



Ocean County Board of Commissioners

OFFICE OF THE
OCEAN COUNTY COMMISSIONERS

Director Joseph H. Vicari
Deputy Director Gary Quinn
Commissioner Barbara Jo Crea
Commissioner Virginia E. Haines
Commissioner John P. Kelly

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Toms River, New Jersey
08754-2191
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Board Meeting Agenda

Date: May 17, 2023 - 4:00 PM
Location: Administration Building
Room 119
101 Hooper Avenue
Toms River, NJ 08754

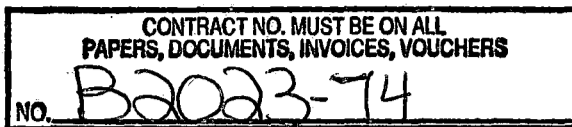
Agenda: Awarding Contracts for the furnishing and delivery of SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS to Canuck Power, Inc., Garden State Highway Products, Inc.; K&K Systems, Inc.; and Traffic Logix Corporation, the lowest qualified bidders. (B2023-74)

Official Resolution#	2023000689						
Meeting Date	05/17/2023						
Introduced Date	05/17/2023						
Adopted Date	05/17/2023						
Agenda Item	I-3						
CAF #							
Purchase Req. #	B2023-74						
Result	Adopted						
COUNTY COMMISSIONER	PRES.	ABS.	MOVE	SEC	AYE	NAY	ABST.
Vicari	<				<		
Quinn	<			<	<		
Crea	<				<		
Haines	<				<		
Kelly	<		<		<		

I HEREBY CERTIFY THAT THIS DOCUMENT IS A TRUE, COMPLETE AND ACCURATE COPY OF THIS RESOLUTION, ADOPTED BY OCEAN COUNTY BOARD OF COMMISSIONERS, NJ AT THE MEETING REFERENCED THEREON

Michelle I. Gunther

Clerk Of The Board



RESOLUTION

May 17, 2023

WHEREAS, on March 28, 2023, pursuant to legal advertisements therefor, sealed bids were received for the furnishing and delivery of SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS for the County of Ocean; and

WHEREAS, at the advertised time, responses were received from the following bidders:

Name and Address of Bidder

Canuck Power, Inc.
830 Lawrence Ave. W
North York, ON M6A0B6
(647) 675-3543

K & K Systems, Inc.
687 Palmetto Rd.
Tupelo, MS 38801
(662) 566-2025

Intelligent Traffic Supply Products, LLC
3005 Hadley Rd., Suite 5
South Plainfield, NJ 07080
(908) 791-1200

Name and Address of Bidder

Garden State Highway Products, Inc.
301 Riverside Drive
Millville, NJ 08332
(856) 692-7572

Traffic Logix Corporation
3 Harriet Lane
Spring Valley, NY 10977
(518) 744-8568

Traffic Parking Control Co., Inc.
5100 W Brown Deer Rd.
Brown Deer, WI 53223
(262) 814-7000

; and

WHEREAS, after receipt and examination of same, the County Purchasing Agent has now recommended to this Board that the lowest qualified bid, according to specifications, in each instance, be accepted namely that of CANUCK POWER, INC.; GARDEN STATE HIGHWAY PRODUCTS, INC.; K & K SYSTEMS, INC. and TRAFFIC LOGIX CORPORATION.

NOW, THEREFORE, BE IT RESOLVED by the BOARD OF COMMISSIONERS of the COUNTY OF OCEAN, STATE OF NEW JERSEY, as follows:

1. The Director and Clerk of this Board are hereby authorized and directed to enter into contracts, accepting the bids for the furnishing and delivery of Solar Powered LED Signs and Solar Powered Speed Radar Signs for the County of Ocean, from date of award through May 16, 2024, a period of one (1) year, OR until delivery is complete unless otherwise stated. The County reserves the right to extend the term of the contract pursuant to N.J.S.A. 40A:11-15, as follows:

A. CANUCK POWER, INC. for twenty six (26) items, to wit:

ITEM NOS. 1, 1A, 1B, 1C, 2, 2A, 2B, 2C, 3, 3A, 3B, 3C, 4, 4A, 4B, 4C, 5, 5A, 5B, 5C, 6, 6A, 6B, 6C, 9 and 11.

For a Total Lump Sum Award for Item #'s 1 - 1C of \$12,990.00. For a Total Lump Sum Award for Item #'s 2 - 2C of \$17,490.00. For a Total Lump Sum Award for Item #'s 3 - 3C of \$27,300.00. For a Total Lump Sum Award for Item #'s 4 - 4C of \$15,600.00. For a Total Lump Sum Award for Item #'s 5 - 5C of \$11,100.00. For a Total Lump Sum Award for Item #'s 6 - 6C of \$17,220.00.

B. GARDEN STATE HIGHWAY PRODUCTS, INC. for one (1) item, to wit:

ITEM NO. 10.

C. K & K SYSTEMS, INC. for one (1) item, to wit:

ITEM NO. 12.

D. TRAFFIC LOGIX CORPORATION for two (2) items, to wit:

ITEM NOS. 7 and 8.

2. Payments for the equipment to be acquired by this contract shall be made upon the approval of vouchers submitted by the successful bidders in accordance with the requirements of the Board of Commissioners and subject to the Board of Commissioners customary procedures. Delivery shall be made upon receipt of a Purchase Order issued by the Ocean County Department of Purchase, upon which delivery locations and needed quantities shall be indicated.

3. Funds for the equipment shall be available within the following funding Source: Engineering Department O.E.

4. The contract number must be placed on all papers, documents, invoices and vouchers pertaining to said contract, the number being B2023-74.

5. Be it further resolved that certified copies of this Resolution shall be made available to the County Auditor, County Department of Purchasing, Department of Finance, County Engineer, and the successful bidders.

PROPOSAL DOCUMENT REPORT

Bid No. TBD

SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

10. Submission of Bid Package*

By submitting a response to this solicitation, the Vendor understands and acknowledges that all required documents to this solicitation must be submitted and that failure to do so may be cause for rejection.

Bidder also understands that only one (1) bid submission shall be considered. Please DO NOT Submit a manual bid response. Submitting a manual response in addition to the electronic response is cause for rejection of your bid.

Confirmed

PRICE TABLES

ITEM #1 - 30" SOLAR POWERED LED SIGN ASSEMBLY

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
✓ 1	30" Solar Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$300.00	\$9,000.00		
OPTIONS:							
✓ 1A	Steel Sign Post, As Specified	30	EA	\$40.00	\$1,200.00		
✓ 1B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$60.00	\$1,800.00		
✓ 1C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$33.00	\$990.00		
TOTAL					\$12,990.00		

ITEM #2 - 36" SOLAR POWERED LED SIGN ASSEMBLY

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
✓ 2	36" Solar Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$450.00	\$13,500.00		

Introduced on: May 17, 2023
Adopted PROPOSAL DOCUMENT REPORT
Official Resolution#: 2023000689

Bid - SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

PROPOSAL DOCUMENT REPORT

Bid No. TBD

SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
OPTIONS:							
✓ 2A	Steel Sign Post, As Specified	30	EA	\$40.00	\$1,200.00		
✓ 2B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$60.00	\$1,800.00		
✓ 2C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$33.00	\$990.00		
TOTAL					\$17,490.00		

ITEM #3 - 48" SOLAR POWERED LED SIGN ASSEMBLY

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
✓ 3	48" Solar Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$780.00	\$23,400.00		
OPTIONS:							
✓ 3A	Steel Sign Post, As Specified	30	EA	\$40.00	\$1,200.00		
✓ 3B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$60.00	\$1,800.00		
✓ 3C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$30.00	\$900.00		
TOTAL					\$27,300.00		

ITEM #4 - 48" X 24" SOLAR POWERED LED SIGN ASSEMBLY

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
✓ 4	48" X 24" Solar Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$390.00	\$11,700.00		

Introduced on: May 17, 2023
 Adopted on: May 17, 2023
 Official Resolution#: 2023000689

Bid - SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

PROPOSAL DOCUMENT REPORT

Bid No. TBD

SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
OPTIONS:							
4A	Steel Sign Post, As Specified	30	EA	\$40.00	\$1,200.00		
4B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$60.00	\$1,800.00		
4C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$30.00	\$900.00		
TOTAL					\$15,600.00		

ITEM #5 - 24" X 30" SOLAR POWERED LED SIGN ASSEMBLY

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
5	24" X 30" Solar Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$240.00	\$7,200.00		
OPTIONS:							
5A	Steel Sign Post, As Specified	30	EA	\$40.00	\$1,200.00		
5B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$60.00	\$1,800.00		
5C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$30.00	\$900.00		
TOTAL					\$11,100.00		

ITEM #6 - 30" X 36" SOLAR POWERED LED SIGN ASSEMBLY

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
6	30" X 36" Solar Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$360.00	\$10,800.00		

Introduced on: May 17, 2023
 Adopted on: May 17, 2023
 Official Resolution#: 2023000689

Bid - SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

PROPOSAL DOCUMENT REPORT

Bid No. TBD

SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
OPTIONS:							
✓ 6A	Steel Sign Post, As Specified	30	EA	\$40.00	\$1,200.00		
✓ 6B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$60.00	\$1,800.00		
✓ 6C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$114.00	\$3,420.00		
TOTAL					\$17,220.00		

SOLAR SPEED RADAR SIGNS AND ACCESSORIES, ITEM #'S 7 - 12

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
7	Solar Speed Radar Sign, 12", Traffic Logix Safespace Evolution 12, As Specified, or Equal	30	EA	\$2,100.00	\$63,000.00		
8	Solar Speed Radar Sign, 15", Traffic Logix Safespace 450 Full Radar Speed Sign, As Specified, or Equal	30	EA	\$2,250.00	\$67,500.00		
✓ 9	Steel Sign Post, As Specified, or Equal	30	EA	\$40.00	\$1,200.00		
10	Battery for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$60.00	\$1,800.00		
✓ 11	Solar Panel for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$30.00	\$900.00		
12	Solar-Powered LED Pedestrian Crossing Warning System with Push Buttons, As Specified, or Equal	30	EA	\$540.00	\$16,200.00		

Introduced on: May 17, 2023

Adopted on: May 17, 2023

Official Resolution #: 2023001689

Bid - SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

ITEM #1 - 30" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL

COMPLIANCE

YES **NO**

DESCRIPTION:

Solar Powered and fully self-contained sign assembly conforming to the U.S. Department of Transportation Federal Highway Administration 2009 revision 2 May 2012 Manual on Uniform Traffic Control Devices section 2A.08 on retro reflectivity and illumination.

MATERIALS

The assembly shall include the following items:

SIGN:

Sign blanks shall be .080" gauge aluminum

Sheeting shall be 3M DG Type IX or approved equal, with anti-graffiti overlay

Sign assembly shall use anti-vandal fastener to mount components to sign and sign for fixture

LED:

Sign assembly shall utilize high-power 1W LEDs that provide a maximum light intensity of up to 600,000 mcd (millicandelas) with a viewing angle of 20 degrees.

The various sign faces shall have a color and minimum number of LEDs as noted below:

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>	<u>YES</u>	<u>NO</u>
Ped Crossing 30" x 30" (Facing) Fluorescent Yellow Green	W11-2	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Turn Symbol 30" x 30" (Facing) Yellow	W1-1L	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Turn Symbol 30" x 30" (Facing) Yellow	W1-1R	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Curve Symbol 30" x 30" (Facing) Yellow	W1-2L	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Curve Symbol 30" x 30" (Facing) Yellow	W1-2R	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stop Ahead 30" x 30" Stop Symbol, White on Red, Border & Arrow Black On Yellow (Facing)	W3-1	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Yield Ahead 30" x 30" Stop Symbol, White on Red, Border & Arrow Black On Yellow (Facing)	W3-2	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Adopted on: May 17, 2023
Official Resolution#: 2023000689

ITEM #1 – 30" SOLAR-POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>	<u>COMPLIANCE</u>	
				<u>YES</u>	<u>NO</u>
Signal Ahead 30" x 30" Symbol, Border & Arrow Black on (Facing) Yellow	W3-3	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>LED: (CONT'D)</u>					
Each LED shall be sealed in a heat-dissipating plastic enclosure to provide resistance to weather and vibration.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Each LED enclosure shall be mounted to the sign in a 1" hole and ultrasonically welded or mechanically fastened to the sign assembly.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LEDs shall be wired in strings to activate simultaneously (as per MUTCD standard).				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wiring shall be covered and secured to the sign assembly in a weather resistant enclosure.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LED connectors shall conform to Ingress Protection IP-65 rating or better.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>SOLAR PANEL:</u>					
Solar panels shall be sized appropriately so as to maintain the battery sufficiently to ensure operation in the Ocean County Region.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All fasteners used shall be anti-vandal.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
The solar panel assembly shall be mounted securely to the sign assembly.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>CONTROL CIRCUIT:</u>					
Control circuit shall have the capability of independently flashing dual outputs.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flashing output shall be 50 to 60 flashes per minute with 100 ms duration on time. Outputs shall reach the output current as programmed for the duration of the 100 ms pulse.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Output current shall be individually programmable for daytime and nighttime operation for the purpose of adjusting to ambient lighting conditions. Mode will automatically be determined by solar panel charge input.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Control circuit covering shall be waterproof and anti-vandal.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Control circuit shall be operational between the temperatures of -40°F and 176°F.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All circuit connectors shall conform to Ingress Protection IP-65 rating or better.				<input checked="" type="checkbox"/>	<input type="checkbox"/>

Introduced on: May 17, 2023

Compliance with: May 17, 2023

Official Resolution#: 2023000689

**ITEM #1 – 30" SOLAR-POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL
(CONT'D)**

COMPLIANCE
YES NO

BATTERY:

Battery packs shall be 4.8V, 14 Ah nickel metal hydride (NiMH).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall remain operational between the temperatures of -40°F and 176°F, and shall utilize overheat protection.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All battery connectors shall conform to Ingress Protection IP-65 rating or better.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall not weigh more than 1.8 lbs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall have a waterproof connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be sealed and spill-proof	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall have an in-line power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be replaceable independently of other components	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be fused for short circuit protection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be protected from overheating by means of a thermocouple sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall have the following dimensions:		
Grouped: 2.66" H X 2.66" W X 2.78" D	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stacked: 1.34" H X 1.34" W X 10.6" D	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flatpack: 5.24" H X 2.68" W X 0.67" D	<input checked="" type="checkbox"/>	<input type="checkbox"/>

WARRANTY:

Manufacturer shall offer (at minimum) one (1) year of unconditional warranty against all defects in material and workmanship.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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✓ **ITEM #1 – 30" SOLAR-POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE

YES **NO**

OPTIONS:

✓ **1A – Steel Sign Post, As Specified**

Description:

Nucor RIB-BAK U-Channel Sign Support, galvanized, without breakaway (or approved equal).

Measurements:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

✓ **1B - Battery For Solar-Powered LED Sign Assembly, As Specified**

Description:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

Materials

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Battery:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

✓ **ITEM #1 – 30" SOLAR-POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

OPTIONS: (CONT'D)

✓ **1B - Battery For Solar-Powered Led Sign Assembly, As Specified (Cont'd)**

Operation:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

Electrical:

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

✓ **1C - Solar Panel For Solar-Powered LED Sign Assembly, As Specified**

Description:

Solar panel compatible with TAPCO® Blinkersigns® and of the correct size and parameters as necessary to maintain operation of a solar-powered LED sign assembly in the Ocean County Region.

Mounting:

The solar panel assembly shall be mounted securely to the sign assembly.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

Hardware:

All fasteners used shall be anti-vandal.

Electrical:

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

ITEM #2 - 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL

COMPLIANCE

YES **NO**

DESCRIPTION:

Solar Powered and fully self-contained sign assembly conforming to the U.S. Department of Transportation Federal Highway Administration 2009 revision 2 May 2012 Manual on Uniform Traffic Control Devices section 2A.08 on retro reflectivity and illumination.

MATERIALS

The assembly shall include the following items:

SIGN:

Sign blanks shall be .080" gauge aluminum

Sheeting shall be 3M DG Type IX or approved equal, with anti-graffiti overlay

Sign assembly shall use anti-vandal fastener to mount components to sign and sign for fixture

36" Signs shall have four (4) holes punched to allow dual post mounting

LED:

Sign assembly shall utilize high-power 1W LEDs that provide a maximum light intensity of up to 600,000 mcd (millicandelas) with a viewing angle of 20 degrees.

The various sign faces shall have a color and minimum number of LEDs as noted below:

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>	<u>YES</u>	<u>NO</u>
Stop 36" x 36" (Facing)(White on Red)	R1-1	White or Red	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Yield 36" x 36" x 36" (Facing)(White on Red)	R1-2	White or Red	9	<input checked="" type="checkbox"/>	<input type="checkbox"/>
School Crossing (Symbol) 36" x 36" (Facing) Fluorescent Yellow Green/ Black/ Red	S1-1	White or Yellow	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ped Crossing 36" x 36" (Facing) Fluorescent Yellow Green	W11-2	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Turn Symbol 36" x 36" (Facing) Yellow	W1-1L	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Turn Symbol 36" x 36" (Facing) Yellow	W1-1R	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Turn Symbol L / speed 36" x 36" (MPH) to be noted at time of order (Facing) Yellow	W1-1a	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ITEM #2 - 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE
YES **NO**

LED: (CONT'D)

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>		
Turn Symbol R / speed 36" x 36" (MPH) to be noted at time of order (Facing) Yellow	W1-1a	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Curve Symbol 36" x 36" (Facing) Yellow	W1-2L	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Curve Symbol 36" x 36" (Facing) Yellow	W1-2R	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Curve Symbol L / speed 36" x 36"(MPH) to be noted at time of order (Facing) Yellow	W1-2a	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Curve Symbol R / speed 36" x 36" (MPH) to be noted at time of order (Facing) Yellow	W1-2a	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Each LED shall be sealed in a heat-dissipating plastic enclosure to provide resistance to weather and vibration.

Each LED enclosure shall be mounted to the sign in a 1" hole and ultrasonically welded or mechanically fastened to the sign assembly.

All LEDs shall be wired in strings to activate simultaneously (as per MUTCD standard).

All wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

Wiring shall be covered and secured to the sign assembly in a weather resistant enclosure.

All LED connectors shall conform to Ingress Protection IP-65 rating or better.

SOLAR PANEL:

Solar panels shall be sized appropriately so as to maintain the battery sufficiently to ensure operation in the Ocean County Region.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

All fasteners used shall be anti-vandal.

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

The solar panel assembly shall be mounted securely to the sign assembly.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

ITEM #2 - 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE

CONTROL CIRCUIT:

	<u>YES</u>	<u>NO</u>
Control circuit shall have the capability of independently flashing dual outputs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flashing output shall be 50 to 60 flashes per minute with 100 ms duration on time.		
Outputs shall reach the output current as programmed for the duration of the 100 ms pulse.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Output current shall be individually programmable for daytime and nighttime operation for the purpose of adjusting to ambient lighting conditions. Mode will automatically be determined by solar panel charge input.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Control circuit covering shall be waterproof and anti-vandal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Control circuit shall remain operational between the temperatures of -40°F and 176°F.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All circuit connectors shall conform to Ingress Protection IP-65 rating or better.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

BATTERY:

Battery packs shall be 4.8V, 14 Ah nickel metal hydride (NiMH).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall remain operational between the temperatures of -40°F and 176°F, and shall utilize overheat protection.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All battery connectors shall conform to Ingress Protection IP-65 rating or better.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall not weigh more than 1.8 lbs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall have a waterproof connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be sealed and spill-proof	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall have an in-line power connector	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be replaceable independently of other components	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be fused for short circuit protection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall be protected from overheating by means of a thermocouple sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Batteries shall have the following dimensions:		
Grouped: 2.66" H X 2.66" W X 2.78" D	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stacked: 1.34" H X 1.34" W X 10.6" D	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flatpack: 5.24" H X 2.68" W X 0.67" D	<input checked="" type="checkbox"/>	<input type="checkbox"/>

WARRANTY:

Manufacturer shall offer (at minimum) one (1) year of unconditional warranty against all defects in material and workmanship.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Introduced on: May 17, 2023
 Approved: [Signature]
 Official Resolution#: 2023000689

✓ **ITEM #2 - 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

OPTIONS:

✓ **2A – Steel Sign Post, As Specified**

Description:

Nucor RIB-BAK U-Channel Sign Support, galvanized (or approved equal).

Measurements:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

✓ **2B - Battery For Solar-Powered LED Sign Assembly, As Specified**

Description:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

Materials

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Battery:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

✓ **ITEM #2 - 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

OPTIONS: (CONT'D)

✓ **2B - Battery For Solar-Powered LED Sign Assembly, As Specified (Cont'd)**

Operation:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

Electrical:

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

✓ **2C - Solar Panel For Solar-Powered LED Sign Assembly, As Specified**

Description:

Solar panel compatible with TAPCO® Blinkersigns® and of the correct size and parameters as necessary to maintain operation of a solar-powered LED sign assembly in the Ocean County Region.

Mounting:

The solar panel assembly shall be mounted securely to the sign assembly.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

Hardware:

All fasteners used shall be anti-vandal.

Electrical:

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

ITEM #3 - 48" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL

COMPLIANCE
YES **NO**

DESCRIPTION:

Solar Powered and fully self-contained sign assembly conforming to the U.S. Department of Transportation Federal Highway Administration 2009 revision 2 May 2012 Manual on Uniform Traffic Control Devices section 2A.08 on retro reflectivity and illumination.

MATERIALS

The assembly shall include the following items:

SIGN:

Sign blanks shall be .080" gauge aluminum

Sheeting shall be 3M DG Type IX or approved equal, with anti-graffiti overlay

Sign assembly shall use anti-vandal fastener to mount components to sign and sign for fixture

48" Signs shall have four (4) holes punched to allow dual post mounting

LED:

Sign assembly shall utilize high-power 1W LEDs that provide a maximum light intensity of up to 600,000 mcd (millicandelas) with a viewing angle of 20 degrees.

The sign faces shall have a color and minimum number of LEDs as noted below:

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>		
Stop 48" x 48" (Facing)(White on Red)	R1-1	White or Red	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Each LED shall be sealed in a heat-dissipating plastic enclosure to provide resistance to weather and vibration.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Each LED enclosure shall be mounted to the sign in a 1" hole and ultrasonically welded or mechanically fastened to the sign assembly.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LEDs shall be wired in strings to activate simultaneously (as per MUTCD standard).				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wiring shall be covered and secured to the sign assembly in a weather resistant enclosure.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LED connectors shall conform to Ingress Protection IP-65 rating or better.				<input checked="" type="checkbox"/>	<input type="checkbox"/>

✓ **ITEM #3 - 48" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL**
(CONT'D)

COMPLIANCE

YES **NO**

SOLAR PANEL:

Solar panels shall be sized appropriately so as to maintain the battery sufficiently to ensure operation in the Ocean County Region.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

All fasteners used shall be anti-vandal.

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

The solar panel assembly shall be mounted securely to the sign assembly.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

CONTROL CIRCUIT:

Control circuit shall have the capability of independently flashing dual outputs.

Flashing output shall be 50 to 60 flashes per minute with 100 ms duration on time. Outputs shall reach the output current as programmed for the duration of the 100 ms pulse.

Output current shall be individually programmable for daytime and nighttime operation for the purpose of adjusting to ambient lighting conditions. Mode will automatically be determined by solar panel charge input.

Control circuit covering shall be waterproof and anti-vandal.

Control circuit shall remain operational between the temperatures of -40°F and 176°F.

All circuit connectors shall conform to Ingress Protection IP-65 rating or better.

BATTERY:

Battery packs shall be 4.8V, 14 Ah nickel metal hydride (NiMH).

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Batteries shall remain operational between the temperatures of -40°F and 176°F, and shall utilize overheat protection.

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

✓ **ITEM #3 - 48" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

BATTERY: (CONT'D)

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

WARRANTY:

Manufacturer shall offer (at minimum) one (1) year of unconditional warranty against all defects in material and workmanship.

OPTIONS:

✓ **3A – Steel Sign Post, As Specified**

Description:

Nucor RIB-BAK U-Channel Sign Support, galvanized (or approved equal).

Measurements:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

✓ **3B - Battery For Solar-Powered LED Sign Assembly, As Specified**

Description:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

Materials

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Battery:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Introduced on: May 17, 2023

Replaces: 201700001

Official Resolution#: 2023000689

✓ **ITEM #3 - 48" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

OPTIONS: (CONT'D)

✓ **3B - Battery For Solar-Powered LED Sign Assembly, As Specified (Cont'd)**

Battery: (Cont'd)

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

Operation:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

Electrical:

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

3C - Solar Panel For Solar-Powered LED Sign Assembly, As Specified

Description:

Solar panel compatible with TAPCO® Blinkersigns® and of the correct size and parameters as necessary to maintain operation of a solar-powered LED sign assembly in the Ocean County Region.

Mounting:

The solar panel assembly shall be mounted securely to the sign assembly.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

Hardware:

All fasteners used shall be anti-vandal.

Electrical:

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

✓ **ITEM #4 - 48" x 24" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL**

DESCRIPTION:

Solar Powered and fully self-contained sign assembly conforming to the U.S. Department of Transportation Federal Highway Administration 2009 revision 2 May 2012 Manual on Uniform Traffic Control Devices section 2A.08 on retro reflectivity and illumination.

MATERIALS

The assembly shall include the following items:

SIGN:

Sign blanks shall be .080" gauge aluminum

Sheeting shall be 3M DG Type IX or approved equal, with anti-graffiti overlay

Sign assembly shall use anti-vandal fastener to mount components to sign and sign for fixture

48" Signs shall have four (4) holes punched to allow dual post mounting

LED:

Sign assembly shall utilize high-power 1W LEDs that provide a maximum light intensity of up to 600,000 mcd (millicandelas) with a viewing angle of 20 degrees.

The sign faces shall have a color and minimum number of LEDs as noted below:

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>		
Large Arrow Left 48" x 24" (Facing) Black on Yellow	W1-6L	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Large Arrow Right 48" x 24" (Facing) Black on Yellow	W1-6R	White or Yellow	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Each LED shall be sealed in a heat-dissipating plastic enclosure to provide resistance to weather and vibration.

Each LED enclosure shall be mounted to the sign in a 1" hole and ultrasonically welded or mechanically fastened to the sign assembly.

All LEDs shall be wired in strings to activate simultaneously (as per MUTCD standard).

All wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

Wiring shall be covered and secured to the sign assembly in a weather resistant enclosure.

All LED connectors shall conform to Ingress Protection IP-65 rating or better.

ITEM #4 - 48" x 24" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE

YES **YES**

SOLAR PANEL:

Solar panels shall be sized appropriately so as to maintain the battery sufficiently to ensure operation in the Ocean County Region.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

All fasteners used shall be anti-vandal.

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

The solar panel assembly shall be mounted securely to the sign assembly.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

CONTROL CIRCUIT:

Control circuit shall have the capability of independently flashing dual outputs.

Flashing output shall be 50 to 60 flashes per minute with 100 ms duration on time. Outputs shall reach the output current as programmed for the duration of the 100 ms pulse.

Output current shall be individually programmable for daytime and nighttime operation for the purpose of adjusting to ambient lighting conditions. Mode will automatically be determined by solar panel charge input.

Control circuit covering shall be waterproof and anti-vandal.

Control circuit shall remain operational between the temperatures of -40°F and 176°F.

All circuit connectors shall conform to Ingress Protection IP-65 rating or better.

BATTERY:

Battery packs shall be 4.8V, 14 Ah nickel metal hydride (NiMH).

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Batteries shall remain operational between the temperatures of -40°F and 176°F, and shall utilize overheat protection.

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

ITEM #4 - 48" x 24" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE

YES **NO**

BATTERY: (Cont'd)

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

WARRANTY:

Manufacturer shall offer (at minimum) one (1) year of unconditional warranty against all defects in material and workmanship.

OPTIONS:

4A – Steel Sign Post, As Specified

Description:

Nucor RIB-BAK U-Channel Sign Support, galvanized (or approved equal).

Measurements:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

4B - Battery For Solar-Powered LED Sign Assembly, As Specified

Description:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

Materials:

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Battery:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be protected from short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

Adopted on: May 17, 2023
 Official Resolution # 22500000

ITEM #4 - 48" x 24" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE

YES **NO**

OPTIONS: (CONT'D)

4B - Battery For Solar-Powered LED Sign Assembly, As Specified (CONT'D)

Battery: (Cont'd)

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

Operation:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

Electrical:

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

4C - Solar Panel For Solar-Powered LED Sign Assembly, As Specified

Description:

Solar panel compatible with TAPCO® Blinkersigns® and of the correct size and parameters as necessary to maintain operation of a solar-powered LED sign assembly in the Ocean County Region.

Mounting:

The solar panel assembly shall be mounted securely to the sign assembly.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

Hardware:

All fasteners used shall be anti-vandal.

Electrical:

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

✓ ITEM #5 - 24" x 30" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL

COMPLIANCE

YES NO

DESCRIPTION:

Solar Powered and fully self-contained sign assembly conforming to the U.S. Department of Transportation Federal Highway Administration 2009 revision 2 May 2012 Manual on Uniform Traffic Control Devices section 2A.08 on retro reflectivity and illumination.

MATERIALS

The assembly shall include the following items:

SIGN:

Sign blanks shall be .080" gauge aluminum

Sheeting shall be 3M DG Type IX or approved equal, with anti-graffiti overlay

Sign assembly shall use anti-vandal fastener to mount components to sign and sign for fixture

48" Signs shall have four (4) holes punched to allow dual post mounting and horizontal install

LED:

Sign assembly shall utilize high-power 1W LEDs that provide a maximum light intensity of up to 600,000 mcd (millicandelas) with a viewing angle of 20 degrees.

The sign faces shall have a color and minimum number of LEDs as noted below:

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>		
Speed Limit (blank) 24" x 30" (Facing) Black on White	R2-1	White	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Each LED shall be sealed in a heat-dissipating plastic enclosure to provide resistance to weather and vibration.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Each LED enclosure shall be mounted to the sign in a 1" hole and ultrasonically welded or mechanically fastened to the sign assembly.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LEDs shall be wired in strings to activate simultaneously (as per MUTCD standard).				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wiring shall be covered and secured to the sign assembly in a weather resistant enclosure.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LED connectors shall conform to Ingress Protection IP-65 rating or better.				<input checked="" type="checkbox"/>	<input type="checkbox"/>

ITEM #5 - 24" x 30" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE
YES **NO**

SOLAR PANEL:

Solar panels shall be sized appropriately so as to maintain the battery sufficiently to ensure operation in the Ocean County Region.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

All fasteners used shall be anti-vandal.

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

The solar panel assembly shall be mounted securely to the sign assembly.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

CONTROL CIRCUIT:

Control circuit shall have the capability of independently flashing dual outputs.

Flashing output shall be 50 to 60 flashes per minute with 100 ms duration on time. Outputs shall reach the output current as programmed for the duration of the 100 ms pulse.

Output current shall be individually programmable for daytime and nighttime operation for the purpose of adjusting to ambient lighting conditions. Mode will automatically be determined by solar panel charge input.

Control circuit covering shall be waterproof and anti-vandal.

Control circuit shall remain operational between the temperatures of -40°F and 176°F.

All circuit connectors shall conform to Ingress Protection IP-65 rating or better.

BATTERY:

Battery packs shall be 4.8V, 14 Ah nickel metal hydride (NiMH).

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Batteries shall remain operational between the temperatures of -40°F and 176°F, and shall utilize overheat protection.

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

✓ **ITEM #5 - 24" x 30" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

BATTERY: (Cont'd)

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

WARRANTY:

Manufacturer shall offer (at minimum) one (1) year of unconditional warranty against all defects in material and workmanship.

OPTIONS:

✓ **5A – Steel Sign Post, As Specified**

Description:

Nucor RIB-BAK U-Channel Sign Support, galvanized (or approved equal).

Measurements:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

✓ **5B - Battery For Solar-Powered LED Sign Assembly, As Specified**

Description:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

Materials:

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Battery:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be replaced for short circuit protection

✓ **ITEM #5 - 24" x 30" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE

YES **NO**

OPTIONS (Cont'd)

✓ **5B - Battery For Solar-Powered LED Sign Assembly, As Specified (Cont'd)**

Batteries shall be protected from overheating by means of a thermocouple sensor

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

Operation:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

Electrical:

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

✓ **5C - Solar Panel For Solar-Powered LED Sign Assembly, As Specified**

Description:

Solar panel compatible with TAPCO® Blinkersigns® and of the correct size and parameters as necessary to maintain operation of a solar-powered LED sign assembly in the Ocean County Region.

Mounting:

The solar panel assembly shall be mounted securely to the sign assembly.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

Hardware:

All fasteners used shall be anti-vandal.

Electrical:

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

ITEM #6 - 30" x 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL

DESCRIPTION:

Solar Powered and fully self-contained sign assembly conforming to the U.S. Department of Transportation Federal Highway Administration 2009 revision 2 May 2012 Manual on Uniform Traffic Control Devices section 2A.08 on retro reflectivity and illumination.

MATERIALS

The assembly shall include the following items:

Sign blanks shall be .080" gauge aluminum

Sheeting shall be 3M DG Type IX or approved equal, with anti-graffiti overlay

Sign assembly shall use anti-vandal fastener to mount components to sign and sign for fixture

LED:

Sign assembly shall utilize high-power 1W LEDs that provide a maximum light intensity of up to 600,000 mcd (millicandelas) with a viewing angle of 20 degrees.

The sign faces shall have a color and minimum number of LEDs as noted below:

	<u>SIGN</u>	<u>LED Color</u>	<u>Minimum Number</u>		
Speed Limit (blank) 30" x 36" (Facing) Black on White	R2-1	White	8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Each LED shall be sealed in a heat-dissipating plastic enclosure to provide resistance to weather and vibration.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Each LED enclosure shall be mounted to the sign in a 1" hole and ultrasonically welded or mechanically fastened to the sign assembly.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LEDs shall be wired in strings to activate simultaneously (as per MUTCD standard).				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wiring shall be covered and secured to the sign assembly in a weather resistant enclosure.				<input checked="" type="checkbox"/>	<input type="checkbox"/>
All LED connectors shall conform to Ingress Protection IP-65 rating or better.				<input checked="" type="checkbox"/>	<input type="checkbox"/>

SOLAR PANEL:

Solar panels shall be sized appropriately so as to maintain the battery sufficiently to ensure operation in the Ocean County Region.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

All fasteners used shall be anti-vandal.

ITEM #6 - 30" x 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE
YES **NO**

SOLAR PANEL: (CONT'D)

- Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.
- The solar panel assembly shall be mounted securely to the sign assembly.
- All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

CONTROL CIRCUIT:

- Control circuit shall have the capability of independently flashing dual outputs.
- Flashing output shall be 50 to 60 flashes per minute with 100 ms duration on time. Outputs shall reach the output current as programmed for the duration of the 100 ms pulse.
- Output current shall be individually programmable for daytime and nighttime operation for the purpose of adjusting to ambient lighting conditions. Mode will automatically be determined by solar panel charge input.
- Control circuit covering shall be waterproof and anti-vandal.
- Control circuit shall remain operational between the temperatures of -40°F and 176°F.
- All circuit connectors shall conform to Ingress Protection IP-65 rating or better.

BATTERY:

- Battery packs shall be 4.8V, 14 Ah nickel metal hydride (NiMH).
- Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.
- Batteries shall remain operational between the temperatures of -40°F and 176°F, and shall utilize overheat protection.
- All battery connectors shall conform to Ingress Protection IP-65 rating or better.
- Batteries shall not weigh more than 1.8 lbs.
- Batteries shall have a waterproof connection
- Batteries shall be sealed and spill-proof
- Batteries shall have an in-line power connector
- Batteries shall be replaceable independently of other components
- Batteries shall be fused for short circuit protection
- Batteries shall be protected from overheating by means of a thermocouple sensor
- Batteries shall have the following dimensions:
 - Grouped: 2.66" H X 2.66" W X 2.78" D
 - Stacked: 1.34" H X 1.34" W X 10.6" D
 - Flatpack: 5.24" H X 2.68" W X 0.67" D

WARRANTY:

- Manufacturer shall offer (at minimum) one (1) year of unconditional warranty against all defects in material and workmanship.

✓ **ITEM #6 - 30" x 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

OPTIONS:

✓ **6A – Steel Sign Post, As Specified**

Description:

Nucor RIB-BAK U-Channel Sign Support, galvanized (or approved equal).

Measurements:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

✓ **6B - Battery For Solar-Powered LED Sign Assembly, As Specified**

Description:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

Materials:

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

Battery:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

Batteries shall have the following dimensions:

Grouped: 2.66" H X 2.66" W X 2.78" D

Stacked: 1.34" H X 1.34" W X 10.6" D

Flatpack: 5.24" H X 2.68" W X 0.67" D

Operation:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

Introduced on: May 17, 2023
Adopted on: May 17, 2023

Official Resolution #: 2023090689
All battery connectors shall conform to Ingress Protection IP-65 rating or better.

✓ ITEM #6 - 30" x 36" SOLAR POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE

YES NO

OPTIONS: (CONT'D)

✓ 6C - Solar Panel For Solar-Powered LED Sign Assembly, As Specified

Description:

Solar panel compatible with TAPCO® Blinkersigns® and of the correct size and parameters as necessary to maintain operation of a solar-powered LED sign assembly in the Ocean County Région.

Mounting:

The solar panel assembly shall be mounted securely to the sign assembly.

All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

Hardware:

All fasteners used shall be anti-vandal.

Electrical:

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

ITEM #9 – STEEL SIGN POST, AS SPECIFIED, OR EQUAL

COMPLIANCE

YES **NO**

DESCRIPTION:

Nucor RIB-BAK U-Channel Sign Support, galvanized, without breakaways (or approved equal).

MEASUREMENTS:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

ITEM #10 - BATTERY FOR SOLAR-POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL

DESCRIPTION:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

MATERIALS:

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

BATTERY:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

Batteries shall have the following dimensions:

• Grouped: 2.66" H X 2.66" W X 2.78" D

• Stacked: 1.34" H X 1.34" W X 10.6" D

• Flatpack: 5.24" H X 2.68" W X 0.67" D

OPERATION:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

ELECTRICAL:

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

Adopted on: May 17, 2023

Adopted on: May 17, 2023

ITEM #11 - SOLAR PANEL FOR SOLAR-POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL

COMPLIANCE
YES **NO**

DESCRIPTION:

Solar panel compatible with TAPCO® Blinkersigns® and of the correct size and parameters as necessary to maintain operation of a solar-powered LED sign assembly in the Ocean County Region.

MOUNTING:

The solar panel assembly shall be mounted securely to the sign assembly.
All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.

HARDWARE:

All fasteners used shall be anti-vandal.

ELECTRICAL:

Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.

All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.

ITEM #12 - SOLAR-POWERED LED PEDESTRIAN CROSSING WARNING SYSTEM WITH PUSH BUTTONS, AS SPECIFIED OR EQUAL

DESCRIPTION:

Fully self-contained Solar-Powered LED Pedestrian Crossing Warning System, including an LED-enhanced pedestrian crossing sign assembly (conforming to the 2009 Federal Highway MUTCD section 2A.08 on retroreflectivity and illumination). Each system shall consist of two (2) solar-powered LED pedestrian crossing signs, two (2) cabinets, two (2) pedestrian push button assemblies, two (2) sign mounting kits, two (2) wireless controller kits, and all appurtenances incidental to the Solar-Powered LED Pedestrian Crossing Warning System.

MATERIALS

The system shall include the following items:

SIGN:

MUTCD compliant Pedestrian warning sign type W11-2. 36" x 36"

Sign blanks shall be .080" gauge aluminum.

Sheeting used shall be 3M DG3 diamond grade, or approved equal, with anti-graffiti overlay.

Sign assembly shall use anti-vandal fasteners to mount components to sign and sign to fixture.

PROPOSAL DOCUMENT REPORT

Bid No. TBD

SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
6B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$45.00	\$1,350.00		
6C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$225.00	\$6,750.00		TRAFFICALM
TOTAL					\$60,360.00		

SOLAR SPEED RADAR SIGNS AND ACCESSORIES, ITEM #'S 7 - 12

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
7	Solar Speed Radar Sign, 12", Traffic Logix Safespace Evolution 12, As Specified, or Equal	30	EA	\$3,825.60	\$114,768.00		TRAFFICALM
8	Solar Speed Radar Sign, 15", Traffic Logix Safespace 450 Full Radar Speed Sign, As Specified, or Equal	30	EA	\$4,593.60	\$137,808.00		TRAFFICALM
9	Steel Sign Post, As Specified, or Equal	30	EA	\$42.00	\$1,260.00		
10	Battery for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$45.00	\$1,350.00		
11	Solar Panel for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$225.00	\$6,750.00		TRAFFICALM
12	Solar-Powered LED Pedestrian Crossing Warning System with Push Buttons, As Specified, or Equal	30	EA	\$3,720.80	\$111,624.00		TRAFFICALM

Introduced on: **May 17, 2023**

Adopted on: **May 17, 2023**

Official Resolution#: **202300689**

Bid - SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

ITEM #9 – STEEL SIGN POST, AS SPECIFIED, OR EQUAL

COMPLIANCE

YES **NO**

DESCRIPTION:

Nucor RIB-BAK U-Channel Sign Support, galvanized, without breakaways (or approved equal).

MEASUREMENTS:

10' length

3-1/16" width

3/16" holes on 1" centers

3 lbs/ft linear weight

✓ **ITEM #10 - BATTERY FOR SOLAR-POWERED LED SIGN ASSEMBLY, AS SPECIFIED, OR EQUAL**

DESCRIPTION:

6V, 14 Ah nickel metal hydride (NiMH) battery pack compatible with TAPCO® Blinkersigns®.

MATERIALS:

Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion.

BATTERY:

Batteries shall not weigh more than 1.8 lbs.

Batteries shall have a waterproof connection

Batteries shall be sealed and spill-proof

Batteries shall have an in-line power connector

Batteries shall be replaceable independently of other components

Batteries shall be fused for short circuit protection

Batteries shall be protected from overheating by means of a thermocouple sensor

Batteries shall have the following dimensions:

• Grouped: 2.66" H X 2.66" W X 2.78" D

• Stacked: 1.34" H X 1.34" W X 10.6" D

• Flatpack: 5.24" H X 2.68" W X 0.67" D

OPERATION:

Batteries shall remain operational between the temperatures of -40°F and 176°F (-40°C and 80°C), and shall utilize overheat protection.

Introduced on: May 17, 2023
ELECTRICAL: May 17, 2023

Official Resolution#: 2023000689

All battery connectors shall conform to Ingress Protection IP-65 rating or better.

PROPOSAL DOCUMENT REPORT

Bid No. TBD

SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
6B	Battery for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$54.00	\$1,620.00		
6C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified	30	EA	\$102.00	\$3,060.00		
TOTAL					\$32,556.60		

SOLAR SPEED RADAR SIGNS AND ACCESSORIES, ITEM #'S 7 - 12

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
7	Solar Speed Radar Sign, 12", Traffic Logix Safespace Evolution 12, As Specified, or Equal		EA	No Bid	No Bid	X	
8	Solar Speed Radar Sign, 15", Traffic Logix Safespace 450 Full Radar Speed Sign, As Specified, or Equal		EA	No Bid	No Bid	X	
9	Steel Sign Post, As Specified, or Equal	30	EA	\$60.00	\$1,800.00		
10	Battery for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$54.00	\$1,620.00		
11	Solar Panel for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$102.00	\$3,060.00		
12	Solar-Powered LED Pedestrian Crossing Warning System with Push Buttons, As Specified, or Equal	30	EA	\$1,745.22	\$52,356.60		

- Flashing output shall be 50 to 60 flashes per minute with 100 ms duration on time. Outputs shall reach the output current as programmed for the duration of the X
- Output current shall be individually programmable for daytime and nighttime operation for the purpose of adjusting to ambient lighting conditions. Mode will X
- Control circuit covering shall be waterproof and anti- X

ITEM #12 - SOLAR-POWERED LED PEDESTRIAN CROSSING WARNING SYSTEM WITH PUSH BUTTONS, AS

COMPLI
YE NO

CONTROL CIRCUIT: (CONT'D)

- Control circuit shall remain operational between the temperatures of -40°F and 176°F X
- All circuit connectors shall conform to Ingress X

BATTERY:

- Battery packs shall be 4.8V, 14000 mAh nickel metal X
- Batteries shall be sealed in a plastic film to provide resistance to moisture and corrosion. Dimensions shall X
- Batteries shall remain operational between the temperatures of -40°F and 176°F X
- All battery connectors shall conform to Ingress X

WIRELESS COMMUNICATION:

- Each system shall include a radio-control cabinet for communication with and synchronization within the X
- Each sign assembly shall include a self-powered wireless transmitter / receiver for communication with X
- Transmitter units shall have a minimum operating X
- X

WARRANTY:

- Manufacturer shall offer (at minimum) one (1) year of X
- Manufacturer shall offer (at minimum) one (1) year of X

Introduced on: May 17, 2023
Adopted on: May 17, 2023
Official record # 2023000600

PROPOSAL DOCUMENT REPORT

Bid No. TBD

SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
6B	Battery for Solar-Powered LED Sign Assembly, As Specified		EA	No Bid	No Bid	X	
6C	Solar Panel for Solar-Powered LED Sign Assembly, As Specified		EA	No Bid	No Bid	X	
TOTAL					\$0.00		

SOLAR SPEED RADAR SIGNS AND ACCESSORIES, ITEM #'S 7 - 12

Line Item	Description	Quantity	Unit of Measure	Unit Cost	Total Cost	No Bid	Comments
7	Solar Speed Radar Sign, 12", Traffic Logix Safespace Evolution 12, As Specified, or Equal	30	EA	\$2,244.00	\$67,320.00		
8	Solar Speed Radar Sign, 15", Traffic Logix Safespace 450 Full Radar Speed Sign, As Specified, or Equal	30	EA	\$3,344.00	\$100,320.00		
9	Steel Sign Post, As Specified, or Equal		EA	No Bid	No Bid	X	
10	Battery for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$244.00	\$7,320.00		
11	Solar Panel for Solar-Powered LED Sign Assembly, As Specified, or Equal	30	EA	\$244.00	\$7,320.00		
12	Solar-Powered LED Pedestrian Crossing Warning System with Push Buttons, As Specified, or Equal		EA	No Bid	No Bid	X	

Introduced on: May 17, 2023

Adopted May 17, 2023

Official Resolution#: 2023000689

Bid - SOLAR POWERED LED SIGNS AND SOLAR POWERED SPEED RADAR SIGNS

✓ **ITEM #7 - SOLAR SPEED RADAR SIGN, 12", TRAFFIC LOGIX SAFEPACE EVOLUTION 12, AS SPECIFIED, OR EQUAL**

COMPLIANCE
YES **NO**

DESCRIPTION:

Changeable message sign which displays speed of oncoming vehicles. Includes MUTCD-compliant "YOUR SPEED" sign (black legend on yellow background). Sign shall warn drivers who exceed designated threshold speed.

SPEED DISPLAY:

Individual digits within display shall be 12" h x 6.4" w, and each digit shall be comprised of a matrix of no fewer than 196 yellow LEDs per digit; total 936 yellow LEDs.

The LEDs shall be displayed on a black background.

The yellow digits shall have a viewing angle at 50% IV of 30° and a partial flux (brightness) of 9000-22400 Ev, [lux]/LED.

Display face shall be constructed of non-glare UV stabilized polycarbonate.

Display shall have an operating temperature range of -40°F to 185°F with 95% humidity non-condensing. (-20°F for Bluetooth communication)

Speed display size shall be maximum 17.25" (h) x 23" (w) x 5.625" (d).

The speed display shall be capable of displaying speeds in miles per hour and ranging from 3 – 99.

There shall be a conformal coating on all circuit boards

There shall be a built in ambient light sensing and automatic brightness control.

SIGN:

Sign shall conform to the 2009 Federal Highway MUTCD section 2A.08 on retroreflectivity and illumination.

Sign shall measure at least 29" h x 23" w.

Sign blanks shall be aluminum.

Sheeting used shall be 3M DG3 diamond grade, or approved equal, with anti-graffiti overlay.

The sign shall measure 29.0" (h) x 23.0" (w) x 5.625" (d) and display the message "YOUR SPEED" on two (2) lines.

Sign weight with speed radar shall be a maximum of 20 pounds.

✓ **ITEM #7 - SOLAR SPEED RADAR SIGN, 12", TRAFFIC LOGIX SAFEPLACE EVOLUTION 12, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE

YES **NO**

PROGRAMMING:

- There shall be 24/7 365 day programming and scheduling.
- The unit shall be capable of display On/Stealth Modes.
- The unit shall display the closest/fastest vehicle speed.
- The unit shall have a digit flashing speed threshold.
- The following are the flashing speeds for the LEDs: Fast 1.5 Hz, Medium 1 Hz, and Slow 0.75 Hz.
- The unit shall be capable of collecting and storing traffic data by location.
- The unit shall capture traffic data when in Stealth Mode.
- The data shall be downloaded via a wireless connection.
- The program shall be capable of statistical reporting and charts.
- The program shall be capable of compiling the reports as summaries, weekly reports, period comparison reports, or full custom reports and charts.
- The program shall be capable of reporting the following parameters: average vehicle count, total vehicle count, average speed, average number of speed violations, total number of speed violations, minimum/maximum speed, 85th percentile speed.
- The reports shall print directly and exported into CSV, MS Excel, Adobe Acrobat PDF and HTML formats.

SOLAR PANEL:

- Solar panels shall be sized appropriately so as to maintain the battery sufficiently.
- All panels shall be mounted to an aluminum plate and bracket at an angle of 45° to 60°.
- All fasteners used shall be anti-vandal.
- Wire used shall conform to military specification MIL-W-16878D, Type D, vinyl nylon jacket.
- The solar panel assembly shall be mounted securely to the sign assembly.
- All solar panel connectors shall conform to Ingress Protection IP-65 rating or better.
- The solar panel shall be a 50W or 90W solar panel.

√ ITEM #7 - SOLAR SPEED RADAR SIGN, 12", TRAFFIC LOGIX SAFEPACE EVOLUTION 12, AS SPECIFIED, OR EQUAL (CONT'D)

COMPLIANCE
YES NO

ENCLOSURE:

- The enclosure shall be vandal resistant and have a lightweight polymer.
- The enclosure shall have a matte black front.
- The enclosure shall have a light gray body.
- The enclosure shall be weatherproof and be NEMA 4X-12 and IP65 compliant.
- The enclosure shall be non-sealed and ventilated.

RADAR:

- The unit shall use an internal radar that is Doppler and FCC approved.
- The radar RF out shall be 5 mW maximum.
- The radar f-center shall be 24.125 GHz or 24.200 GHz.
- The radar shall have a maximum pickup distance of 400 feet.
- The beam angle shall be 24° (vertical) x 12° (horizontal).
- The radar beam polarization shall be linear.
- The radar shall have CE Mark.

BATTERY:

- The sign shall have Lithium-ion batteries with a weight of 4 pounds.
- The universal mounting bracket system shall come with a sign bracket (2 pounds) and a pole bracket (5 pounds).
- The power input shall be 100~240V AC @ 150 mA, 12V DC (11-14.5V @ 1A).
- The power input shall be capable of wireless battery charge monitoring via software interface.

COMMUNICATIONS:

- The device shall be Bluetooth Capable.

ASSEMBLY:

- Assembly shall be capable of mounting to pole, timber post, or u-channel.
- Mounting hardware shall be tamper-resistant.

✓ **ITEM #7 - SOLAR SPEED RADAR SIGN, 12”, TRAFFIC LOGIX SAFEPACE EVOLUTION 12, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

WARRANTY:

- Manufacturer shall offer (at minimum) one (1) year of unconditional warranty against all defects in material and workmanship.
- Manufacturer shall offer (at minimum) ten (10) years warranty on LEDs.
- Manufacturer shall offer (at minimum) two (2) year warranty on the sign.
- Manufacturer shall offer (at minimum) one (1) year warranty on the batteries.

✓ **ITEM #8 - SOLAR SPEED RADAR SIGN, 15”, TRAFFIC LOGIX SAFEPACE 450 FULL RADAR SPEED SIGN, AS SPECIFIED, OR EQUAL**

DESCRIPTION:

- Changeable message sign which displays speed of oncoming vehicles. Includes MUTCD – compliant “YOUR SPEED” sign (black legend on yellow background). Sign shall warn drivers who exceed designated threshold speed.

SPEED RADAR SIGN:

- The assembly shall include the following items:
The Speed Radar Sign Digits shall be 15.0”(h)x8.0”(w) with 112 yellow LEDs per digit.
- The “YOUR SPEED” text on the speed radar sign shall be 6” H and on two (2) lines.
- The full Speed Radar Sign size shall be 40.0” H x 30.0” W x 3.5” D.
- The sign weight without the “YOUR SPEED” sign and with the solar power panel and bracket shall be 20 pounds *maximum*.
- The sign shall come with 4 cell lithium ion battery (4 lbs max).
- The sign shall come with a universal mounting bracket system including the sign bracket (2 lbs) and pole bracket (5 lbs).
- The speed radar sign shall measure the speed in miles per hour (MPH).
- The speed radar sign shall have an aluminum protective cover 0.1875” D.
- The sign shall have yellow high-intensity prismatic reflective sheeting on the sign face with black colored text in MUTCD approved colors and format.
- The operating temperature shall be -40°F to 185°F *minimum*.
- The sign shall have a built in ambient light sensor.
- The sign shall have a wireless battery charge monitor.

Introduced on May 17, 2023
Adopted on May 17, 2023
Official Resolution No. 202300689
The sign shall have to be solar powered.

✓ **ITEM #8 - SOLAR SPEED RADAR SIGN, 15", TRAFFIC LOGIX SAFE PACE 450 FULL RADAR SPEED SIGN, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE

YES **NO**

RADAR:

The radar sign shall have a ten (10) year warranty on the LEDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The internal radar shall be Doppler (FCC approved).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The radar RF out shall be 5mW maximum.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The radar f-center shall be 24.125 GHz center ±25 MHz.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The radar pick-up distance shall go up to 1,200 feet <i>minimum</i> .	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The radar beam angle shall be 11°x11°.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The radar beam polarization shall be linear.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The FCC ID for the radar shall be TIADR1500.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISPLAY:

LED Digits shall have 224 yellow LED, 23°, 5mm, luminous intensity (5,680-8,200 mcd/LED).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The display shall have an ambient light sensor and automatic brightness adjuster.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENCLOSURE:

The enclosure shall be 12 gauge aluminum with flat black powder coated front.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The body of the enclosure shall be light gray powder coated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The enclosure shall be weather proof, non-sealed, and ventilated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The enclosure shall be NEMA 4X-12 and IP65 level compliant.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

MOUNTING:

The brackets shall be theft resistant.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The sign shall lock into the bracket with a key.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The universal mounting bracket system shall have the following options: circular, square, and telspar poles.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The mounting system shall come with banding brackets.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMUNICATIONS:

The system shall be both WiFi and Bluetooth 4.0 compatible.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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PROGRAMMING:

Safe Pace Pro management software or approved equal shall be utilized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
There shall be 24 hours a day, 7 days a week, 365 days a year unlimited programming	<input checked="" type="checkbox"/>	<input type="checkbox"/>

✓ **ITEM #8 - SOLAR SPEED RADAR SIGN, 15", TRAFFIC LOGIX SAFE PACE 450 FULL RADAR SPEED SIGN, AS SPECIFIED, OR EQUAL (CONT'D)**

COMPLIANCE
YES **NO**

DISPLAY SETTINGS:

The display shall have both 'ON' and 'Stealth Mode' settings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
In stealth mode, the speed will not be displayed and the data will be collected.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The display will be capable of a minimum speed and maximum speed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The display will be capable of flashing the digits when the speed is measured above the selected speed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DATA COLLECTION:

Traffic data shall be collected and stored by location.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Traffic data shall be downloaded through a wireless connection.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program shall be capable of statistical reports and charts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The following reports shall be compiled: summary reports, weekly reports, period comparison reports, and customizable reports.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The following shall be the reporting parameters:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• average vehicle count		
• total vehicle count		
• average speed		
• average number of speed violations		
• total number of speed violations		
• minimum and maximum speed		
• 85 th percentile speed		
The reports shall be capable of printing directly from the program and exported into CSV format, MS Excel, Adobe Acrobat PDF, and HTML.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The charts shall be capable of printing directly from the program and Adobe Acrobat PDF format.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SOLAR PANEL:

The solar panel power output shall be 20 W.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The solar panel operation temperature range shall be -40°C to 85°C <i>minimum</i> .	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The solar panel shall be composed of laminate: glass, EVA, TPT (tedlar/pet/tedlar), or TPE.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The front side of the solar panel shall have high-transmission 3.2mm tempered glass.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The back side of the solar panel shall be made of wither TPT or TPE.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The solar panel frame shall be clear anodized aluminum.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The solar panel shall be output to a junction box.	<input checked="" type="checkbox"/>	<input type="checkbox"/>