



December 20, 2012

In Reply Refer To: HSST/ B-52B

Mr. Rick Groves EASI-Set Industries 5119 Catlett Road Midland, Virginia 22728

Dear Mr. Groves:

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: J-J Hooks Bolt Down F-Shape Barrier

Type of system: Concrete Portable Barrier Test Level: AASHTO MASH Test Level 3

Testing conducted by: Texas Transportation Institute (TTI)

Task Force 13 Designator: SWC02 Date of request: October 4, 2012

Date initially acknowledged: October 5, 2012 Date of completed package: December 13, 2012

Decision:

The following devices are eligible, with details provided in the attached forms which are an integral part of this letter:

• J-J Hooks Bolt Down F-Shape Barrier for Concrete Surface

Based on a review of crash test results and embedment computational analysis 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.

FHWA: HSST: WLongstreet: sf.x60087: WLongstreet: 12/14/12

File: h://directory folder/HSST/ B-52B EASI JJ Hook Fshape MASH doc.docx

cc: HSST Will Longstreet

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 letter provides a AASHTO/ARTBA/AGC Task Force 13 designator that should be used for the purpose of the creation of a new and/or the update of existing Task Force 13 drawing for posting on the on-line 'Guide to Standardized Highway Barrier Hardware' currently referenced in AASHTO Roadside Design Guide.
- 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 B-52B 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 and proprietary issues, if any, are to be resolved by the applicant.

• The J-J Hooks are 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,

/SIGNED BY MICHAEL S. GRIFFITH/

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

Enclosures



December 20, 2012

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

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Sincerely yours,

Michael S. Griffith

Director, Office of Safety Technologies

Michael S. Juffith

Office of Safety

Enclosures

Request for Federal Aid Reimbursement Eligibility Of Highway Safety Hardware

	Date of Request:	December 12. 2012	New	Resubmission
	Name:	Rick Groves		
ter	Company:	Easi-Set Industries		
Address: 5119 Catlett Road, Mid Country: United States of Ameri		5119 Catlett Road, Midland, Virginia 22728		,
Suk	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.

	Help			
System Type	Submission Type	Device Name / Variant	Testing Criterion	Test Level
'B': Barriers (Roadside, Media		J-J Hooks/MASH Bolted to Concrete Surface	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:	Rick Groves Kuly of Gran	Same as Submitter 🔀
Company Name:	Easi-Set Industries	Same as Submitter 🖂
Address:	5119 Catlett Road, Midland, Virginia 22728	Same as Submitter 🔀
Country:	United States of America	Same as Submitter 🔀

PRODUCT DESCRIPTION

New Hardware	
J-J Hooks/MASH bolted to concrete surface barrier, 10-15 foot and 20 foot length to be included with as tested 12.5 foot section eligibility.	

CRASH TESTING

A brief description of each crash test and its result:

Required Test Number	Narrative Description	Evaluation Results
3-11(2270P)	MASH Test 311 on the Easi-Set Industries J-J Hooks MASH Bolted Barrier by TTI with acceptance of 10-15 foot and 20 foot lengths based on the TTI letter that states the testing results show that "the J-J Hooks /MASH restrained barrier systems will perform acceptably for segment lengths ranging from 10 to 15 feet with the 2-bolted configuration that were successfully crash tested and a barrier segment length of 20 feet will perform acceptably if 3-Bolts are used." TTI Test number: TR - 510602-JJH9	PASS
3-11 (1100C)	Considered not worst case by laboratory, therefore not conducted	Waiver Requested
3-20 (1100C)	Not a transition, therefore not conducted by laboratory	
3-21 (2270P)	Not a transition, therefore not conducted by laboratory	

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:	Texas Transportation Institute	
Laboratory Contact:	Roger Bligh	Same as Submitter
Address:	Texas A&M University System, 3135 TAMU, College Station, Texas 77843-3132	Same as Submitter
Country:		Same as Submitter
Number and Date:	TTI Proving Ground is an International Standards Organization (ISO) 17025 accredited laboratory with American Association for Laboratory Accreditation (A2LA) Mechanical Testing Certificate 2821.01. The full scale crash test was performed according to TTI Proving Ground quality procedures and according to the MASH guidelines and standards.	

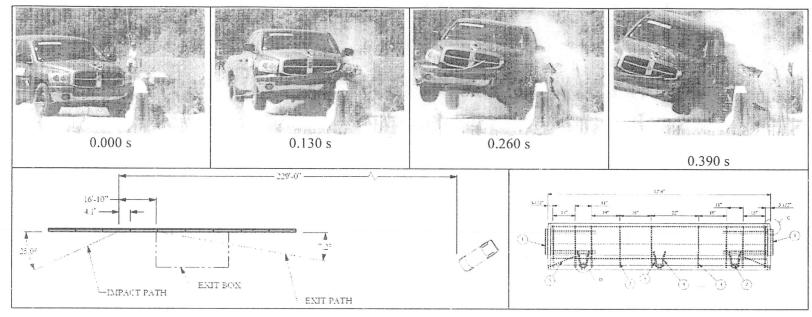
ATTACHMENTS

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
B-52B	December 14, 2012	SWC02	Longitudinal barriers, TL3, portable concrete barriers, PCB, concrete median barriers, CMB, J-J Hooks



General Information	Impact Conditions	Post-Impact Trajectory
Test Agency Texas Transportation Institute (TTI)	Speed62.5 mi/h	Stopping Distance 229 ft dwnstrm
Test Standard Test No MASH Test 3-11	Angle25.0 degrees	13 ft twd traffic
TTI Test No 510602-JJH9	Location/Orientation4.1 upstrm of	Vehicle Stability
Date 2012-06-05	joint 3-4	Maximum Yaw Angle39 degrees
Test Article	Impact Severity114.5 kip*ft	Maximum Pitch Angle 14 degrees
Type Concrete median barrier	Exit Conditions	Maximum Roll Angle 36 degrees
Name J-J Hooks/MASH bolt-down barrier system	Speed55.2 mi/h	Vehicle Snagging No
Installation Length 112.9 ft	Angle	Vehicle Pocketing No
Material or Key Elements F-shape 12.5 ft concrete barrier segments	Occupant Risk Values	Test Article Deflections
bolted to concrete surface with HILTI anchor	Impact Velocity	Dynamic 5.9 inches
	Longitudinal16.1 ft/s	Permanent 4.0 inches
Soil Type and Condition Placed on concrete surface, dry	Lateral 25.6 ft/s	Working Width 27.5 inches
Test Vehicle	Ridedown Accelerations	Vehicle Damage
Type/Designation 2270P	Longitudinal5.5 G	VDS 11LFQ5
Make and Model 2006 Dodge Ram 1500 Pickup	Lateral 9.9 G	CDC 11FLEW3
Curb 4792 lb	THIV33.2 km/h	Max. Exterior Deformation 12.0 inches
Test Inertial 5009 lb	PHD10.1 G	OCDILF0000000
Dummy No dummy	ASI1.54	Max. Occupant Compartment
Gross Static 5009 lb	Max. 0.050-s Average	Deformation 0.5 inch
	Longitudinal7.8 G	
	Lateral 12.9 G	
	Vertical -3.6 G	

Vertical......3.6 G
Figure 5.7. Summary of results for *MASH* test 3-11 on EASI-SET® Industries J-J Hooks/*MASH* bolt-down barrier system.

