



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

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

February 12, 2014

In Reply Refer To:  
HSST/WZ-325

Ms. Kathleen A. Bacik  
Osprey Southwest LLC  
10105 E. Via Linda, Suite 103-302  
Scottsdale, Arizona 85258

Dear Ms. Bacik:

This letter is in response to your request for the Federal Highway Administration (FHWA) to review a roadside safety system for eligibility for reimbursement under the Federal-aid highway program.

Name of system:	Osprey Southwest LLC Safety Umbrella Sign System and Safety Umbrella Sign System with Rolling Base Structure
Type of system:	Portable work zone flagger sign stand
Test Level:	MASH Test Level 3
Testing conducted by:	KARCO Engineering
Date of request:	August 13, 2013
Complete package:	January 7, 2014

**Decision:**

The following device is eligible, with details provided in the form which is attached as an integral part of this letter:

- Osprey Southwest LLC Safety Umbrella Sign System portable work zone flagger sign stand, with or without the optional Rolling Base Structure

Based on a review of crash test results submitted by the manufacturer certifying the device described herein meets the crash test and evaluation criteria of the American Association of State Highway and Transportation Officials' Manual for Assessing Safety Hardware (MASH), the device is eligible for reimbursement under the Federal-aid highway program. Eligibility for reimbursement under the Federal-aid highway program does not establish approval or endorsement by the FHWA for any particular purpose or use.

The FHWA, the Department of Transportation, and the United States Government do not endorse products or services and the issuance of a reimbursement eligibility letter is not an endorsement of any product or service.

### **Requirements**

To be found eligible for Federal-aid funding, roadside safety devices should meet the crash test and evaluation criteria contained in the American Association of State Highway and Transportation Officials' Manual for Assessing Safety Hardware (MASH).

### **Description**

The device and supporting documentation are described in the attached form.

### **Summary and Standard Provisions**

Therefore, the system described and detailed in the attached form is eligible for reimbursement and may be installed under the range of conditions tested.

Please note the following standard provisions that apply to FHWA eligibility letters:

- This finding of eligibility does not cover other structural features of the systems, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may influence system conformance with MASH will require a new reimbursement eligibility letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals safety problems, or that the system is significantly different from the version that was crash tested, we reserve the right to modify or revoke this letter.
- You are expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You are expected to certify to potential users that the hardware furnished has the same chemistry, mechanical properties, and geometry as that submitted for review, and that it will meet the test and evaluation criteria of the MASH.
- To prevent misunderstanding by others, this letter of eligibility is designated as number WZ-325 and shall not be reproduced except in full. This letter and the test documentation upon which it is based are public information. All such letters and documentation may be reviewed at our office upon request.
- This letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented system for which the applicant is not the patent holder. The FHWA does not become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

- The Osprey Southwest umbrella sign systems are patented products and considered proprietary. If proprietary systems are specified by a highway agency for use on Federal-aid projects: (a) they must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with the 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.

Sincerely yours,

A handwritten signature in blue ink that reads "Michael S. Griffith". The signature is written in a cursive, flowing style.

Michael S. Griffith  
Director, Office of Safety Technologies  
Office of Safety

Enclosures

## Request for Federal Aid Reimbursement Eligibility Of Highway Safety Hardware

<b>Submitter</b>	Date of Request:	August 13, 2013	<input checked="" type="radio"/> New <input type="radio"/> Resubmission
	Name:	Steven Matsusaka	Signature: 
	Company:	KARCO Engineering, LLC.	
	Address:	9270 Holly Road, Adelanto, CA 92301	
	Country:	United States of America	
	To:	Michael S. Griffith, Director FHWA, Office of Safety Technologies	

I request the following devices be considered eligible for reimbursement under the Federal-aid highway program.

System Type	Submission Type	Device Name / Variant	Testing Criterion	Test Level
'WZ': Crash Worthy Work Zone Traffic Control Devices	<input checked="" type="radio"/> Physical Crash Testing <input type="radio"/> FEA & V&V Analysis	Osprey Southwest LLC Safety Umbrella Sign System	AASHTO MASH	TL3

By submitting this request for review and evaluation by the Federal Highway Administration, I certify that the product(s) was (were) tested in conformity with the AASHTO Manual for Assessing Safety Hardware and that the evaluation results meet the appropriate evaluation criteria in the MASH.

Identification of the individual or organization responsible for the product:

Contact Name:	Kathleen A. Bacik	Same as Submitter <input type="checkbox"/>
Company Name:	Osprey Southwest LLC	Same as Submitter <input type="checkbox"/>
Address:	10105 E Via Linda, Suite 103-302, Scottsdale, AZ 85258	Same as Submitter <input type="checkbox"/>
Country:	United States of America	Same as Submitter <input type="checkbox"/>

### PRODUCT DESCRIPTION

New Hardware
<p>The Osprey Southwest Safety Umbrella Sign System is a work-zone traffic control device. The device consists of a base structure, a two (2) piece mast, an umbrella canopy, two (2) vinyl flags, and two (2) aluminum signs.</p> <p>The base structure consists of a PVC pipe mounted on a 21.0 in. (533 mm) by 24.0 in. (610 mm) rubber pad. The base structure has a break away feature located 4.0 in. (102 mm) from the bottom of the base. The mast consists of two (2) 1.5 in. (38 mm) diameter aluminum tubes with 0.1 in. (2 mm) wall thickness. Two (2) 24.0 in. (610 mm) aluminum signs are attached to the mast assembly via a swiveling mount. The aluminum signs are mounted 84.0 in. (2.1 m) from the ground. The umbrella canopy mounts to the top of the mast assembly and measures 65.5 in. (1.7 m) by 65.5 in. (1.7 m). Two (2) 24.0 in. (610 mm) vinyl flags are mounted to the top of the umbrella canopy. When assembled, the Safety Umbrella Sign System stands 125.0 in. (3.2 m) tall from the ground to the top of the vinyl flags.</p> <p>The Safety Umbrella Sign System weighs 59.0 lbs (26.8 kg). For this test, one (1) 22.0 lb. (10.0 kg) sandbag was placed on top of the device's base structure. The total weight of the as-tested test article including the sandbag is 81.0 lbs (36.7 kg).</p>



## CRASH TESTING

A brief description of each crash test and its result:

Required Test Number	Narrative Description	Evaluation Results
3-70 (1100C)	Test 3-70 was not performed due to the work-zone traffic control device weighing less than 220 lb (100 kg).	WAIVER REQUESTED
3-71 (1100C)	The impact with the Safety Umbrella Sign System did not cause any significant damage to the vehicle and did not create a hazard to the driver. Upon impact, the test article yielded and the breakaway was activated. Test article debris was contained within the vicinity of the impact area. The test vehicle remained upright and did not leave its lane.	PASS
3-72 (2270P)	The impact with the Safety Umbrella Sign System did not cause any significant damage to the vehicle and did not create a hazard to the driver. Upon impact, the test article yielded and the breakaway was activated. Test article debris was contained within the vicinity of the impact area. The test vehicle remained upright and did not leave its lane.	PASS

Full Scale Crash Testing was done in compliance with MASH by the following accredited crash test laboratory (cite the laboratory's accreditation status as noted in the crash test reports.):

Laboratory Name:	KARCO Engineering, INC	
Laboratory Contact:	Steven Matsusaka	Same as Submitter <input checked="" type="checkbox"/>
Address:	9270 Holly Road, Adelanto, CA 92301	Same as Submitter <input checked="" type="checkbox"/>
Country:	United States of America	Same as Submitter <input checked="" type="checkbox"/>
Accreditation Certificate Number and Date:	TL-371, November 29, 2011	

## ATTACHMENTS

Attach to this form:

- 1) A copy of the full test report, video, and a Test Data Summary Sheet for each test conducted in support of this request.
- 2) A drawing or drawings of the device(s) that conform to the Task Force-13 Drawing Specifications [[Hardware Guide Drawing Standards](#)]. For proprietary products, a single isometric line drawing is usually acceptable to illustrate the product, with detailed specifications, intended use, and contact information provided on the reverse. Additional drawings (not in TF-13 format) showing details that are key to understanding the performance of the device should also be submitted to facilitate our review.

**FHWA Official Business Only:**

Eligibility Letter		AASHTO TF13	
Number	Date	Designator	Key Words

## Request for Federal Aid Reimbursement Eligibility Of Highway Safety Hardware

<b>Submitter</b>	Date of Request:	1/28/2013	<input type="radio"/> New <input checked="" type="radio"/> Resubmission
	Name:	Kathleen A Bacik	Signature:
	Company:	Osprey Southwest LLC	
	Address:	10105 E Via Linda - Suite 103-302, Scottsdale, AZ 85258	
	Country:	USA	
	To:	Michael S. Griffith, Director FHWA, Office of Safety Technologies	

I request the following devices be considered eligible for reimbursement under the Federal-aid highway program.

System Type	Submission Type	Device Name / Variant	Testing Criterion	Test Level
'WZ': Crash Worthy Work Zone Traffic Control Devices	<input checked="" type="radio"/> Physical Crash Testing <input type="radio"/> FEA & V&V Analysis	Osprey Southwest LLC Safety Umbrella Rolling Base Structure	AASHTO MASH	TL3

By submitting this request for review and evaluation by the Federal Highway Administration, I certify that the product(s) was (were) tested in conformity with the AASHTO Manual for Assessing Safety Hardware and that the evaluation results meet the appropriate evaluation criteria in the MASH.

Identification of the individual or organization responsible for the product:

Contact Name:	Kathleen A Bacik	Same as Submitter <input checked="" type="checkbox"/>
Company Name:	Osprey Southwest LLC	Same as Submitter <input checked="" type="checkbox"/>
Address:	10105 E Via Linda - Suite 103-302, Scottsdale, AZ 85258	Same as Submitter <input checked="" type="checkbox"/>
Country:	USA	Same as Submitter <input checked="" type="checkbox"/>

### PRODUCT DESCRIPTION

Modification to Existing Hardware Non-Significant - Effect is positive or Inconsequential
---

The Osprey Southwest Safety Umbrella Rolling Base Structure is a work zone device to assist in keeping our Safety Umbrella in the upright position when in use and will allow the Safety Umbrella to be moved around the work zone without having to lift the umbrella and carry it to a new location. The device measures w: 24" x d: 27.5" x h: 4" and weighs 21lbs with 2 wheels that sit 1/2" off the ground and are mounted to the end of the structure. Material: Steel.

The center of the device has a 4" high round post (Breakaway Feature) that will allow for a 2" diameter PVC post that the safety umbrella slides into. Welded on to the side of the 4" high center post is a threaded knob that screws through the PVC post and applies pressure to the umbrella pole to stabilize.

Variations to the successfully crash tested Rubber Base would be that the crash tested base weighed 56lbs which included a 20lb sand bag and was made out of a rubber mold with a metal center post almost identical to the 21lb Rolling Base Structure. Also, the rubber base had a slide through pin that ran through the entire PVC post to keep in place. The Rolling Base Structure is actually designed better so that if it is ever run over the PVC will breakaway at the same location as the Rubber Base but in an easier, faster motion. The Rolling Base Structure does require a 40lb sand bag for added support and "Likeness". To note, when analyzing both bases they are almost identical in design at the breakaway point where they should react in the same manner.

KARCO ENGINEERING ANALYSIS: We spoke about the new design here and we think that the changes should not affect the way the sign reacts to an impact as long as the base is still weighed down with sandbags. We used a 20 lb bag for the rubber base, making the base plus sandbag approximately 56 lbs. For the lighter weight rolling base I would actually suggest using a heavier sand bag; maybe a 40 lb bag. This would also increase the "likeness" between the two designs.

## CRASH TESTING

A brief description of each crash test and its result:

Required Test Number	Narrative Description	Evaluation Results
3-70 (1100C)		
3-71 (1100C)		
3-72 (2270P)		

Full Scale Crash Testing was done in compliance with MASH by the following accredited crash test laboratory (cite the laboratory's accreditation status as noted in the crash test reports.):

Laboratory Name:		
Laboratory Contact:		Same as Submitter <input type="checkbox"/>
Address:		Same as Submitter <input type="checkbox"/>
Country:		Same as Submitter <input type="checkbox"/>
Accreditation Certificate Number and Date:		

## ATTACHMENTS

Attach to this form:

- 1) A copy of the full test report, video, and a Test Data Summary Sheet for each test conducted in support of this request.
- 2) A drawing or drawings of the device(s) that conform to the Task Force-13 Drawing Specifications [[Hardware Guide Drawing Standards](#)]. For proprietary products, a single isometric line drawing is usually acceptable to illustrate the product, with detailed specifications, intended use, and contact information provided on the reverse. Additional drawings (not in TF-13 format) showing details that

are key to understanding the performance of the device should also be submitted to facilitate our review.

FHWA Official Business Only:

Eligibility Letter		AASHTO TF13	
Number	Date	Designator	Key Words
WZ-325	2/6/2013		Osprey Flagger umbrella stand



February 1, 2014

Osprey Southwest LLC  
Safety Umbrellas  
10105 E Via Linda – Ste 103-302  
Scottsdale, AZ 85258

Mr. Nick Artimovich, II  
Highway Engineer  
Federal Highway Administration  
Office of Safety Design  
1200 New Jersey Ave – SE HSSD  
Washington, DC 20590

**Subject: Osprey Southwest LLC – Safety Sign System Umbrella – Work Zone Traffic Control Device**  
**Request for approval: Additional “Rolling Base Structure” device**

Mr. Artimovich,

This letter is to formally request the approval of an additional – Rolling Base structure device to our WZ – Crash Worthy Work Zone Traffic Control Device application filed on August 13, 2013 for our Safety Sign System Umbrella.

Based on the e-mail that I forwarded to you from Steven Matsusaka of Karco Engineering on January 7, 2014 our additional base structure with wheels for mobility should be considered as being “Non-Significant” – “Effect is Positive or Inconsequential” compared to our successfully crash tested base structure. To clarify, due to the lighter weight of the rolling base, Steven does request that we require the end user to use at least a 40lb sand bag while in use to meet the “Likeness” of what was crash tested.

## Osprey Southwest LLC

'WZ Work Zone Traffic Control Device Hardware

Safety Umbrella Sign System

Rolling Base Structure Specifications

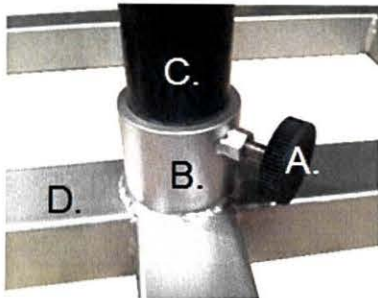
Weight: 21lbs

Weight w/ 40lb Sand Bag: 61lbs

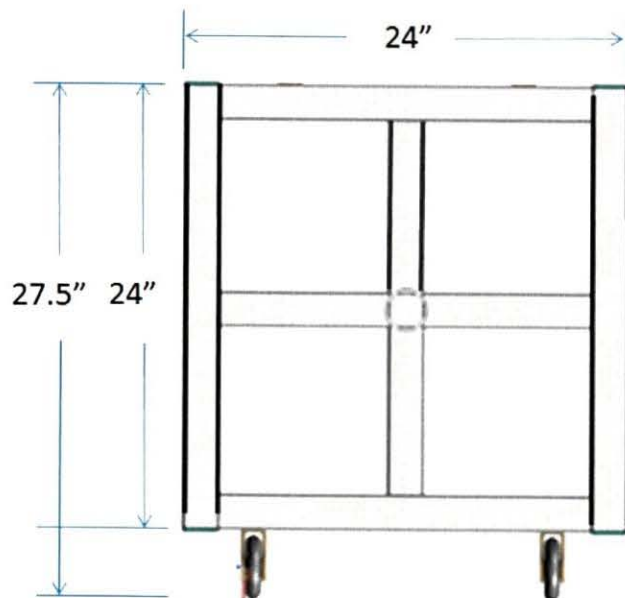
Overall Size: w: 24 x d: 27.5 x h: 4

Note: 2 wheels sit  $\frac{1}{2}$ " off the ground

Material: Steel



- A. Threaded Knob
- B. Center Post
- C. 24" PVC Post
- D. Rolling Base Frame



Based on the similar product design specifications and the fact that the Rolling Base Structure should react in the same manner if ever impacted, we request the approval of our rolling base structure and it be added to our existing application.

Should you feel the need for additional information, please reach out to us at your convenience.

Sincerely,

Kathleen A Bacik  
Osprey Southwest LLC  
Safety Umbrellas  
480-227-8160  
[info@safetyumbrellas.com](mailto:info@safetyumbrellas.com)  
[www.FlaggerJoe.com](http://www.FlaggerJoe.com)

# Safety Sign System

by Safety Umbrellas

Patents Pending



## INTENDED USE

The Safety Sign System is a temporary traffic control device that is intended to bring greater visibility and awareness to the present Flagger work zone as well as protect the Flaggers from excessive heat and rain.

This device should not be left unattended at any time.

The STOP/SLOW sign mount swivels independently of the umbrella pole which provides ease of use. When wind is present Safety Umbrellas recommends the removal of the canopy and the use of a higher visibility extension pole in its place.

## Specifications:

Overall Width: 65.5"  
Overall Depth: 65.5"  
Overall Height: 125"  
Umbrella Weight: 10lbs  
Base Structure Weight: 36lbs  
Sign Height (Ground to bottom of Sign): 6'  
Sign Size: 24"  
Sign Material: Aluminum  
Pole Diameter: 38mm - Aluminum  
Pole Wall Thickness: 2mm - Aluminum  
12mm Fiberglass Ribs  
Waterproof Canopy – 1500 Hour UV Protection  
24" Vinyl Flags

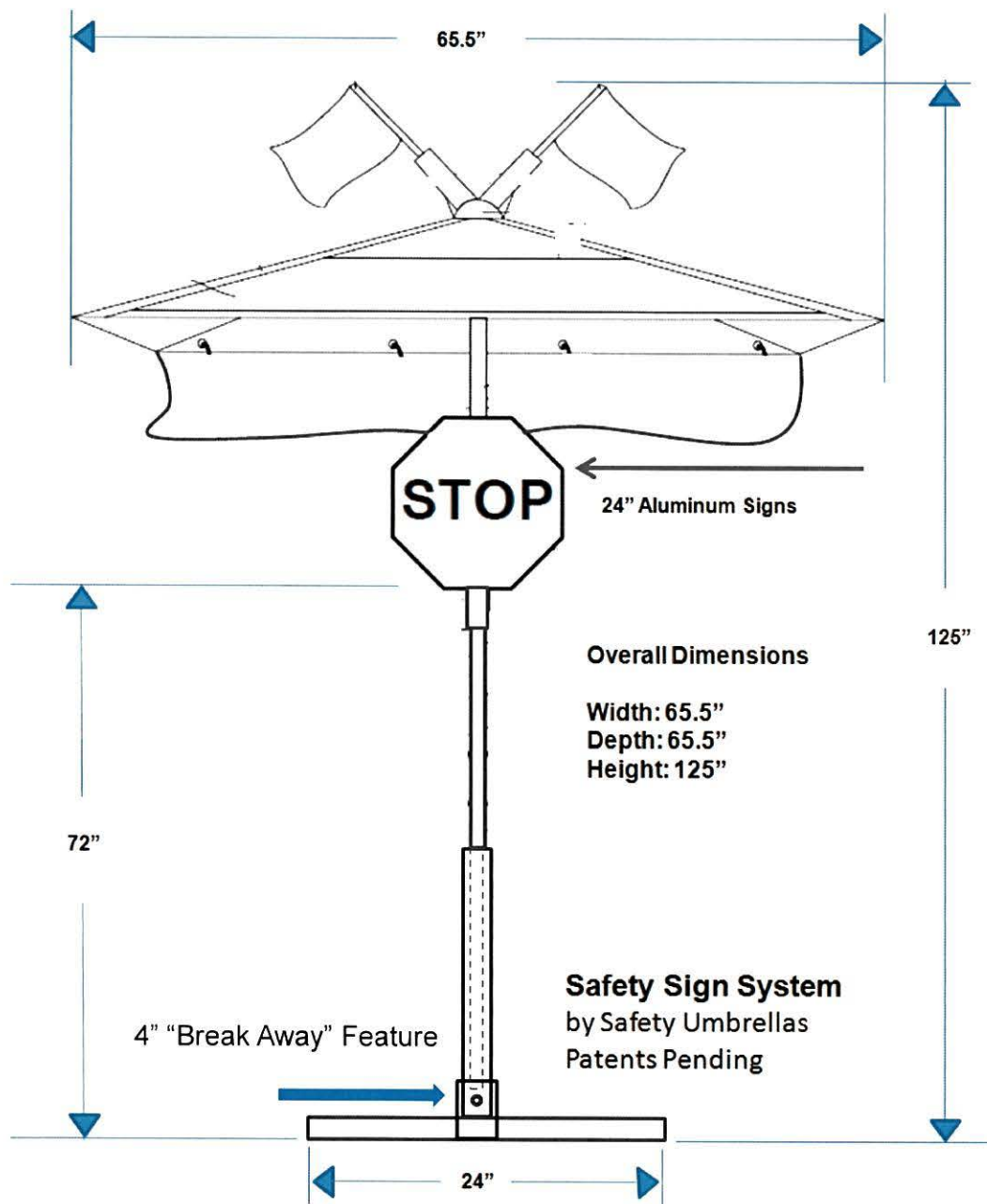
For More Information Contact:

## Safety Umbrellas

Kathleen A Bacik  
10105 E Via Linda – Suite 103  
Scottsdale, AZ 85258  
888-329-3436  
E-Mail: [info@SafetyUmbrellas.com](mailto:info@SafetyUmbrellas.com)

**United States & International Patents Pending**





Safety Umbrellas — 10105 E Via Linda — Suite 103, Scottsdale, Arizona 85258  
Contact: 888-329-3436 or E:Mail: [info@SafetyUmbrellas.com](mailto:info@SafetyUmbrellas.com)  
United States & International Patents Pending

**From:** [J Andrew Bacik](#)  
**To:** [Artimovich, Nick \(FHWA\)](#)  
**Cc:** [sales@flaggerjoe.com](mailto:sales@flaggerjoe.com); [smatsusaka@karco.com](mailto:smatsusaka@karco.com)  
**Subject:** FW: Safety Umbrellas - New Rolling Base Design  
**Date:** Tuesday, January 07, 2014 1:39:16 PM  
**Attachments:** [Osprey Southwest - Safety Sign System Rolling Base.pdf](#)

---

Hi Nick,

One last detail regarding our Certificate. A couple weeks ago I mentioned to you that we wanted to add an optional "Rolling Base" that was basically the same size and dimension as our tested base. Attached is the image.

You told me at that time that I needed to have Karco review the details and confirm that the rolling base would react in a similar manner as the base we crash tested.

Below is their confirmation. Please let me know if there is a form we need to fill out or a letter I need to send along with more detailed information regarding this new option.

Thanks!

Andrew Bacik  
Direct: 480-227-8160  
Osprey Southwest LLC  
dba Safety Umbrellas

---

**From:** Steven Matsusaka [<mailto:smatsusaka@karco.com>]  
**Sent:** Tuesday, January 07, 2014 9:58 AM  
**To:** 'J Andrew Bacik'  
**Cc:** [mdunlap@karco.com](mailto:mdunlap@karco.com); [sales@flaggerjoe.com](mailto:sales@flaggerjoe.com); [abeltran@karco.com](mailto:abeltran@karco.com); 'Matt Hubbard'  
**Subject:** RE: Safety Umbrellas - New Rolling Base Design

Hi Andrew,

I just wanted to follow up with you regarding your new rolling base design for the Safety Umbrella Sign System. We spoke about the new design here and think that the changes should not affect the way the sign reacts to an impact as long the base is still weighed down with sandbags.

Last time we used a 20 lb bag for the rubber base, making the base plus sandbag approximately 56 lbs. I think this weight was pretty much the minimum that we could put on the base without having the sign fall over so for the lighter weight base I would actually suggest using a heavier bag; maybe a 40 lb bag. This would also increase the "likeness" between the two designs.

Let me know if you need anything else regarding this matter. Hope you had a happy holiday season.

Best Regards,

Steven Matsusaka  
Engineering Department Supervisor  
KARCO Engineering, LLC.

(760) 246-1672

CONFIDENTIALITY NOTICE: The information contained in this email message is protected under the Electronic Communications Privacy Act, 18 U.S.C. 2310-2321. It is intended only for the use of the individual named above and privileges are not waived by virtue of this having been sent by email. If the person actually receiving this email or any other reader is not the named recipient, or the employee or agent responsible to deliver it to the named recipient, any use, distribution or copying of the communication is strictly prohibited. If you have received this email in error, please immediately contact the sender at telephone 760 246-1672 and return the original message to [info@karco.com](mailto:info@karco.com)

---

**From:** J Andrew Bacik [<mailto:abacik11@q.com>]  
**Sent:** Wednesday, December 11, 2013 2:07 PM  
**To:** [smatsusaka@karco.com](mailto:smatsusaka@karco.com)  
**Cc:** [mdunlap@karco.com](mailto:mdunlap@karco.com); [sales@flaggerjoe.com](mailto:sales@flaggerjoe.com)  
**Subject:** Safety Umbrellas - New Rolling Base Design

Hi Steven / Mike,

Subject: Osprey – Safety Umbrellas / New Design – Rolling Base

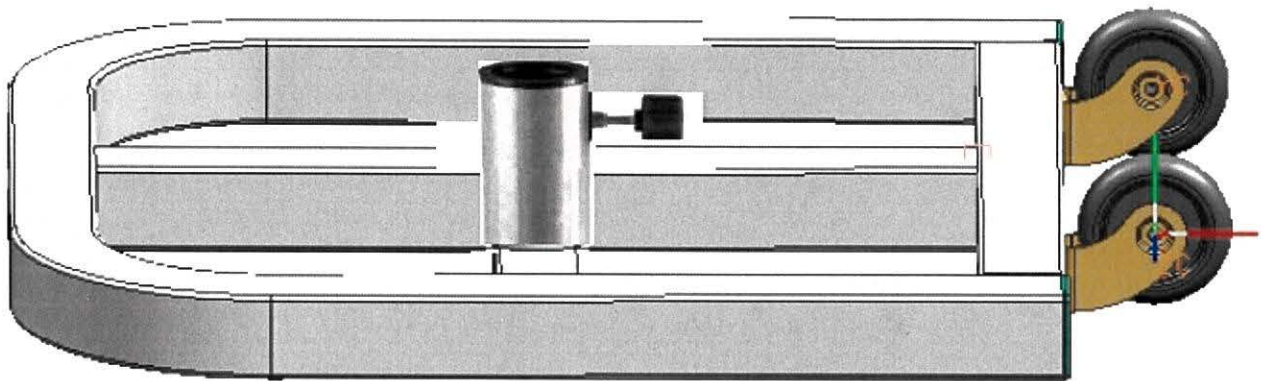
Let us know what you guys think about the “Likeness” to the base we crash tested. We are wanting to offer the rolling base attached as an option for our customers and need product approval. Note that the wheels are ½” off the ground and will not engage until the umbrella is tilted back.

- The rolling base attached is basically the same size in width and height.
- The rolling base attached will have the same exact break-away feature using the same 24” pvc post that will be held in place by a threaded screw in knob. This feature should offer a faster/cleaner breakaway as the crash tested base had a pin that ran through the post and through the 24” PVC.
- The rolling base attached will weigh less unless a sand bag is added/required.  
Crash Tested Base: 36lbs - Rolling Base: Estimated 18lbs

Keep us posted. Thanks Guys!

Andrew  
480-227-8160

Osprey Southwest LLC – dba Safety Umbrellas



FlaggerJoe™  
Safety Sign System



## Rolling Base Structure

Estimated Weight: 18lbs

Overall Dimensions: w:24" d:24" h: 4"

Material: 2" Square Framing - 2mm Aluminum Wall Thickness

Note: Wheels are 1/2" off the ground so the base will remain stationary unless tilted back.

