Work Zone Traffic Control Devices

Date Last Edited: NOVEMBER 2023

Catergory 1

Drums
42-Inch Cones
Flexible Tubular Markers
Traffic Channelizing Curb System

Category 2

Type I Barricades
Type II Barricades
Type III Barricades
Sign Stands
Verical Panels
Pedestrian Barricade

Category 3

Truck & Trailer Mounted Attenuator

Category 4

Arrow Board
Portable Changeable Message Sign
Speed Radar Trailers
Digital Speed Limit Trailer

Other

Type A Lights
Type B Lights
Type C Lights
Pedestrian Surface
Temporary Detectable Warning Field
Automated Flagger
Temporary Portable Rumble Strips

Connected Devices

Connected Arrow Boards
Retro-fit Kits for Connected Arrow Boards
Location Markers

****Please see the Temporary Traffic Control Device Application at the end of this document if you wish to submit products for reivew.**

Category 1

Drums

Manufacturer	Product	Approval Date	Bid Item #
Lakeside Plastics	Director Drum	OCTOBER 2017	643.0300
TrafFix Devices	18000 Series Drum	OCTOBER 2017	
PSS Innovations	LifeGuard II	OCTOBER 2017	
Plasticade	Commander Drum	OCTOBER 2017	
	Econocade II Drum	SEPTEMBER 2019	
	Lane Changer Traffic Drum - B500 LC	OCTOBER 2017	
Bent Manufacturing Company	Superdome Drum	JULY 2018	
The Cortina Companies	Cortina TrailBoss Drum	APRIL 2021	

42-Inch Cones

Manufacturer	Product	Approval Date	Bid Item #
Lakeside Plastics	Diverter Channelizer	OCTOBER 2017	643.1070
PSS Innovations	Navigator, 42" Slimline Channelizer	OCTOBER 2017	
Plasticade	42" Channelizer C-42	DECEMBER 2017	
	Navigade Channelizer Cone	JANUARY 2018	
Bent Manufacturing Company	T-Top Channelizers	JULY 2018	
	Tear Drop Channleizers	JULY 2018	
TrafFix Devices	Looper Cone (42") 16 lb & 30 lb Bases	JULY 2018	
UAT	NG Gorilla Grip 42" Channelizer	JULY 2020	
The Cortina Companies	Grip N Go 42" Channelizerizer Cone	APRIL 2021	

Flexible Tubular Marker

Manufacturer	Product	Approval Date	Bid Item #
Pexco	FG 300 Series Posts	OCTOBER 2017	643.0500 643.0600
	CityPost Bolt Down	OCTOBER 2017	
	CityPost SM Surface Mount	OCTOBER 2017	
	CityPost GD Glue Down	OCTOBER 2017	
	Davidson FG 300 UR Series	OCTOBER 2017	
	Flexi-Guide FG 300 Model PE Series	OCTOBER 2017	
	Flexi-Guide FG 300 Model EFX Series	OCTOBER 2017	
	DP 200 Channelizer Post	OCTOBER 2017	
FlexStake	FlexStake TM750 Series	OCTOBER 2017	
Valtir, LLC	Dura-Post	OCTOBER 2017	
	Safe-Hit	OCTOBER 2017	
Bent Manufacturing Co.	Masterflex Post-EX Series	OCTOBER 2017	
New Direction Manufacturing	350 Surface Mount	OCTOBER 2017	
Shur-Tite	Shur-Flex Surface Mount	OCTOBER 2017	
Lakeside Plastics	Divider - Surface Mount Post	OCTOBER 2017	
Impact Recovery Systems	MP2 Post	MARCH 2018	
	OMEGA POST - OP2	JULY 2020	
Safe-Hit	Dura-Post	OCTOBER 2017	
Impact Traffic	Tuff Post (SPEC-TP3)	OCTOBER 2017	

***Flexible Tubular Markers Devices may be used for Work Zone or Permanent Application**

Traffic Channelizing Curb System

Manufacturer	Product	Approval Date	Bid Item #
Shur-Tite	Shur-Curb Traffic Separator	OCTOBER 2017	----
Qwick Kurb, Inc.	Qwick Kurb	OCTOBER 2017	
Pexco	FG 300 Turnpike Grade Curb System	OCTOBER 2017	
	FG 300 Interstate Grade Curb System	OCTOBER 2017	
Impact Recovery Systems	Tuff Curb	MARCH 2018	
	Tuff Curb XLP	MARCH 2018	

Category 2

Type I Barricades

Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Rent-A-Flash	T1 Wood Barricade (WZ-54)	OCTOBER 2017	1/1/2025	643.0405
Plasticade	Combocade Type I	OCTOBER 2017		
Warning Lites of Mn	Aluminum Barricades	OCTOBER 2017		
Traffic Control & Protection Inc	Type 1 Barricade	MAY 2018		

Type II Barricades

Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Bent Manufacturing Company	WZ-54	OCTOBER 2017	1/1/2025	643.0410
	Universal Plastic Barricade	JULY 2018		
TrafFix Devices	35000 Series	OCTOBER 2017		
Rent-A-Flash	T2 Wood Barricade (WZ-54)	OCTOBER 2017		
Plasticade	Combocade Type II	OCTOBER 2017		
Warning Lites of Mn	Aluminum Barricades	OCTOBER 2017		
Traffic Control & Protection Inc	Type 2 Barricade	MAY 2018		
United Rentals Highway Technology	Type II Barricade with Wooden Panes & Steel Angle Uprights	JULY 2018		
	Lo-Pro 350 Sign Stand	JULY 2018		

Type III Barricades

Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Pexco	WZ-380	SEPTEMBER 2019	1/1/2025	643.0420
	WZ-381	SEPTEMBER 2019		
Warning Lites of Mn	Aluminum Barricades	OCTOBER 2017		
Q3	Aluminum Type III Barricade	OCTOBER 2017		
Rent-A-Flash	T3 Wood/Plastic (WZ-40)	OCTOBER 2017		
PSS Innovations	Anchor Mast Barricade System	OCTOBER 2017		
	LaneGuard 3, Callapsible Barricade System	OCTOBER 2017		
Plasticade	Plasticade Telespar Type III Barricade	OCTOBER 2017		
	PowerPost Type III with Volcano Base	DECEMBER 2017		
	Angle Iron Type III Barricade - 3900 Series	MARCH 2018		
Bent Manufacturing Company	Type III Barricade	OCTOBER 2019		

Sign Stands

Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
TrafFix Devices	Little Buster 24000 Series (WZ-108)	OCTOBER 2017	1/1/2025	----
	Big Buster Part #60060 - BRU (with Roll-Up)	MARCH 2018		
	Big Buster Part #60060 - RSB (with Rigid Sign Bracket)	MARCH 2018		
Dickie Tool	TwinFlex (TF-18)	OCTOBER 2017		
	TF60-RUB or RGB	FEBRURARY 2017		
	UF2000W	MARCH 2021		
MDI	5018K	OCTOBER 2017		
	4860K	JANUARY 2018		
	4818K	JANUARY 2018		
Bone Safety Signs	SZ-484-2S	OCTOBER 2017		
Quality Restoration Services Inc.	QRS Vertical Sign Stand	OCTOBER 2017		
Mathy Construstion Company	Mathy Work Zone A-Frame Sign Stand	MAY 2018		
United Rental Highway Technologies	Lo-Pro 350 Sign Stand	JULY 2018		
	Hi-Pro 350 Stand	AUGUST 2019		
Telespar	Temporary Sign Skid	OCTOBER 2019		
Plasticade	SSRB800 Sign Stand	JULY 2020		
	SS520A Sign Stand	JULY 2020		
	SS410A Sign Stand	JULY 2020		
	SS420A Sign Stand	JULY 2020		
	SS340A Sign Stand	JULY 2020		
	SS310A Sign Stand	JULY 2020		
	SS310 Sign Stand	JULY 2020		
	SS300A Sign Stand	JULY 2020		
	SS300 Sign Stand	JULY 2020		
	SS105 Sign Stand	JULY 2020		
	SS100 Sign Stand	JULY 2020		
The Cortina Companies	Quadraflex VI Single Spring Sign Stand (#07-816-1)	MARCH 2023		

Vertical Panels				
Manufacturer	**Product**	**Approval Date**	**Expiration Date**	**Bid Item #**
Impact Recovery Systems	8" x 24" Vertical Panels	OCTOBER 2017	1/1/2025	----
	12" x 24" Vertical Panes	OCTOBER 2017		
Pedestrian Barricade				
Manufacturer	**Product**	**Approval Date**	**Expiration Date**	**Bid Item #**
Pexco	Temporary Pedestrian Access Rout (TPAR)	OCTOBER 2016	1/1/2025	644.1810.S
Plasticade	ADA Pathcade Barricade System	DECEMBER 2021		
PSS Innovations	Safety Rail	OCTOBER 2017		
	SafetyWall	OCTOBER 2017		
TrafFix Devices	TrafFix ADA Wall - Series 57000-A	MAY 2018		

Category 3

Truck & Trailer Mounted Attenuators				
Manufacturer	**Product**	**Approval Date**		**Bid Item #**
Lindsey	U-MAD	OCTOBER 2017		----
TrafFix Devices	Scorpion Towable Attenuator	OCTOBER 2017		
	Scoprion Truck Mounted Attenuator	OCTOBER 2017		
	Scorpion II TL-3 Truck Mounted Attenuator	DECEMBER 2021		
	Scoprion II TL-3 Towable Attenuator	DECEMBER 2021		
Gregory Industries	TTMA - 200	AUGUST 2019		
	TTMA - 100	OCTOBER 2017		
Valtir, LLC.	Vorteq M	OCTOBER 2023		
	SST	JANUARY 2018		
	SS180*	JANUARY 2018		
	SS90 HD	JANUARY 2018		
	SS90	JANUARY 2018		
	SS180 M	OCTOBER 2020		
	SMT	OCTOBER 2020		
Verdegro USA, LLC	BLADE TMA, MASH TL-3 100K	MARCH 2018		

*Indicate MASH-16 TL-3 Approved Products

Category 4

Arrow Board				
Manufacturer	**Product**	**Approval Date**		**Bid Item #**
Work Area Protection (A Hill & Smith Brand)	Arrow Master Proline	OCTOBER 2017		643.0800
	ArrowMasterV	OCTOBER 2017		
WANCO	WTSP W|ECO Folding Arrow-Board Trailer	OCTOBER 2017		
	WFB8-LSA	JANUARY 2022		
Ver-Mac	ST-4815 Trailer Mounted Arrowboard	OCTOBER 2017		
	VM - 4815 TRUCK MOUNTED ARROW BOARD	JANUARY 2022		
Trafcon Industries, Inc.	TC1	OCTOBER 2017		
Allmand	Eclipse AB2400	OCTOBER 2017		
Solar Technoloy, Inc.	Silent Sentinel/ AB-0515	JANUARY 2018		
ADDCO	15-Lamp Arrow Board (AB-15)	OCTOBER 2019		
Portable Changeable Message Sign				
Manufacturer	**Product**	**Approval Date**		**Bid Item #**
Work Area Protection (A Hill & Smith Brand)	SMC-1000 ST	OCTOBER 2017		643.1050 643.1051
	SMC 2000 ST	OCTOBER 2017		
	SMC 4000	OCTOBER 2017		
	SMC 5000	OCTOBER 2017		
Ver-Mac	PCMS-1500 LP	DECEMBER 2017		
	PCMS-1210 Full-Size, 3-Line Portable Changeable Message Sign	OCTOBER 2017		
ADDCO	2017 DH1000	OCTOBER 2017		
	DH1000-ALS	OCTOBER 2017		
WANCO	WTMMB (A) FULL MATRIX MESSAGE BOARD	DECEMBER 2017		
	WTLMB (A) THREE LINE MESSAGE BOARD	DECEMBER 2017		
Solar Technology, Inc	Silent Messenger/MB-1548	JANUARY 2018		
	Silent Messenger 2/MB-1548 (fold-n-go)	JANUARY 2018		
	Silent Messenger 2 L&R / MB2-1548 (Lift and Rotate)	JANUARY 2018		
Speed Radar Trailers				
Manufacturer	**Product**	**Approval Date**		**Bid Item #**
WANCO	Compact Radar-speed Trailer Model WSDT3	OCTOBER 2017		----
	Folding Frame Speed Trailer DT3 F60	JULY 2020		
Ver-Mac	SP-710V Trailer Mounted Speed Feedback Sign	OCTOBER 2017		
Solar Technology	Silent Advisor/RST-1000 (Low Speed Applications)	MARCH 2018		
	Silent Advisor/RST-2000 (High Speed Applications)	MARCH 2018		
JTI	Speed Safe 20/20 Trailer	JULY 2021		
Digital Speed Limit Trailer				
Manufacturer	**Product**	**Approval Date**		**Bid Item #**
Ver-Mac	710-DSL Trailer Mounted Work Zone Digital Speed Limit Sign	AUGUST 2023		----

Other

Type A Lights

Manufacturer	Product	Approval Date	Bid Item #
Empco-Lite	Model 2006	OCTOBER 2017	643.0705
	Toughlite 2000	OCTOBER 2017	
	Empco Y2K Barricade Light	MARCH 2018	
	Empco 6V 400 LED	SEPTEMBER 2019	
Dicke Tool	AC4D-NL	OCTOBER 2017	
Pi-Variables, Inc	BR3.AC.D3/D4	OCTOBER 2017	
	BR6.AC.D3/D4	OCTOBER 2017	
	BC3.AC.D3/D4	OCTOBER 2017	
	BC6.AC.D3/D4	OCTOBER 2017	
	BS.AC.D1/D2	OCTOBER 2017	
	Type A Lights	JULY 2018	

Type B Lights

Manufacturer	Product	Approval Date	Bid Item #
Checkers Industrial Safety Products	BR3.B.D3/D4	OCTOBER 2017	643.0710
	BS.B.D1/D2	OCTOBER 2017	
Empco-Lite	Toughtlite 2000	OCTOBER 2017	
	Empco Y2K Barricade Light	MARCH 2018	
	Empco 6V 400 LED	SEPTEMBER 2019	

Type C Lights

Manufacturer	Product	Approval Date	Bid Item #
Empco-Lite	Model 2006	OCTOBER 2017	643.0715
	Toughlite 2000	AUGUST 2019	
	Empco Y2K Barricade Light	MARCH 2018	
	Empco 6V 400 LED	SEPTEMBER 2019	
Dicke Tool	AC4D-NL	OCTOBER 2017	
Checkers Industrial Safety Products	BR3.AC.D3/D4	OCTOBER 2017	
	BR6.AC.D3/D4	OCTOBER 2017	
	BC3.AC.D3/D4	OCTOBER 2017	
	BC6.AC.D3/D4	OCTOBER 2017	
	BS.AC.D1/D2	OCTOBER 2017	
C & C Lights (now owned by Checkers Industrial Safety Products)	Type C Lights	JULY 2018	

Pedestrian Surface (Pedestrian Walkway Systems)

Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
PSS Innovations	BoardWalk Temporary Pedestrian Modular Ramp	OCTOBER 2017	1/1/2025	----
	Boardwalk Platform 2	OCTOBER 2017		
	RapidRamp	MARCH 2023		
Diamond Discs Inter	Ped Utility Trench Cover	JULY 2020		
Central State Construction	CSC Ramp 1	JANUARY 2021		
Checkers Safety Industrial Products	Versamat Ground Protection Mat	JUNE 2021		
Greatmats	Greatmats Ground Protection Mat 1/2 Inch x 4x8	MAY 2022		
Chippewa Concrete Services	CCS-JF-WI	MAY 2022		
Blue Gator	Blue Gator Ground Protection Mats	JULY 2022		
FODS	GPM Ground Protectoin Mat, Model #1200 AM	JULY 2022		
Spartan Composites	Scout Mat	MARCH 2023		
James Peterson Sons, Inc	JPS Curb Ramp	AUGUST 2023		
Detectable Warning Systems	Detectable Warning Systems AlertTile Truncated Domes	AUGUST 2023		

Temporary Detectable Warning Field

Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
ADA Solutions	ADA - SA2448-1	MAY 2022	-----	-----

Automated Flagger Devices

Manufacturer	Product	Approval Date	Bid Item #
North America Traffic Inc.	PTL2.4LD Portable Flagger Light	JUNE 2019	--
	PTL2.4LD Portable Flagger Signal	JUNE 2019	
	RCF2.4 Automated Flagger Assistance Device	JUNE 2019	
JTI	Sentinel AFAD	JULY 2021	
WANCO	WAFAD	JULY 2022	
Synergy Technology	Automated Flagger AF-100	APRIL 2022	
Ver-Mac	Flagger-Mac Automated Flagger Assistance Device	FEBRUARY 2023	

Temporary Portable Rumble Strip

Manufacturer	Product	Approval Date	Bid Item #
PSS Innovations	RoadQuake 2	JANUARY 2020	--
	RoadQuake 2F	JANUARY 2020	
Traffix Devices	Alert High Speed Rumble Strip	JANUARY 2020	

Temporary Traffic Signals

Manufacturer	Product	Approval Date	Bid Item #
Horizon Signal Technologies	SQ2	JANUARY 2022	--
Ver-Mac	TLD-2312 Trailer Mounted Traffic Signals with Advanced Technology	AUGUST 2022	

Connected Devices***				
Connected Arrow Boards* **				
Manufacturer	**Product**	**Approval Date**	**Expiration Date**	**Bid Item #**
Retro-fit Kits for Connected Arrow Boards* **				
Manufacturer	**Product**	**Approval Date**	**Expiration Date**	**Bid Item #**
Location Markers* **				
Manufacturer	**Product**	**Approval Date**	**Expiration Date**	**Bid Item #**

***Items are provisionally approved for 2024 Construction Season.

Temporary Traffic Control Device Approval Process

1. INTRODUCTION

The temporary traffic control devices are covered by this approval process.

QUALIFICATION METHODS

The Wisconsin Department of Transportation provides manufacturers, vendors, traffic control contractors and county forces two options to apply for addition to the approved products list in Wisconsin. To be considered, the manufacturers, vendors, traffic control contractors and county forces must initiate the evaluation of their pavement marking material.

Qualification Option A – Immediate Approval

The Wisconsin Department of Transportation provides manufacturers, vendors, traffic control contractors and county forces with the process to apply for addition to the approved products list in Wisconsin. To be considered, the traffic control contractor and county forces must initiate the evaluation of their temporary traffic control device.

1. The subject device will require a letter of self-certification or FHWA eligibility letter. Refer to Appendices for requirements. Devices that do not meet MASH requirements but meet NCHRP 350 may be considered for addition to the list.

2. Submit the required Application Form, Self-Certification Letter or FHWA Eligibility Letter, Installation Specifications, Product Specifications and Report as follows:
   - **Application Form**

   - **Self-Certification Letter or FHWA Eligibility Letter**:
     - Self-Certification Letter should contain at a minimum:
       - *A title, e.g., "Certificate of Crashworthiness";*
       - *Name and address of vendor making the certification.*
       - *Unique identification of the certificate (such as serial number) and of each page and the total number of pages;*
       - *(iv) Description and unambiguous identification of the item tested;*
       - *Identification of the basis for the self-certification process used and to what Test Level of NCHRP Report 350. This basis as listed in the July 25, 1997-memo as crash test experience with similar devices or years of demonstrably safe operational performance. (Simplified crash testing showing that a device poses no risk to vehicle occupants may be used to support the manufacturer's certification. This simplified testing must, as a minimum, be documented by a written report, observed by an independent, impartial observer, recorded on videotape, and include a means, other than the test vehicle's speedometer, for determining the vehicle speed at time of impact.)*

        - *A signature and title, or an equivalent identification of the person(s) accepting responsibility for the content of the certificate (however produced), and date of issue;*
        - *A statement that the certificate shall not be reproduced except in full.*
- **Installation Specifications:** Submit proper product installation instructions along with a website address where the installation specifications can be located.

- **Report:** Submit a written report containing all the following information and a statement agreeing to the provisions of the application and review process.
    - Technical Assistance: The name(s), telephone number(s) and email addresses for the vendor or manufacturer representatives.
    - Manufacturer Quality Control Program: A written submission of a quality control program that monitors the manufacturer's production for WisDOT approval.

Bureau of Traffic Operations: Work Zone Program
Department of Transportation
3609 Pierstorff St.
Madison, WI 53704
Email: DOTSignMarkWZMaterials@dot.wi.gov

3. After all required applicable documents have been received, the Work Zone Products Evaluation Team will meet and review all submitted items. The team meets every 30 days. After the evaluation process is completed, WisDOT will notify the manufacturer or vendor of the results of the evaluation via letter. If the product is accepted, it will be included on the Temporary Traffic Control Device Approved Products List, which is updated quarterly.

4. It is the responsibility of the traffic control contractor or county force to submit all changes to WisDOT BTO to remain in good standing on the approved products list once the product has been added to the approved products list. If the product begins to show signs of failure before the end of its lifecycle, the traffic control contractor or country force will be notified and will have 1 month to correct the problem or provide a resolution plan. If the problem is corrected, the product will remain on the approved products list. If the problem is not corrected, the product will be removed from the approved products list.

Qualification Option B – Provisional Approval

In the instance of Connected Devices, WisDOT Bureau of Traffic Operations (BTO) will evaluate the submitted product for one construction season to determine if the product performs and meets the needs required by BTO.

1. Submit the required Application Form and Self-Certification Letter or FHWA Eligibility Letter (as applicable), Installation Specifications, Product Specifications and Report as follows:
    a. **Application Form**
    b. **Self-Certification Letter or FHWA Eligibility Letter (if applicable)**:
        i. Self-Certification Letter should contain at a minimum:
            1. *A title, e.g., "Certificate of Crashworthiness";*
            2. *Name and address of vendor making the certification.*
            3. *Unique identification of the certificate (such as serial number) and of each page and the total number of pages;*
            4. *Description and unambiguous identification of the item tested;*
            5. *Identification of the basis for the self-certification process used and to what Test Level of NCHRP Report 350. This basis as listed in the July 25, 1997-memo as crash test experience with similar devices or years of demonstrably safe operational performance. (Simplified crash testing showing that a device poses no risk to vehicle occupants may be used to support the manufacturer's certification. This simplified testing must, as a minimum, be documented by a written report, observed by an independent, impartial observer, recorded on videotape, and include a means, other than the test vehicle's speedometer, for determining the vehicle speed at time of impact.)*
            6. *A signature and title, or an equivalent identification of the person(s) accepting responsibility for the content of the certificate (however produced), and date of issue;*
            7. *A statement that the certificate shall not be reproduced except in full.*
    c. **Installation Specifications:** Submit proper product installation instructions along with a website address where the installation specifications can be located.

    d. **Report:** Submit a written report containing all the following information and a statement agreeing to the provisions of the application and review process.
        i. Technical Assistance: The name(s), telephone number(s) and email addresses for the vendor or manufacturer representatives.
        ii. Manufacturer Quality Control Program: A written submission of a quality control program that monitors the manufacturer’s production for WisDOT approval.
        iii. Performance Report: Written report providing all data relating directly to the capabilities, performance and other applicable characteristics of the

device being submitted to the Department and how the device will meet the needs of the Department.

2. After all required applicable documents have been received, the Work Zone Products Evaluation Team will meet and review all submitted items and notify the submitter of provisional approval or if the product has been denied. If the product is denied for provisional approval, then the qualification process is concluded. WisDOT will notify the submitter the results of the evaluation via letter. If the product is accepted, it will be included on the Temporary Traffic Control Device Approved Products List listed as "Provisionally Approved".

3. Upon completion of the product provisional status evaluation, WisDOT will notify the submitter of the results in writing. If the product is accepted for permanent placement on the APL, the submitter with be notified in writing. If the product is rejected, then the qualification process is concluded. Once the product is on the Approved Products List, it is the responsibility of the manufacturers, vendors, traffic control contractors and county forces to submit any and all changes to WisDOT BTO in order to remain in good standing on the approved products list.

ON-GOING APPROVAL

To recertify products to be included on the approved products list, the traffic control contractor or county force is required to resubmit all the documents listed above in the instances of name change, device change or any other applicable change. Failure to recertify products will result in removal from the Approved Products List.

Wisconsin Department of Transportation
Temporary Traffic Control Device: Approved Products Application

Traffic Control Contractor or County Information

Company or County Name: _____ Phone Number: _____
Physical Address: _____
Email Address: _____

Vendor Information

Vendor Name: _____Phone Number: _____
Address: _____
Website: _____

Product Information

Category 1
- ☐ Drums
- ☐ 42" Cones
- ☐ Flexible Tubular Markers
- ☐ Traffic Channelizing Curb System

Category 2
- ☐ Type I Barricades
- ☐ Type II Barricades
- ☐ Type III Barricades
- ☐ Sign Stands
- ☐ Vertical Panels
- ☐ Pedestrian Barricade

Category 3
- ☐ Truck & Trailer Mounter Attenuator

Category 4
- ☐ Arrow Board
- ☐ Connected Arrow Board (provisional approval only)
- ☐ Portable Changeable Message Sign
- ☐ Speed Radar Trailers

Other
- ☐ Type A Lights
- ☐ Type B Lights
- ☐ Type C Lights
- ☐ Pedestrian Surface
- ☐ Temporary Detectable Warning Field
- ☐ Automated Flagger
- ☐ Temporary Portable Rumble Strips
- ☐ Connected Arrow Board Retro-fit Kits (provisional approval only)
- ☐ Connected Location Marker (provisional approval only)

Product Name and Model: _____

Has this product, or similar products been used previously by WisDOT? ☐Yes ☐ No

If yes, please explain: _____

Documents to Submit:
- ☐ Self-Certification Letter or FHWA Eligibility Letter
- ☐ Installation Specifications
- ☐ Product Specifications
- ☐ Report
- ☐ MASH Compliance Letter

Signature

Signed: _____ Title: _____

Printed Name: _____ Date: _____

Submit this application and supporting documents to:

Bureau of Traffic Operations: Work Zone Program
Department of Transportation
DOTSignMarkWZMaterials@dot.wi.gov

APPENDIX A

CATEGORY 1

- ***Category 1 devices are "self-certified" by each Manufacturer and no testing of these devices is required to meet MASH-16 requirements. These devices may be allowed for use based on the developer's self-certification subject to approval by the individual highway agencies.***

- DRUMS
  - Weighted Rubber Base
    - Tire or molded base
    - Weight of base should follow manufacturer recommendations
  - Orange
  - Dimensions and Sheeting requirements meet SDD 15C11-b
  - MASH Compliant

- 42" TRAFFIC CONTROL CONES
  - Weighted Rubber Base
    - Molded
    - Weight of base should follow manufacturer recommendations
  - Orange
  - Dimensions and Sheeting requirements meet SDD 15C11-b
  - Written submission of certification from manufacturer or distributor for compliance to MASH

- FLEXIBLE TUBULAR MARKERS
  - Plastic bases that hold tube with locking pin
  - Locking pin mechanism for securing device
  - Orange (work zone application)
  - White (permanent application)
  - Yellow (permanent application)
  - Work Zone Application
    - Dimensions and sheeting requirements meet SDD 15C11-a
  - Permanent Application
    - Dimensions and sheeting requirements meet SDD 15A04-a
  - MASH Compliant

- TRAFFIC CHANNELIZING CURB SYSTEM
  - Submit FHWA federal-aid reimbursement eligibility letters
  - Requirements meet MUTCD Section 3H.01 and 6F.72

APPENDIX B

CATEGORY 2

- ***Category 2 Temporary traffic control devices manufactured on or after January 1, 2020 must meet MASH-16 crash standards.***
- ***Category 2 devices manufactured before January 1, 2020 may be used through January 1, 2025 provided they meet the requirements of the Standard Specifications and are approved and accepted for use by the Engineer.***

- BARRICADES (TYPE I, II & III)
    - Corrugated Plastic Panels
    - Perforated Channel Supports or Angle Iron
    - Submitted FHWA federal-aid reimbursement eligibility letter
    - Dimensions and sheeting requirements meet SDD 15C11-b and MUTCD Section 6F.68

- PORTABLE SIGN SUPPORTS
    - The sign face must be perpendicular to the ground
    - One Foot Mounting Height (collapsible & rigid)
    - Five Foot Mounting Height (collapsible & rigid)
    - Seven Foot Mounting Height (collapsible & rigid)
    - Submit FHWA federal-aid reimbursement eligibility letter

- VERTICAL PANELS
    - Submitted FHWA federal-aid reimbursement eligibility letter
    - Dimensions and sheeting requirements meet SDD 15C11-b and MUTCD Section 6F.66

- PEDESTRIAN SAFETY BARRICADE
    - Submit FHWA federal-aid reimbursement eligibility letter
    - Dimensions and sheeting requirements meet SDD 15D30-c and conform to the recommendations of MUTCD Section 6F.63.04, 6F.63.05 and 6F.74

APPENDIX C

CATEGORY 3

- ***See WisDOT MASH Implementation Plan***

APPENDIX D

CATEGORY 4

- ***See WisDOT MASH Implementation Plan***
- ***FHWA previously exempted these devices from crash-testing under NCHRP Report 350 as the benefit of the use of these devices outweighs the risk exposure; however, the FHWA required that they should be shielded when possible, should be removed when not needed, and must be delineated when deployed.***

- ARROW BOARD
    - Conform to MUTCD requirement for type C arrow panel
        - 96 x 48 inches
        - 15 elements
        - Visible from minimum of 1 mile
    - Capable of operating towed or stationary
    - SAE PAR 46 lamps
    - Hood surrounds not less than 180 degrees of each individual lamps
    - Capable of these mode selections: left or right flashing shaft with arrow point, flashing shaft with double arrow points, or caution. The engineer will not allow sequential operation of arrow or chevrons.
    - Control System
        - Capable of at least 50 percent dimming from rated voltage
        - Flashing rate 25 to 40 flashes per minute
        - 50 percent lamp "on" time
        - Automatic dimming of lamps by reducing the voltage to 50 percent minimum for nighttime use and for the fail mode default setting.
        - Manual override backup switch
        - Is controlled by an onboard computer programmable via an onboard input device and, if the special provisions require, programmable remotely.
        - Has a secure cabinet and requires a username and password to access the computer interface.
        - Battery or Solar Powered

- CONNECTED ARROW BOARD (provisional only)
    - Meet requirements listed above for 'Arrow Board'
    - The connected arrow board shall be connected to the cloud and provide a data feed compliant with latest the U.S Department of Transportation Work Zone Data Exchange (WZDx) Device Feed specification 4.2.
    - The property 'id' shall stay the same for the duration of the project. See picture below from WZDx Device Feed specification.

Properties

Name	Type	Description	Conformance	Notes
`id`	String	A unique identifier issued by the data feed provider to identify the field device. It is recommended that this identifier is a Universally Unique IDentifier (UUID) as defined in RFC 4122 to guarantee uniqueness between feeds and over time.	Required	This is a GeoJSON property.

    - The connected arrow board shall distinguish whether it is active, displaying a pattern or blank/transport mode, symbolizing it is not active.
    - Submit Work Zone Data Exchange Device feed link to DOTBTOWorkzone@dot.wi.gov.

- PORTABLE CHANGIBLE MESSAGE SIGN
    - Conform to MUTCD requirements
    - Trailer mounted
    - 4 leveling jacks
    - Battery power supply, solar powered charging system
    - Control System
        - Has a screen for reviewing messages before being displayed on sign.
        - Is controlled by an onboard computer programmable via an onboard input device and, if the special provisions require, programmable remotely.
        - Ensure that the computer can store and recalling at least 150 programmed messages.
        - Has a secure cabinet and requires a username and password to access the computer interface.
        - Automatically adjusts the sign's intensity to maintain legibility under varying light conditions.
    - Provide a line matrix, character matrix, or full matrix sign message display no greater than 11-1/2 feet wide and capable of displaying 3 lines sequentially with 8 or more 18-inch high by 11-inch wide characters per line
    - LED Display Only.
        - Must display amber or yellow message.
        - NO hybrid or flip disc

- SPEED RADAR TRAILERS
    - The legend shall read “YOUR SPEED” as a static message centered on the sign.
    - Legend and background colors of this static sign shall match the regulatory or advisory speed sign it is paired with.
    - The changeable portion of the sign shall have a black background with an amber (yellow) illuminated legend.
    - Display shall be two digits displayed in miles per hour.

- Legibility, must be able to determine numbers from 1/4 mile.
- Visibility, must be able to determine if the sign is on from 1/2 mile.
- Display shall have the ability to:
    - Continuously show the speed of an approaching vehicle and not flash regardless of speed limit or preset thresholds.
- System shall use an LCD display, keyboard, Rotary switches or other means to set and view operating modes, matrix displayed speed, error codes and other system information.
- LED indicators (or similar) signify power is on, the solar charging system is active, activated alarms need for checking, battery charge is low, and power failure.
- System shall include a regulatory speed limit sign

APPENDIX E

OTHER

- WARNING LIGHTS
  - Type A, B & C
  - Conform to MUTCD Section 6F.83 and Standard Specification
  - ITE "Purchase Specification for Flashing and Steady-Burn Warning Lights"

- PEDESTRIAN SURFACE
  - Requirements meet SDD 15D30-b & 15D30-c and conform to the recommendations of MUTCD Section 6F.74

- TEMPORARY DETECTABLE WARNING FIELD
  - Requirements meet SDD 15D30-b & 15D30-c and conform to the recommendations of MUTCD Section 6F.74

- AUTOMATED FLAGGER DEVICES
  - Requirements meet MUTCD Section 6E.06.04

- CONNECTED ARROW BOARD RETRO-FIT KITS (provisional only)
  - The connected arrow board shall be connected to the cloud and provide a data feed compliant with latest the U.S Department of Transportation Work Zone Data Exchange (WZDx) Device Feed specification 4.2.
  - The property 'id' shall stay the same for the duration of the project. See picture below from WZDx Device Feed specification.

Properties

Name	Type	Description	Conformance	Notes
`id`	String	A unique identifier issued by the data feed provider to identify the field device. It is recommended that this identifier is a Universally Unique IDentifier (UUID) as defined in RFC 4122 to guarantee uniqueness between feeds and over time.	Required	This is a GeoJSON property.

  - Device should distinguish whether it is active, displaying a pattern or off, in transport mode or blank.
  - Submit Work Zone Data Exchange Device feed link to DOTBTOWorkzone@dot.wi.gov.

- LOCATION MARKER (provisional only)
  - The location marker shall be connected to the cloud and provide a data feed compliant with latest the U.S Department of Transportation Work Zone Data Exchange (WZDx) Device Feed specification 4.2.
  - Battery should hold single charge for duration of project
    - Accomplished through battery swapping or charging in the field to keep the 'id' the same for each location marker.

- Clear distinguishability of the start location marker and set as ‘work zone start’
- Clear distinguishability of the end location marker and set as ‘work zone end’
- Ease of association in the WZDx Feed for ‘work zone start’ and ‘work zone end’
- Submit Work Zone Data Exchange Device feed link to DOTBTOWorkzone@dot.wi.gov.

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November 27, 2019

WisDOT MASH Implementation Plan

WisDOT supports ongoing efforts to increase the safety of roadside devices by installing and upgrading highway safety hardware that meets national standards. WisDOT participates in the Midwest Roadside Safety Facility (MwRSF) and TTI Roadside Safety Pooled Funds. The following details how WisDOT will meet the intent of the AASHTO/FHWA Joint Implementation Agreement for the AASHTO Manual for Assessing Safety Hardware (MASH) and corresponding supplemental information provided by the *Clarifications on Implementing MASH 2016 (aka MASH Q&A), Updated Nov 19, 2019*. WisDOT will continue to review the performance of existing roadside safety hardware and monitor current research, crash test results and new product development. WisDOT will install or replace devices damaged beyond repair with highway safety hardware that meets national standards and WisDOT's needs given project or regional conditions.

The following devices meet NCHRP 350 test criteria and will remain in service based on ongoing in field performance evaluations until a MASH 2016 compliant device becomes available that meets WisDOT's needs given project or regional considerations:

- Wood Sign Posts
- Channel Steel
- Tube Steel
- Work Zone Traffic Control Devices with Type A/Type C warning lights attached to them.
- Ramp Gates
- Traffic Signal Poles
- Light Poles

WisDOT is awaiting completion of MASH-2016 testing for channel and tube steel, the results of which may impact future use of these materials.

The type one sign design has been modified based on a MASH 2016 compliant design from Texas DOT. The Department has implemented this design for new installations or signs damaged beyond repair.

WisDOT is a member of the Midwest Work Zone Round Table which developed requirements to create consistency among Midwest states. Appendix A consists of the technical memo referencing these items.

Questions on the traffic operations MASH implementation plan or specific devices should be directed to the Bureau of Traffic Operations in DTSD at DOTSignMarkWZMaterials@dot.wi.gov.

Appendix A

Midwest Work Zone Round Table Representatives from Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, Wisconsin.

Subject: Recommended MASH-16 implementation procedures/timeframes for Temporary Traffic Control Work Zone Devices

The installation of temporary traffic control devices used in work zones on state highways and roadways on the National Highway System shall be in accordance with the AASHTO MASH-16 requirements.

The development of this implementation plan is in response to the AASHTO/FHWA Joint Implementation Agreement for Manual for Assessing Safety Hardware (MASH). This implementation procedure is concurrent with the one governing the use of the permanent hardware devices on the National Highway System as well as the state-owned highways. As such, the Midwest Work Zone Round Table developed the below recommendations for the implementation of MASH-16 requirements for Temporary Traffic Control Work Zone Devices to be included in the Member States DOT MASH implementation plan.

Temporary Traffic Control Work Zone Devices

It is recommended that the State DOT recognizes and adopts the categorization of temporary traffic control work zone devices as established in NCHRP 350, as follows:

Category 1: Includes small and lightweight channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These devices include but are not limited to: cones, tubular markers, flexible delineator posts, and plastic drums without attachments.

Category 2: Includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. (i.e. Category 1 devices with attachments, Barricades, Portable Sign Supports, Vertical Panels)

Category 3: Includes hardware that is expected to cause significant velocity change or other potentially harmful reactions to impacting vehicles. (i.e. Barriers, fixed sign supports, crash cushions, and other work-zone devices not meeting the definitions of Category 1 or 2 are examples from this category)

Category 4: Includes portable or trailer-mounted devices such as flashing arrow panels, temporary traffic signals, area lighting supports, temporary data collection devices, smart work zone devices and portable changeable message signs.

Category 1 Temporary Traffic Control Work Zone Devices

The Midwest Work Zone Roundtable recommends that:

- Category 1 devices are “self-certified” by each Manufacturer and no testing of these devices is required to meet MASH-16 requirements. These devices may be allowed for use based on the developer’s self-certification subject to approval by the individual highway agencies.

Category 2 Temporary Traffic Control Work Zone Devices

The Midwest Work Zone Roundtable recommends that:

- Category 2 Temporary traffic control devices manufactured on or after January 1, 2020 must meet MASH-16 crash standards.
- Category 2 devices manufactured before January 1, 2020 may be used through January 1, 2025 provided they meet the requirements of the Standard Specifications and are approved and accepted for use by the Engineer.

Category 3 Temporary Traffic Control Work Zone Devices

The Midwest Work Zone Roundtable recommends that:

- Category 3 temporary traffic control devices manufactured on or after January 1, 2020 must meet MASH-16 standards.
- Category 3 devices manufactured before this date may be used through January 1, 2030 provided they meet the requirements of the Standard Specifications and are approved and accepted for use by the Engineer.

Category 4 Temporary Traffic Control Work Zone Devices

The FHWA previously exempted these devices from crash-testing under NCHRP Report 350 as the benefit of the use of these devices outweighs the risk exposure; however, the FHWA required that they should be shielded when possible, should be removed when not needed, and must be delineated when deployed. In the event further crash testing criteria for these devices is developed, the Midwest Work Zone Round Table recommends the implementation of such standards.