

TASK FORCE 13

SUBCOMMITTEE #5

SUPPORT STRUCTURES

October 19, 2023

Fall Meeting

Scott Jollo, P.E.

Oregon DOT

Co-Chair


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ECL Engineering, PLLC

Co-Chair







SUBCOMMITTEE #5 SUPPORT HARDWARE

8 MASH Sign Support Systems in Guide (All w/FHWA Letter)

Designator and Name	Image	System Type	Test Specification	Test Level	Maximum Legs/7ft	Contact
<input type="text" value="Search"/>		<input type="text" value="Any"/>	<input type="text" value="AASHTO MASH 2"/>	<input type="text" value="Any"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>
SSF41a Telespar Sign Support		Fracturing/Frangible (F)	AASHTO MASH 2016	TL-3	1	Allied Tube & Conduit
SSF42a SQR-LOC Yielding Sign Support System-Dual Post		Fracturing/Frangible (F)	AASHTO MASH 2016	TL-3	2	VALTIR, LLC (f/k/a Trinity Highway)
SSF43a SQR-LOC Yielding Sign Support System-Single Post		Fracturing/Frangible (F)	AASHTO MASH 2016	TL-3	1	VALTIR, LLC (f/k/a Trinity Highway)
SSS21a-b Multi-directionally Activated Sign Support Hardware System		Slipbase (S)	AASHTO MASH 2016	TL-3	2	Xcessories Squared Dev. & Mfg. Inc.
SSS22a SafeSign Support System		Slipbase (S)	AASHTO MASH 2016	TL-3	1	Allied Tube & Conduit
SSS23a S-Q 8 Slip Base Sign Support System 3-Post		Slipbase (S)	AASHTO MASH 2016	TL-3	3	VALTIR, LLC (f/k/a Trinity Highway)
SST01a Crosswalk Pedestal Station		Transformer Base (T)	AASHTO MASH 2016	TL-3	1	Frey Manufacturing Corp.
SST01b Pedestrian Signal Pole		Transformer Base (T)	AASHTO MASH 2016	TL-3	1	Frey Manufacturing Corp.

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Luminaire Supports included as Frangible Base Components

Designator and Name	Image	Category	Type	Function	Contact
<input type="text" value="Search"/>		Luminaire (▾)	Frangible B (▾)	Any (▾)	<input type="text" value="Search"/>
LBC01 Precision Form Coupler Base		Luminaire (L)	Frangible Base (B)	Coupling (C)	Precision Form, Inc.
LBC02 Pole-Safe 4000 Series Coupling Base		Luminaire (L)	Frangible Base (B)	Coupling (C)	Transpo Industries, Inc.
LBC03 Pole-Safe 5000 Series Coupling Base		Luminaire (L)	Frangible Base (B)	Coupling (C)	Transpo Industries, Inc.
LBH01 HAPCO 4-Bolt Shoe Base		Luminaire (L)	Frangible Base (B)	Shoebase (H)	Hapco Pole Products
LBJ01 HAPCO Embedded Breakaway Joint		Luminaire (L)	Frangible Base (B)	Breakaway Joint (J)	Hapco Pole Products
LBS01 HAPCO 4-Bolt Slip Base [LS-29]		Luminaire (L)	Frangible Base (B)	Slipbase (S)	Hapco Pole Products

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Discussion Topics:

- What is considered “the System”?
 - Breakaway Components only (ΔV)
 - Entire Structure (MANY variations that affect impact performance in accordance with current MASH criteria)
- Non-Standard Structure Combinations:
 - Luminaire Poles & Signals with mounted Signs
 - Signs with lights & electronics
- Test Level:
 - TL-3 standard. Why aren't other TLs considered for breakaway supports?

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TASK FORCE 13 SUBCOMMITTEE #5 RELEVANT ONGOING RESEARCH

NCHRP 03-119

- Application of MASH Test Criteria to Breakaway Sign and Luminaire Supports, and Crashworthy Work Zone Devices
- To be continued under 03-119(01)

NCHRP 22-43

- Proposed AASHTO Guidelines for Implementation of MASH for Sign Supports, Breakaway Poles, and Work Zone Traffic Control Devices

TASK FORCE 13 SUBCOMMITTEE #5 RELEVANT ONGOING RESEARCH

NCHRP 22-55

- Implementation of MASH Surrogate Test Vehicles for Sign Supports, Breakaway Poles, and Work Zone Traffic Control Devices

NCHRP 15-67

- Wind Drag Coefficients for Highway Signs and Support Structures – Final NCHRP Report 1012 published

TASK FORCE 13 SUBCOMMITTEE #5 RELEVANT RESEARCH

Oregon DOT Projects proposed for Roadside Safety Pooled-Fund

- MASH Evaluation of Square Tubing Slip Base Sign Support System (2024-04-BD)
- Evaluation of Multi-Post Large Sign Supports with Slip Base and Slip Hinge (2024-03-BD)
- Evaluation of Triangular Slip Base for Breakaway Luminaire Supports (2024-02-BD)

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