.
   Pintle ring available as an option.
- Battery Charger: Each unit is available with or without a battery charger. Frequent use of an AC charger will prolong battery life.





A Division Of Stabler Companies Inc.

# Work Area Arrowmaster™ Solar-Assisted Advance Warner

#### 15-Light & 25-Light Display Modes













Sequencing Arrow Left







-Diamond Mode (25-Light Model Only)

When in an operating or a travel mode, the solar panel is positioned for maximum charging capabilities.



The Arrowmaster V hi-tech, solid-state controller incorporates an automatic intensity control that keeps the lamps bright, even under low battery conditions. Auto-Trac provides an automatic, full-time tracking system that adjusts the lamp intensity to the ambient light conditions. The two-mode battery charger, the controller and the deep-cycle batteries are securely enclosed in an

easy-access, lockable, ventilated, 14GA steel cover.

The 5", amber, PAR 46, LED lamp is a sophisticated, high-output, low-powerconsumption, sealed-beam lamp with a life that is unparalleled by other conventional arrow board lamps. The lamp is backed by a five-year warranty.



#### 15-Light Arrowmaster™ Units

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Product No.	Model No.	Description			
2830	WAAW15SB-STD-M90EZ	Arrowmaster V w/onboard AC charger, 24° horizontal x 8° vertical standard angularity.			
2837	WAAW15SB-STD-M90EZ	Arrowmaster V w/o charger, 24° horizontal x 8° vertical standard angularity.			
2838	WAAW15SB-WA-M90EZ	Arrowmaster V w/onboard AC charger, 33° horizontal x 11° vertical wide angle angularity.			
2839	WAAW15SB-WA-M90EZ	Arrowmaster V w/o charger, 33° horizontal x 11° vertical wide angle angularity.			

#### 25-Light Arrowmaster™ Units

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Product No.	Model No.	Description			
2831 2840 2841	WAAW25SB-STD-M90EZ WAAW25SB-STD-M90EZ WAAW25SB-WA-M90EZ	Arrowmaster V w/onboard AC charger, 24° horizontal x 8° vertical standard angularity.  Arrowmaster V w/o charger, 24° horizontal x 8° vertical standard angularity.  Arrowmaster V w/onboard AC charger, 33° horizontal x 11° vertical wide angle angularity.			
2842	WAAW25SB-WA-M90EZ	Arrowmaster V w/o charger, 33° horizontal x 11° vertical wide angle angularity.			

#### 15-Light Skid-Mount Arrowmaster™ Units

Product No.	Model No.	Description
2501	15LT WA	Skid-mount arrow board. No axle, wheels or outriggers. Can be set in place on truck
		and clamped or bolted down. 33" horizontal x 11" vertical angularity.

#### **Specifications**

	15-Light	25-Light	
Shipping Weight	940 lbs.	1,000 lbs.	
Tongue Weight (Panel Down)	<ul> <li>65 lbs.</li> </ul>	75 lbs.	
Tongue Weight (Panel Up)	125 lbs.	135 lbs.	
Length	110°	110"	
Width	96"	96"	
Traveling Height	88*	88"	
Operation Height	142"	142"	
Solar Panel Watts	40 Watts	55 Watts	
Sign Panel Size	48"H x 96"W	48"H x 96"W	
Number of Batteries	3	2	
Battery Type	Series 27 Deep-Cycle Marine	SRM-4D Deep-Cycle Marine	<u> </u>
Battery Amp Hours (Total)	315 hrs.	390 hrs.	Distributed By:





#### Work Area Protection Corp.

P.O. Box 4087 • St. Charles, IL 60174-9081 U.S.A www.workareaprotection.com • Phone: 630.377.9100 • Fax: 630.377.9270

Designs are subject to change without prior notice. Any modification or unintended use voids all warranties. Work Area Protection disclaims all liabilities for injuries to persons or property due to any modification or unintended use of these products.

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