U.S. Department
of Transportation
Federal Highway Administration

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

July 14, 2015

In Reply Refer To:
HSST/WZ-336

Mr. Chuck Mettler
Plastic Safety Systems, Inc.
2444 Baldwin Road
Cleveland, Ohio 44104

Dear Mr. Mettler:

This letter is in response to your June 10, 2014, request for the Federal Highway Administration (FHWA) to review a roadside safety device, hardware, or system for eligibility for reimbursement under the Federal-aid highway program. This FHWA letter of eligibility is assigned FHWA control number WZ-336 and is valid until a subsequent letter is issued by FHWA that expressly references this device.

Scope of this Letter

To be found eligible for Federal-aid funding, new 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). However, the FHWA, the Department of Transportation, and the United States Government do not regulate the manufacture of roadside safety devices. Eligibility for reimbursement under the Federal-aid highway program does not establish approval, certification or endorsement of the device for any particular purpose or use.

This letter is not a determination by the FHWA, the Department of Transportation, or the United States Government that a vehicle crash involving the device will result in any particular outcome, nor is it a guarantee of the in-service performance of this device. Proper manufacturing, installation, and maintenance are required in order for this device to function as tested.

This finding of eligibility is limited to the crashworthiness of the system and does not cover other structural features, nor conformity with the Manual on Uniform Traffic Control Devices.

Eligibility for Reimbursement

Based solely on a review of crash test results and certifications submitted by the manufacturer, and the crash test laboratory, FHWA agrees that 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). Therefore, the device is eligible for reimbursement under the Federal-aid highway program if installed under the range of tested conditions.

Name of system:	LaneGard 3 Type III Barricade
Type of system:	Folding Type III Barricade with warning lights and ballast.
Test Level:	MASH Test Level3
Testing conducted by:	Transportation Research Center
Task Force 13 Designator:	N/A
Date of request:	June 10, 2014

Full Description of the Eligible Device

The device and supporting documentation, including reports of the crash tests or other testing done, videos of any crash testing, and/or drawings of the device, are described in the attached form.

Decision:

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

- Plastic Safety Systems LaneGard 3 Folding Type III Barricade with warning lights, and ballasted with up to 4 sandbags

Notice

If a manufacturer makes any modification to any of their roadside safety hardware that has an existing eligibility letter from FHWA, the manufacturer must notify FHWA of such modification with a request for continued eligibility for reimbursement. The notice of all modifications to a device must be accompanied by:

- Significant modifications – For these modifications, crash test results must be submitted with accompanying documentation and videos.
- Non-signification modifications – For these modifications, a statement from the crash test laboratory on the potential effect of the modification on the ability of the device to meet the relevant crash test criteria.

  FHWA's determination of continued eligibility for the modified hardware will be based on whether the modified hardware will continue to meet the relevant crash test criteria.

You are expected to supply potential users with sufficient information on design, installation and maintenance 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.

Issuance of this letter does not convey property rights of any sort or any exclusive privilege. This letter is based on the premise that information and reports submitted by you are accurate and correct. We reserve the right to modify or revoke this letter if: (1) there are any inaccuracies in the information submitted in support of your request for this letter, (2) the qualification testing was flawed, (3) in-service performance or other information reveals safety problems, (4) the system is significantly different from the version that was crash tested, or (5) any other information indicates that the letter was issued in error or otherwise does not reflect full and complete information about the crashworthiness of the system.

Standard Provisions

- To prevent misunderstanding by others, this letter of eligibility designated as FHWA control number WZ-336 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 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.
- If the subject device is a patented product it may be considered to be 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,

Michael S. Griffith

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

Enclosures

Request for Federal Aid Reimbursement Eligibility Of Highway Safety Hardware

Submitter	Date of Request:	June 10, 2014	◉ New ○ Resubmission
	Name:	Chuck Mettler	Signature:
	Company:	Plastic Safety Systems, Inc.	
	Address:	2444 Baldwin Rd. Cleveland, Ohio 44104	
	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.

Help

System Type	Submission Type	Device Name / Variant	Testing Criterion	Test Level
'WZ': Crash Worthy Work Zone Traffic Control Devices	◉ Physical Crash Testing ○ FEA & V&V Analysis	LaneGard 3 Type-III Barricade	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:	Chuck Mettler	Same as Submitter ☒
Company Name:	Plastic Safety Systems, Inc.	Same as Submitter ☒
Address:	2444 Baldwin Rd. Cleveland, Ohio 44104	Same as Submitter ☒
Country:	USA	Same as Submitter ☒

PRODUCT DESCRIPTION

◉ New Hardware	○ Modification to Existing Hardware	
LaneGard 3 Type-III Barricade - Folding Type-III Barricade tested with 8' Wave Boards (WZ-173) / (2) LED Lights & (4) 45 lb. Sandbags		

CRASH TESTING

A brief description of each crash test and its result:

Required Test Number	Narrative Description	Evaluation Results
3-70 (1100C)	See attached letter from TRC requesting Waiver	WAIVER REQUESTED
3-71 (1100C)	TRC test 140505	PASS
3-72 (2270P)	TRC test 140513	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:	Transportation Research Center, Inc.	
Laboratory Contact:	Jeff Sankey	Same as Submitter ☐
Address:	10820 State Route 347 East Liberty, Ohio 43319	Same as Submitter ☐
Country:	USA	Same as Submitter ☐
Accreditation Certificate Number and Date:	#L2187-Testing	

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-336		N/A	Type III Barricade

Plastic Safety Systems, Inc.

2444 Baldwin Road ▪ Cleveland, OH 44104
1-800-662-6338 ▪ PH: 216-231-8590 ▪ FAX: 216-231-2702 ▪ www.plasticsafety.com

June 11, 2014

Roadway Departure Team, Room E71-322
Office of Safety Technologies - HSST
Federal Highway Administration
1200 New Jersey Ave. SE
Washington, DC 20590

Gentelman,

Enclosed, please find our Request for Federal Aid Reimbursement Eligibility of Highway Safety Hardware. Plastic Safety Systems, Inc. has designed, manufactured, and tested to MASH standards a new Folding Type-III Barricade - LaneGard 3.

We are requesting acceptance of this Barricade with 8' / 6' / 4' Wave Barricade Boards or Generic Extruded Plastic Boards. LaneGard 3 was tested with 8' Wave Boards (WZ-173), (2) LED type A-C lights attached and (4) 45 lb sandbags as ballast.

Enclosed is a DVD with Test Data and Videos from Transportation Research Center, Inc. for tests 3-71 and 3-72. And a letter from TRC requesting a Waiver for test 3-70. Also on the DVD are: Drawing in Task Force 13 format, and Sales Literature.

If you have any questions I can be reached via e-mail at cmmettler@plasticsafety.com or by phone at 1-800-662-6338.

Regards,
Chuck Mettler

Engineering Manager

Enclosure - CD

PSS

Plastic Safety Systems, Inc.

LaneGard3™

Folding Type III Barricade

Folds for storage and transport, unfolds for use.

One-piece design sets up and tears down in seconds.

LaneGard3™

Folding Type III Barricade

Plastic Safety Systems, Inc.
2444 Baldwin Road
Cleveland, OH 44104
p: 216-231-8500
p: 800-662-6338
f: 216-231-2702
www.plasticsafety.com

LaneGard3™

Folding Type III Barricade

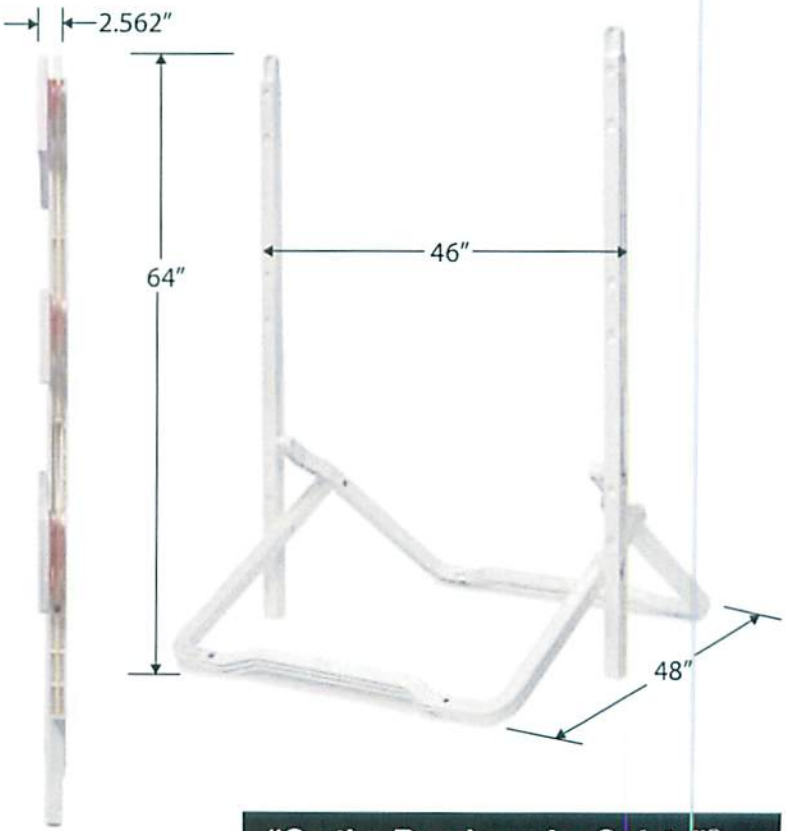
One person setup and teardown!

- Made from engineered plastic with UV inhibitors.
- Weighs 17 lbs. assembled, without cernterboards.
- Accepts Type A and C LED Warning Lights.
- Designed for use with PSS Wave Centerboards.
- Some assembly required.

Shown: LaneGard 3 without centerboards

Convenient, one-piece, folding design.

Measures less than 3" thick when folded for transport or storage.



Shown with 6' PSS Wave Centerboards.

- Available in 4', 6', 8' lengths.
- Reflective sheeting available in Engineer, Hi-Intensity and Diamond Grades.

"On the Roadway for Safety"®

LaneGard3™ Folding Type III Barricade

2444 Baldwin Road • Cleveland, OH • 44104 • 800-662-6338 • www.plasticsafety.com

US Patent Pending

1. Sequential photographs

0.000 s

0.100 s

0.200 s

0.300 s

0.400 s

2. Plan View

3. Cross-sectional View

4. General Information:
- Test Agency: Transportation Research Center Inc.
- Test Number: 140513
- Date: May 13, 2014

5. Test Article:
- Type: LaneGard-III
- Installation Length: Type-III Barricade
- Key Elements: 8 feet
- Plastic barricades

6. Soil Conditions:
- Type of Soil: Not applicable
- Soil Strength: Not applicable

7. Test Vehicle:
- Type/Designation: Production Model 2270P
- Make and Model: 2008 Dodge Ram SXT
- Test Inertial: 2289.0 kg
- Gross Static: 2289.0 kg

8. Impact Conditions:
- Speed: 100.6 km/h
- Angle: 0 degrees
- Location/Orientation: The center of the first barricade; the edge of the second barricade. Barricades placed 6 meters apart

9. Exit Conditions:
- Speed: 100.6 km/h (estimated)
- Angle: 0 degrees (estimated)
- Exit Box Criterion: Not applicable to Type-III Barricades

10. Post-Impact Trajectory:
- Vehicle Stability: Satisfactory
- Stopping Distance: Not applicable

11. Occupant Risk:
- Longitudinal OIV: Not applicable
- Lateral OIV: Not applicable
- Longitudinal RA: Not applicable
- Lateral RA: Not applicable

12. Test Article Damage: Shattered

13. Test Article Deflections:
- Permanent Set: Not applicable
- Dynamic: Not applicable
- Working Width: Not applicable

14. Vehicle Damage: Slight; windshield cracked
- VDS: N/A
- CDC: 00FDRW1
- Maximum Deformation: 5 mm

Figure 33. Summary of results for test 140513

1. Sequential photographs


0.000 s


0.100 s


0.200 s


0.300 s


0.400 s

2. Plan View

3. Cross-sectional View

4. General Information:
- Test Agency: Transportation Research Center Inc.
- Test Number: 140505
- Date: May 5, 2014

5. Test Article:
- Type: LaneGard-III
- Installation Length: Type-III Barricade
- Key Elements: 8 feet
- Plastic barricades

6. Soil Conditions:
- Type of Soil: Not applicable
- Soil Strength: Not applicable

7. Test Vehicle:
- Type/Designation: Production Model 1100C
- Make and Model: 2009 Chevrolet Aveo LT
- Test Inertial: 1170.8 kg
- Gross Static: 1170.8 kg

8. Impact Conditions:
- Speed: 100.4 km/h
- Angle: 0 degrees
- Location/Orientation: The center of the first barricade; the edge of the second barricade. Barricades placed 6 meters apart

9. Exit Conditions:
- Speed: 100.4 km/h (estimated)
- Angle: 0 degrees (estimated)
- Exit Box Criterion: Not applicable to Type-III Barricades

10. Post-Impact Trajectory:
- Vehicle Stability: Satisfactory
- Stopping Distance: Not applicable

11. Occupant Risk:
- Longitudinal OIV: Not applicable
- Lateral OIV: Not applicable
- Longitudinal RA: Not applicable
- Lateral RA: Not applicable

12. Test Article Damage: Shattered

13. Test Article Deflections:
- Permanent Set: Not applicable
- Dynamic: Not applicable
- Working Width: Not applicable

14. Vehicle Damage: Slight
- VDS: N/A
- CDC: 00FDLW1
- Maximum Deformation: 3 mm

Figure 38. Summary of results for test 140505

May 15, 2014

Mr. Chuck Mettler
Plastic Safety Systems Inc.
2444 Baldwin Road
Cleveland, OH 44104

Dear Mr. Mettler,

Transportation Research Center Inc. (TRC Inc.) performed MASH 3-71 and 3-72 crash tests on Plastic Safety Systems Inc. LaneGard-III Type III barricades, on May 5 and 13, 2014. The results of both tests indicate the Evaluation Criteria B, D, E, F and N were met. Since the LaneGard-III barricades have a total weight of less than 220 pounds, Evaluation Criteria H and I are not applicable.

Test 3-70 is considered optional for work-zone traffic control devices weighing less than 220 pounds. Test 70 is designed to evaluate the ability of small vehicles to activate any breakaway, fracture, or yielding mechanism associated with the work zone device during low-speed impacts. The LaneGard-III barricades are free-standing lightweight features that do no incorporate any breakaway, fracture, or yielding mechanism. Thus, test 3-70 does not appear to be applicable to the LaneGard-III barricades and does not need to be performed.

Jeffery W. Sankey, P. E.
Manager Project Operations, Impact Laboratory Operations

Transportation Research Center Inc.
East Liberty, Ohio 43319-0367 • 937-666-2011 • 937-666-5066
www.trcpg.com