



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

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

May 4, 2012

In Reply Refer To:  
HSST / WZ-314

Glenda Bleau  
Sales Supervisor & Product Manager  
MDI Traffic Control Products  
38271 W Twelve Mile Road  
Farmington Hills, Michigan 48331

Dear Ms. Bleau:

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:	4814CAMA
Type of system:	X-Footprint compact portable sign stand
Test Level:	NCHRP Report 350 Test Level 3
Testing conducted by:	N/A
Date of request:	July 14, 2011

**Decision:**

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

- 4814CAMA X-Footprint compact portable sign stand

Based on a review of past crash test results and a description of the non-significant modification submitted by the manufacturer certifying the device described herein meets the crash test and evaluation criteria of the National Cooperative Highway Research Program (NCHRP) Report 350, 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 National Cooperative Highway Research Program (NCHRP) Report 350 or the American Association of State Highway and Transportation Officials' Manual for Assessing Safety Hardware (MASH).

FHWA: HSST: NArtimovicht: sf: x61331:4/13/12: Revised 5/3/12  
File: s: //directory folder/HSST/Artimovich/ WZ-314.docx  
cc: HSST (NArtimovich; JDewar)

**Description**

The crash tested stand, Model Number 4814DLK (FHWA Letter WZ-3) was modified by including an upright with a camlock (FHWA Letter WZ-20) instead of a “drop and lock.” We concur that this stand qualifies as a “compact sign stand” requiring no additional crash testing.

**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 NCHRP Report 350 criteria 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 crash test and evaluation criteria of the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of eligibility is designated as number WZ-314 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.

- MDI portable sign stands 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,

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

Enclosures



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Washington, D.C. 20590

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**Summary and Standard Provisions**

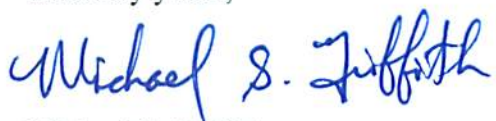
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Sincerely yours,



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

Enclosures

Page 1	<b>FEDERAL HIGHWAY ADMINISTRATION OFFICE OF SAFETY DESIGN</b>	Letter Number
	<b>Category 2 Work Zone Device Acceptance Letter</b>	Date
Contact Info	Petitioner / Developer Name and Address:	
	Dicke Safety Products 1201 Warren Avenue Downers Grove, IL 60515	
	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	<i>John M. Parasolakis</i>	
Telephone #	(630) 324-5209	
Email Address	john@dicketool.com	
	Laboratory / Engineer Name and Address	
	NA	
<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 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 #		
Email Address		
Keywords:	STF18 with Extended Mast	
	Type of Device (See page 3)	
	X-Footprint Sign Stand	
	Composition of Sign or Rail substrate (See Page 3)	
	Roll-up / Fabric (with fiberglass spreaders – aluminum or steel spreaders are not allowed)	
	Thickness of substrate (inches):	
	Height of sign from the ground (inches), if applicable: (See Page 3)	
	Oversized: 72 inches and taller	
	Flags and or lights present during test? Indicate number of each:	
	# of flags: 2	# of lights: 0      Weight of lights:      ea.
Device Name		
Detailed Desc. Of Device, Materials, sizes, Fasteners, Substrates Foundation, Aux. Features Ballast, etc.	(May be attached on separate page(s) See attached submittal letter	

Page 2	<b>FEDERAL HIGHWAY ADMINISTRATION OFFICE OF SAFETY DESIGN</b>		Letter Number
	<b>Category 2 Work Zone Device Acceptance Letter</b>		Date
	<b>Mandatory Attachments</b>		
	<b>Attachment # 1: Test data summary page(s)</b>		
	Attach. #1a	Test #	
	Attach. #1b	Test #	
	Attach. #1c	Test #	
	Attach. #1d	Test #	
Alternative	<b>Attachment # 1: Description and discussion of modification(s) to crash tested and/or accepted device.</b>		
	Date:		
	<b>Attachment # 2: PDF drawing(s) of device(s)</b>		
	Attach. #2a	Drawing Title: WZ submittal letter (PDF)	
		Drawing #:	
	Attach. #2b	Drawing Title: Stand Drawings (PDF)	
		Drawing #:	
	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	<b>FEDERAL HIGHWAY ADMINISTRATION</b>	Letter Number
	<b>OFFICE OF SAFETY DESIGN</b>	
	<b>Category 2 Work Zone Device Acceptance Letter</b>	Date

**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:

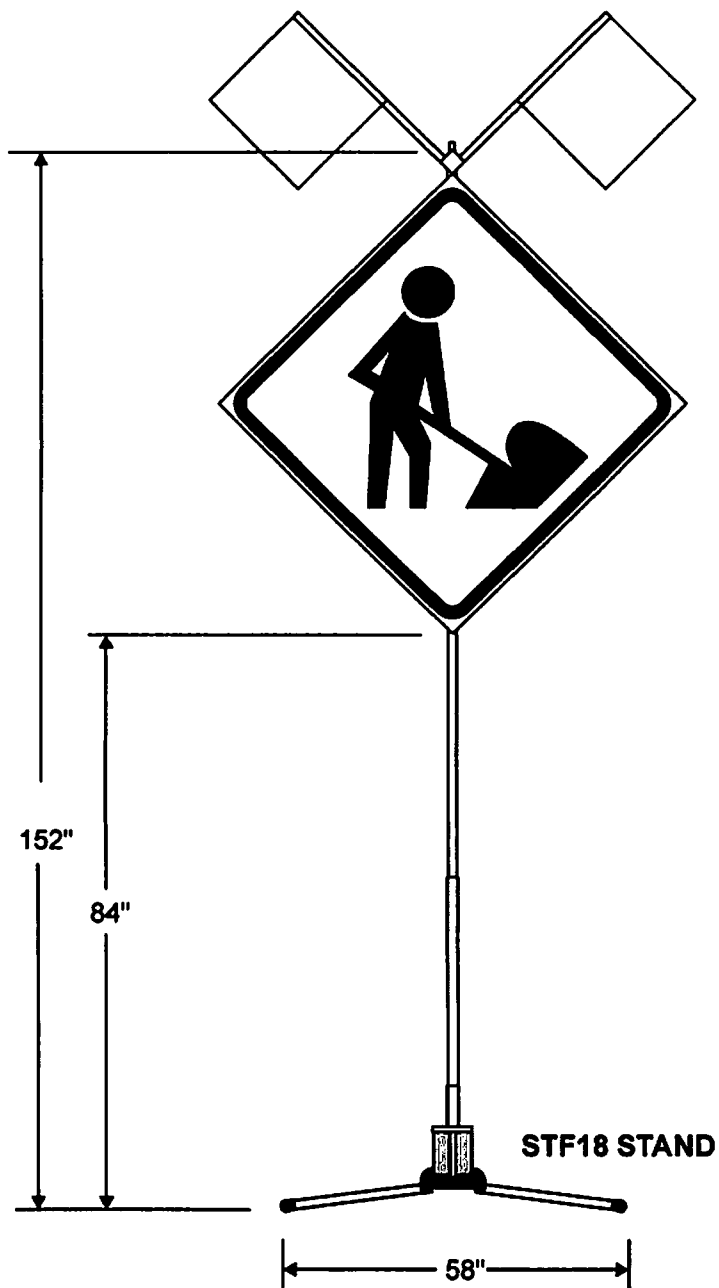
Low 12 to 18 inches above the pavement  
 Mid-A 20 to 24 inches above the pavement  
 Mid-B 25 to 36 inches above the pavement  
 Mid-C 37 to 59 inches above the pavement  
 Tall 60 to 71 inches above the pavement  
 Oversized 72 inches and taller

Page 4	FEDERAL HIGHWAY ADMINISTRATION OFFICE OF SAFETY DESIGN Category 2 Work Zone Device Acceptance Letter	Letter Number
		Date

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

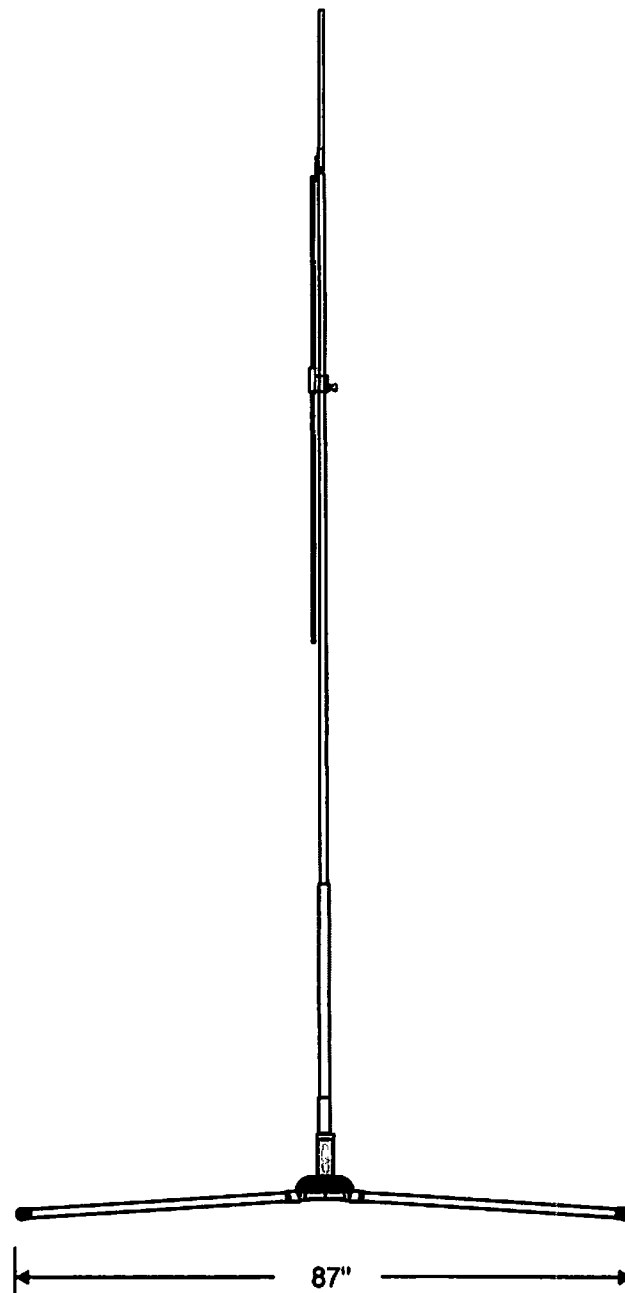
- Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, or conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance 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.

# STF18 with Extended Mast



## STF18 STAND with Extended Mast

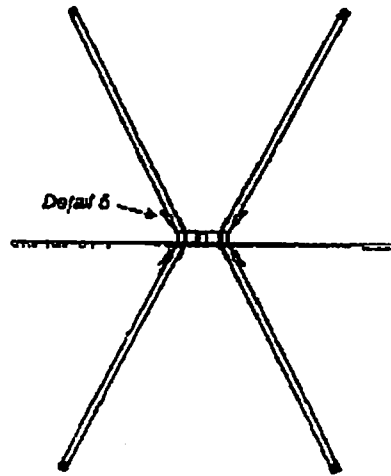
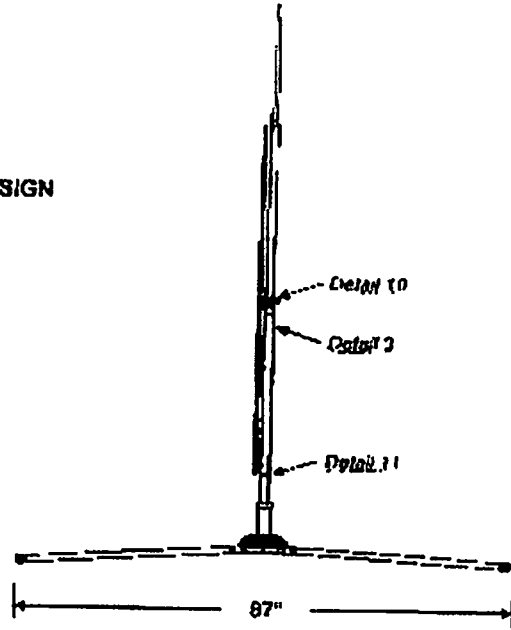
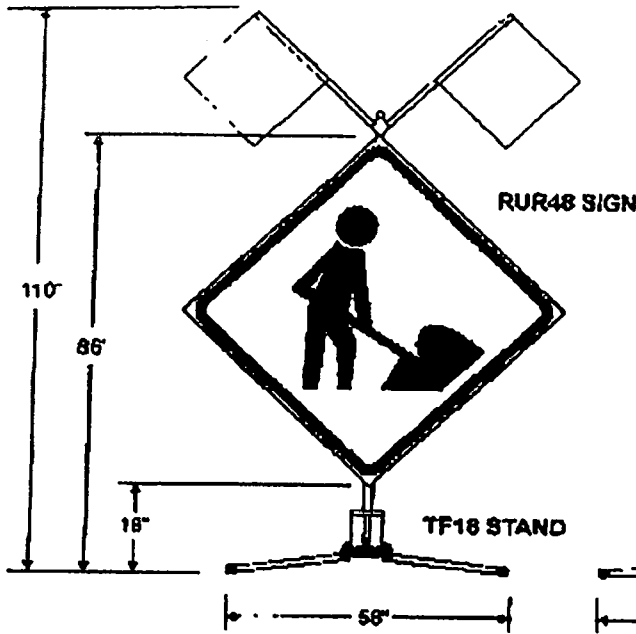
- Base- Steel with heavy duty dual upright spring system
- Mast- telescoping 1-14" and 1-1/2" sq. aluminum tubing
- Legs- 1-1/4" sq. steel tubing



## RUR48 SIGN

- Panel- Reflective vinyl 48" x 48"
- Crossbrace - vertical member is 3/8" Th x 1-1/4"W x 66-1/4"L fiberglass
- Crossbrace - horizontal member is 3/16" Th x 1-1/4"W x 66-1/4"L fiberglass
- Flags- 18" x 18" vinyl with 30" staff



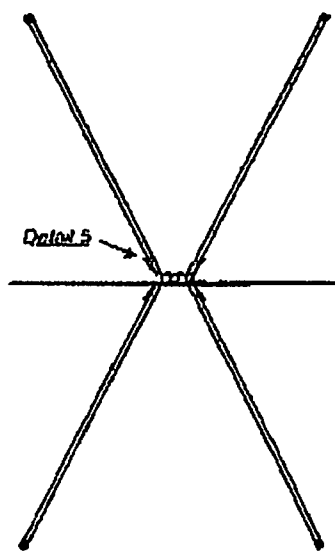
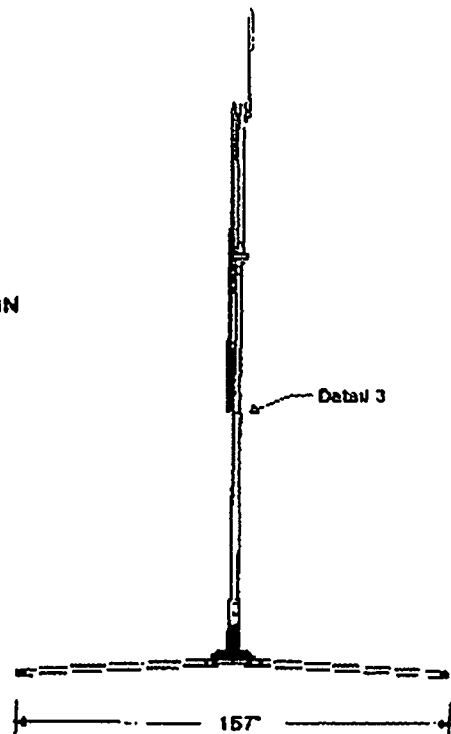
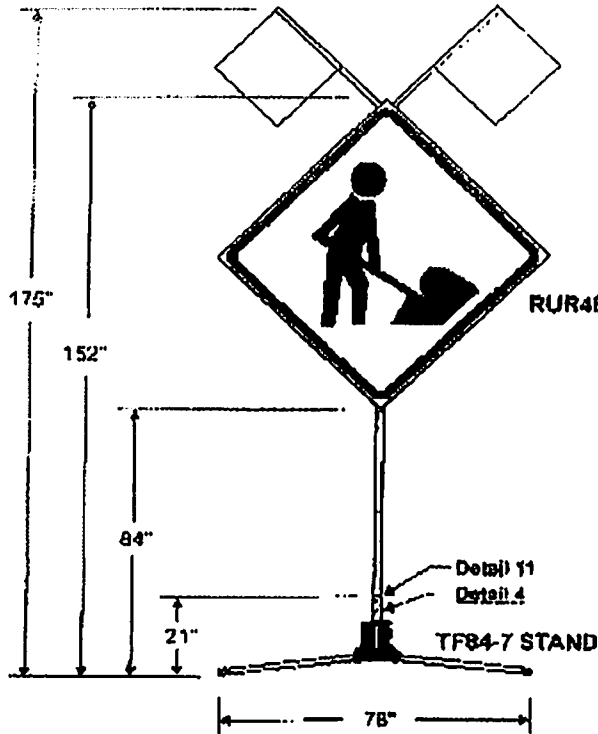


**TF18 STAND**

- Base- Steel with heavy duty dual upright spring system
- Mast- 2 stage telescoping, sq. aluminum tubing with 100 wall thickness
- Legs- 1-1/4" sq. x .100 wall x 48" long aluminum legs

**RUR48 SIGN**

- Panel- Reflective vinyl 48" x 48"
- Crossbrace- Vertical member is 3/8" th x 1-1/4" w x 66-1/4" long fiberglass
- Crossbrace- Horizontal member is 3/16" th x 1-1/4" w x 66-1/4" long fiberglass
- Flags- 18" x 18" vinyl with 1/8" th x 1" w x 30" fiberglass staff



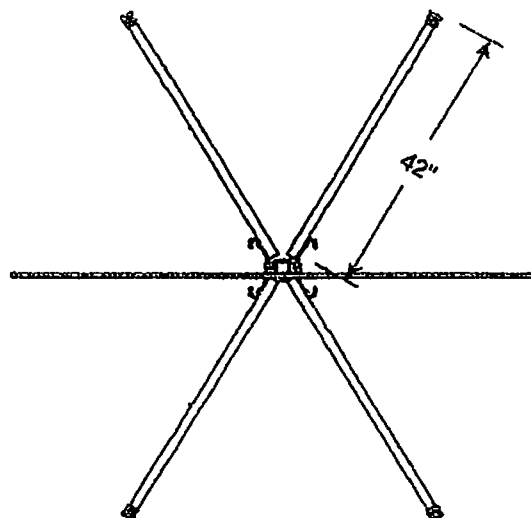
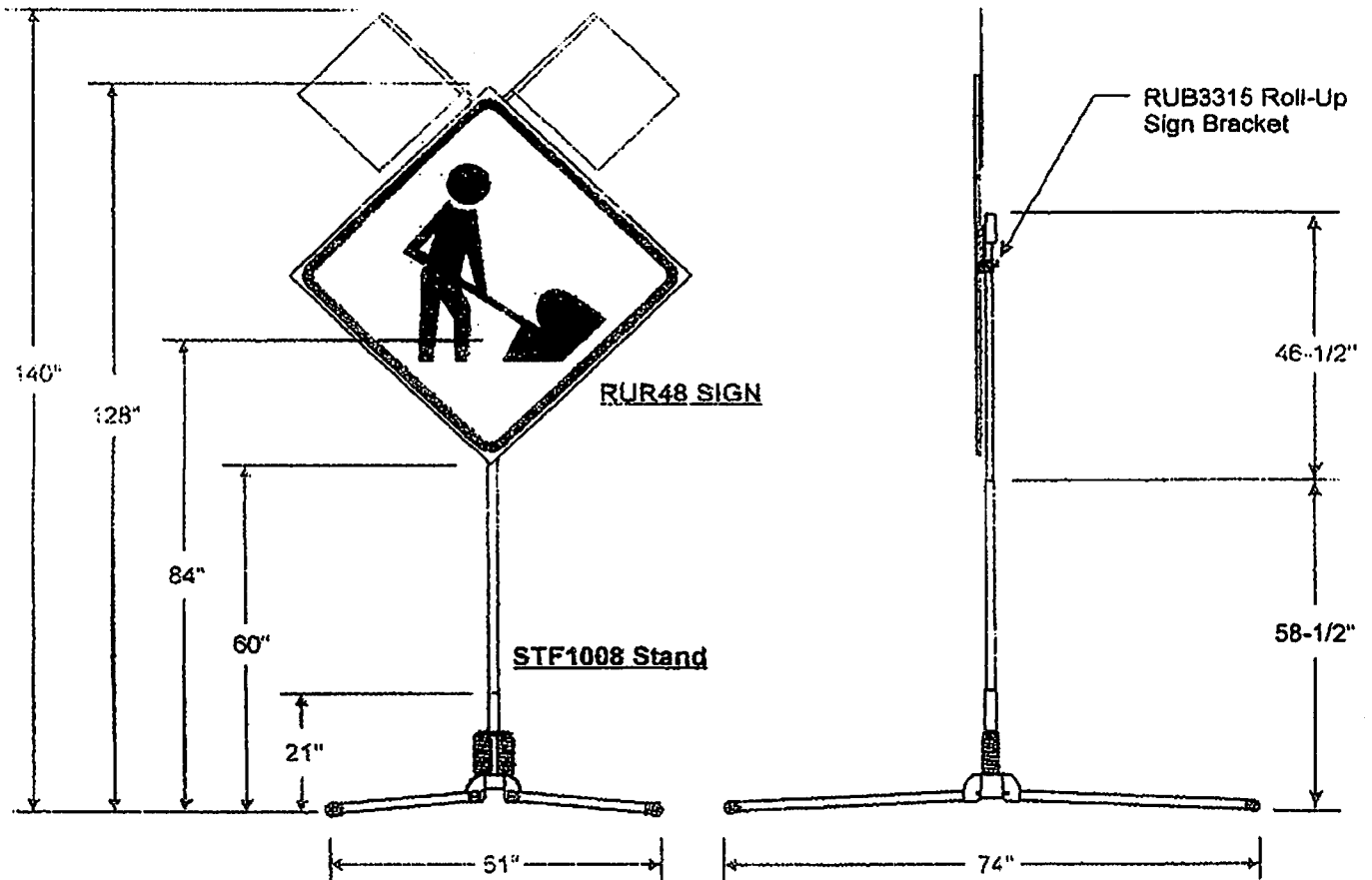
**TF84-7 STAND**

- Base- Steel with heavy duty dual upright spring system
- Mast- 2 stage telescoping: 1-1/2" sq. and 1-1/4" sq. aluminum tubing with .100 wall thickness
- Legs- 1-1/4" sq. x .100 wall x 84" aluminum tube with kick releases (4)

**RUR48 SIGN**

- Panel- Reflective vinyl, 48" x 48"
- Rollup style panel for compact storage
- Crossbrace- 1-1/4" wide fiberglass bars (2)
- Flags- 18" x 18" vinyl with 3/4" dia. wood staff (2)

**STF1008**  
for Roll-Up Signs



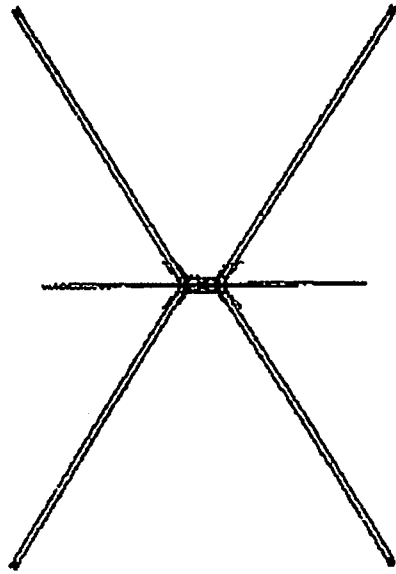
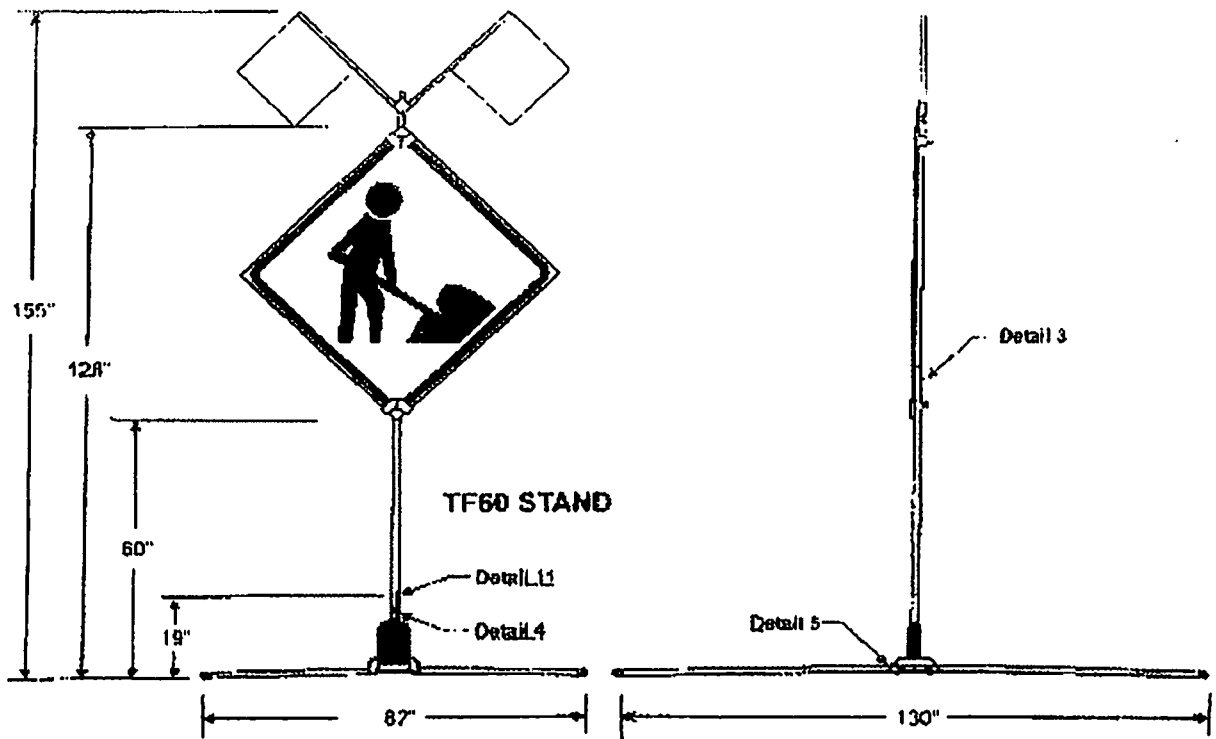
**STF1008 STAND**

- Base- Steel, double coil spring
- Mast- Telescoping 1-1/4" and 1" sq. aluminum tubing
- Legs- 1-1/4" sq. x .065 x 42" steel legs

**RUR48 SIGN**

- Panel- Reflective vinyl, 48" x 48"
- Crossbrace- Vertical member is 1/4" th. x 1-1/4" w x 65" long fiberglass
- Crossbrace - Horizontal member is 3/16" th. x 1-1/4" w x 65" long fiberglass
- Flags (2) - 18" x 18" vinyl with 1/8" x 1" fiberglass staff attached to sign panel





### **TF60 STAND**

- Base- Steel with heavy duty dual spring system (1/2" dia. steel wire).
- Mast- 2 stage telescoping, sq. aluminum tubing with .100 wall thickness
- Legs- Telescoping 1-1/4" sq. x .100 wall x 72" alum. tube, 1" sq. x .100 wall x 25" alum tube
- Panel- Rigid .080 -.125 aluminum or 1/2" - 3/4" plywood, 48" x 48".
- Flags- 18" x 18" vinyl with 30" staff
- Weight (without sign panel) - 45 lbs.



# **DICKE SAFETY PRODUCTS**

1201 Warren Avenue • Downers Grove, IL 60515 • Ph: 877.891.0050 • Fax: 630.969.3973

October 11, 2011

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

Dear Mr. Artimovich,

This inquiry is in regards to our previously accepted STF18 sign stand (WZ-141 & 250). This acceptance was based on crash testing with a sign located 18" off the ground. We have also received acceptance of similar stands with slightly different footprints and sign heights (STF84: WZ-141 & 250 / STF1008: WZ-250 / STF60: WZ-141 & 250). The pertinent stand specifications may be found in Table #1 below and in the attached drawings.

Table #1 – Stand Comparison

Model:	Weight:	Base Width:	Base Length:	Sign Ht:	Top Brkt Ht:
STF18	40 lbs	58 inches	87 inches	18 inches	86 inches
STF84	49 lbs	78 inches	157 inches	84 inches	152 inches
STF1008	38 lbs	51 inches	74 inches	60 inches	105 inches
STF60	48 lbs	82 inches	130 inches	60 inches	128 inches
STF18 with Ext. Mast	41 lbs	58 inches	87 inches	84 inches	152 inches

**Request #1:**

Based on the enclosed information and previous test data, we are seeking acceptance of sign stand "STF18 with an Extended Mast" to hold roll-up signs 84 inches above ground. We believe this to be a reasonable request because this stand is a combination of previously accepted base and mast designs. Therefore this new stand will incorporate an accepted design below the height of the vehicle bumper and an accepted mast that will have no effect on the windshield impact data.



Should you need any further documentation, please let me know.

Sincerely,

A handwritten signature in cursive script that reads "John M. Pasakarnis". The signature is written in black ink and is positioned above the typed contact information.

John M. Pasakarnis  
Dicke Tool Company  
630-969-0050 x28  
[john@dicke-tool.com](mailto:john@dicke-tool.com)