



U.S. Department
of Transportation
**Federal Highway
Administration**

October 1, 2010

1200 New Jersey Ave., SE
Washington, D.C. 20590

In Reply Refer To:
HSSD/WZ-140A

Mr. Greg Hannah
Impact Recovery Systems, Inc.
4955 Stout Drive
San Antonio, Texas 78219

Dear Mr. Hannah:

This is in response to your September 27, 2010, e-mail correspondence requesting the Federal Highway Administration's (FHWA) acceptance of your company's internally illuminated OminiPed Solar Pedestrian Vertical Panel as a crashworthy traffic control device for use in work zones and elsewhere on the National Highway System (NHS). Accompanying your letter was the FHWA Office of Safety Design form and an engineering comparison with your company's vertical panel that was crash tested with an external light, covered in FHWA acceptance letter WZ-140. You requested that we find this device acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

This letter is the acknowledgement of the FHWA's acceptance of your request. The original completed form has been modified by the addition of the FHWA acceptance letter number and the date of our review. The form, of which a copy is enclosed for reference, will be posted on our web site in the near future.

Sincerely yours,

David A. Nicol, P.E.
Director, Office of Safety Design
Office of Safety

Enclosure



Page 1	FEDERAL HIGHWAY ADMINISTRATION		Letter Number
	OFFICE OF SAFETY DESIGN		WZ-140
	Category 2 Work Zone Device Acceptance Letter		Date
			12/22/2009
Contact Info	Petitioner / Developer Name and Address:		
	Greg Hannah - Impact Recovery Systems, Inc. 4955 Stout Drive San Antonio, TX 78219		
	I hereby certify that the device(s) covered by this Acceptance Letter meet(s) the crash - worthiness test and evaluation requirements of the FHWA and NCHRP Report 350.		
Signature			
Telephone #	(210) 736-4477		
Email Address	ghannah@impactrecovery.com		
	Laboratory / Engineer Name and Address		
	Kenneth Parrott - Impact Recovery Systems, Inc. 4955 Stout Drive San Antonio, TX 78219		
<input type="checkbox"/>	I hereby certify that the testing that supports this Acceptance Letter was conducted in accordance with NCHRP Report 350 guidelines, that the device(s) tested is/are accurately described on this form, and that the test results indicate that the device meets all applicable NCHRP Report 350 evaluation criteria.		
<input checked="" type="checkbox"/>	I have evaluated the requested modifications to these devices previously found acceptable by the FHWA in Acceptance Letter WZ-___, and hereby certify that, in my opinion, the modifications do not adversely affect the crash performance of the devices. I also certify that these devices are accurately described on this form.		
Signature			
Telephone #	(210) 736-4477		
Email Address	kparrott@impactrecovery.com		
Keywords:			
	Type of Device (See page 3)		
	Vertical Panel		
	Composition of Sign or Rail substrate (See Page 3)		
	Extruded Plastic		
	Thickness of substrate (inches): 0.25		
	Height of sign from the ground (inches), if applicable: (See Page 3)		
	Low: 12 to 18 inches above the pavement		
	Flags and or lights present during test? Indicate number of each:		
	# of flags: 0	# of lights: 2	Weight of lights: 1.50 ea.
Device Name	Flexible Traffic Control Product		
Detailed Desc. Of Device, Materials, sizes, Fasteners, Substrates Foundation, Aux. Features Ballast, etc.	(May be attached on separate page(s) See attached original WZ description letter.		

Page 2	FEDERAL HIGHWAY ADMINISTRATION OFFICE OF SAFETY DESIGN		Letter Number
	Category 2 Work Zone Device Acceptance Letter		WZ-140
			Date
			12/22/2009
	Mandatory Attachments		
	Attachment # 1: Test data summary page(s)		
	Attach. #1a	Test #	
	Attach. #1b	Test #	
	Attach. #1c	Test #	
	Attach. #1d	Test #	
Alternative	Attachment # 1: Description and discussion of modification(s) to crash tested and/or accepted device.		
	Date: 12/22/2009		
	Attachment # 2: PDF drawing(s) of device(s)		
	Attach. #2a	Drawing Title: Exploded View	
		Drawing #: Figure 1	
	Attach. #2b	Drawing Title: OmniPed Solar Pedestrian Vertical Panel	
		Drawing #: Figure 2	
	Attach. #2c	Drawing Title:	
		Drawing #:	
	Attach. #2d	Drawing Title:	
		Drawing #:	
	Attach. #2e	Drawing Title:	
		Drawing #:	
	Attach. #2f	Drawing Title:	
		Drawing #:	
	Attach. #2g	Drawing Title:	
		Drawing #:	

Page 3	FEDERAL HIGHWAY ADMINISTRATION OFFICE OF SAFETY DESIGN Category 2 Work Zone Device Acceptance Letter	Letter Number
		WZ-140
		Date
		12/22/2009

Please select from the following Keywords for “Type of Device”:

Longitudinal Channelizing Barricade
 Curb (Curb channelizer system with or without road tubes or other channelizers)
 Drum
 H-Footprint Sign Stand
 X-Footprint Sign Stand
 Trailer Mounted Signs (Does not include arrow boards or variable message signs or other Category 4 trailer mounted devices.)
 Automated Flagger Device (not trailer mounted)
 Tripod Sign Stand
 Type I Barricade
 Type II Barricade
 Type III Barricade
 Vertical Panel
 Intrusion Detector
 Ballast (Action relates to ballast on one or more devices)
 Channelizer (Individual units unlike cones, road tubes, or drums)

Please select from the following Keywords for “Sign Substrate”:

Roll-up / Fabric (with fiberglass spreaders – aluminum or steel spreaders are not allowed.)
 Plywood
 Aluminum – Solid
 Aluminum – Laminate
 Corrugated Plastic
 Extruded Plastic
 Waffleboard Plastic
 Wood / Lumber

Please select from the following Keywords for “Height of Sign”:

The distance to the lowest point on the sign is:

Low 12 to 18 inches above the pavement
 Mid-A 20 to 24 inches above the pavement
 Mid-B 25 to 36 inches above the pavement
 Mid-C 37 to 59 inches above the pavement
 Tall 60 to 71 inches above the pavement
 Oversized 72 inches and taller

Page 4	FEDERAL HIGHWAY ADMINISTRATION OFFICE OF SAFETY DESIGN Category 2 Work Zone Device Acceptance Letter			Letter Number
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Please note the following standard provisions that apply to FHWA letters of acceptance:

- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, or conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of FHWA and NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance shall not be reproduced except in full. This letter, and the test documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.
- If the subject of this letter is a patented device it is considered "proprietary." The use of proprietary work zone traffic control devices in Federal-aid projects is generally of a temporary nature. They are *selected by the contractor* for use as needed and removed upon completion of the project. Under such conditions they can be presumed to meet requirement "a" given below for the use of proprietary products on Federal-aid projects. On the other hand, if proprietary devices are *specified by a highway agency* for use on Federal-aid projects they: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternative exists or; (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.
- This Acceptance Letter shall not be construed as authorization or consent by the Federal Highway Administration to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The Acceptance Letter is limited to the crashworthiness characteristics of the candidate device, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.



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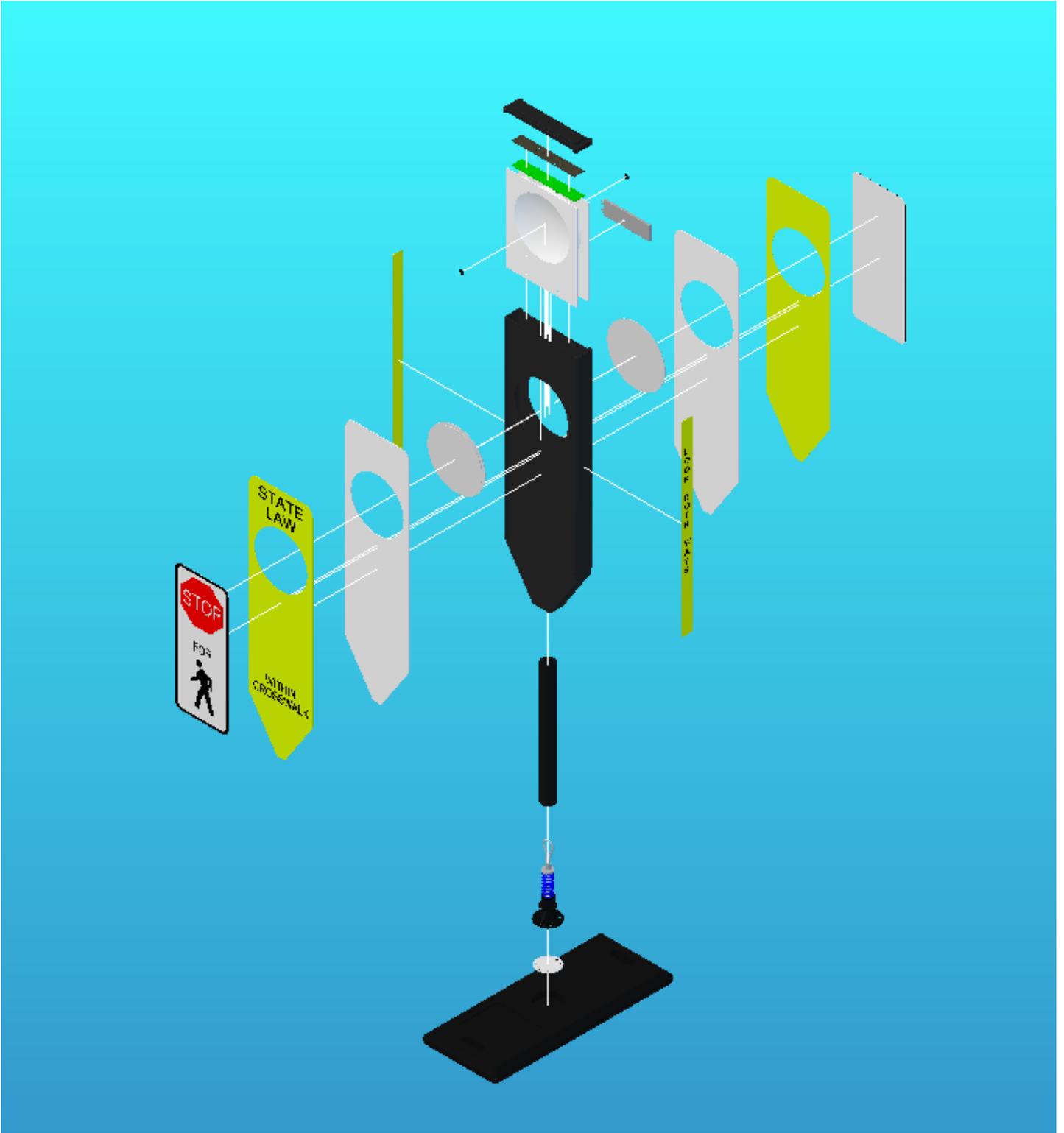
Sincerely yours,

David A. Nicol, P.E.
Director, Office of Safety Design
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Enclosure



Figure 1 - OmniPed Solar Pedestrian Vertical Panel



Exploded View



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Attachment 1 – Description of Modifications
Impact Recovery Systems, Inc.
WZ-140 Flexible Traffic Control Product

The original devices submitted were two types of sign panels, a double sided vertical panel (14” x 48” HDPE) and a single sided directional indicator barricade (24” x 36” HDPE) attached to a 103QR One Base portable stand along with standard Empco Lite 400T / 600T. The flexible spring is Impact Recovery Systems standard spring system with 2 3/8” diameter HDPE tubing used as a post. The weight of both test articles was 22kg (48 pounds).

The modified system retains the One Base portable stand along with the spring and tube systems. However, the new sign now consists of a blow molded HDPE form of similar thickness used as sign substrate. The light is no longer an externally mounted Empco, but an internally mounted (for internal illumination through translucent reflective sheeting) solar arrangement consisting of a PCB and solar cells located in the top, a lithium polymer battery internally mounted, and two small circuit board mounted LEDs.

The new sign dimensions are 14” x 48” x 3”. Total weight including the two lights and portable base remains at 22kg (48 pounds) as the weight savings of lighter batteries are offset by a heavier sign substrate.

Whereas the new sign houses lighting internally mounted and is of single piece design, we believe the overall arrangement will act in a manner equal or better to the previous system. No externally mounted lights are available to break free a fly about. Also, the single piece sign substrate will have better integrity upon being struck, with fewer protrusions to hang up on various vehicle exposures.

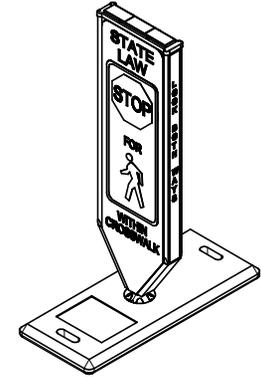
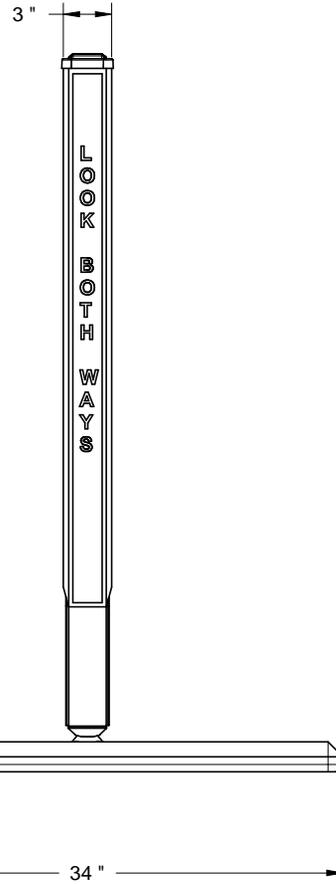
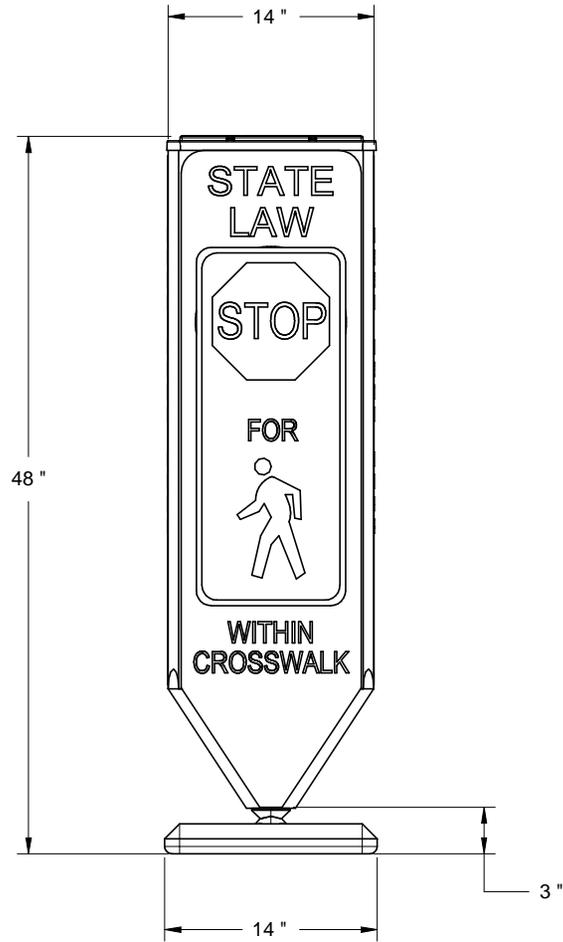
A table below is attached comparing the previously tested and new system.

Device	Vertical Panel	Directional Indicator	Pedestrian Sign
Weight	22 kg (48 pounds)	22 kg (48 pounds)	22 kg (48 pounds)
Height	1220 mm (48 inches)	914 mm (36 inches)	1220 mm (48 inches)
Light	Empco Lite 400T	Empco Lite 600T	Internally Mounted LED



REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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IMPACT recovery SYSTEMS

"Impacting Today's Roads for a Safer Tomorrow"

SIZE
A

PART NO.
FIGURE 2

DWG.
OMNIPED SOLAR PEDESTRIAN
VERTICAL PANEL

REV

SCALE

IMPACT RECOVERY SYSTEMS, INC.

DATE 12-22-2009

