Approved Traffic Safety Barriers City of Santa Barbara

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|--|--|--|---------------------------------|----------------------------|-----------|--------------------------|
| | MASH TrafFix Water Wall | The MASH TrafFix Water Wall TL-1 is a longitudinal barrier designed to contain, redirect, and shield vehicles from roadside obstacles while providing positive protection and separation between the traveling public and the personnel in the work zone | Proprietary | B271 | Pass | Full-Scale Crash Testing |
| | <u>TrafFix Water Cable Barrier</u> with Water Wall Fence Panels | A barrier system consists of individual water filled modules with fence panels that are connected to adjacent water filled modules and fence panels creating a continuous barrier wall of unlimited maximum length with a minimum Length Of Need of 13 connected modules. Adjoining modules can rotate up to 30 degrees between the connection with or without the fence panels installed, allowing the barrier wall to contour to varving road curvature | Proprietary | B-311 | Pass | Full-Scale Crash Testing |
| | <u>Defender Barrier™ 70</u> | The Defender Barrier [™] 70 is an unanchored Test Level 2 longitudinal steel temporary barrier system. Each barrier measures 3960mm (155.9") long x 800mm (31.4") high x 680mm (26.7") wide and have a dry weight of 320kg (705 .6lbs). | Proprietary | B287 | Pass | Full-Scale Crash Testing |
| | Zoneguard [®] Portable Barrier | The test installation consisted of five barrier units, each unit nominally 50 ft in length, for a total length of approximately 250 ft. Each 50 ft long barrier unit was comprised of three sections (a male end section, a central section, and a female end section).Each barrier section was16 ft. 8 in long and 31½ inch tall (without rubber pads) with a 27-9/16-in wide sloped base. The Zoneguard®barrier was installed on a 3-in thick asphalt pad with the traffic side edge of the base 8 in from, and parallel to, the edge of the existing concrete apron. | Proprietary | B-343 | Pass | Full-Scale Crash Testing |
| | <u>RB805_12</u> | The vehicle restraint system with the system name REBLOC RB80S_12 consists of factory produced precast elements, each element is 12.00m long, 0.30m wide and 0.80m high. The precast concrete elements have a cross section similar to an I-beam profile. | Yet to be updated | B-301 | Pass | Full-Scale Crash Testing |
| Control with 1 Data and with the part which the first wanted ins 1 Data and with the part which the the control wat CP provided by the sponsor CP provided by the spon | Zoneguard [®] Portable Barrier | The Zoneguard barrier was installed on a 3-inch thick asphalt pad with the traffic side edge of the base 8 inches from, and parallel to, the edge of the existing concrete apron. The barrier was secured to the asphalt pad with 1 ¼-inch diameter x 20-inch long pins every 33 ft-4 inches on center, with exception at each end of the installation. | Proprietary | B-320 | Pass | Full-Scale Crash Testing |
| | <u>Defender Barrier 100 LDS</u> | Barrier segments are manufactured from 0235B grade steel with a nominal 3.0mm wall thickness. Each barrier measures 3960mm (155.9"") long x 800mm (31.4"") high x 680mm (26.7"") wide and have a dry weight of 303kg (668.1 lbs). Each of the steel barriers connect together via interlocking flanges and a steel galvanized connecting pin at each end. The installed length of each barrier segment is 3900mm (153.S"").The two lifting points for the barrier are approximately 1350mm (53.15"") apart | Proprietary | B-298 | Pass | Full-Scale Crash Testing |
| | QuickChange Moveable Barrier Concrete Reactive Tension System - Fiber Series (QMB-CRTS-F) | 178 free-standing concrete bamer segments 37 inches (940 mm) long x 32'/4 inches (822 mm) tao plus tv.o vartable length banier(VLB) connected by steel pins | Proprietary | B-315 | Pass | Full-Scale Crash Testing |
| | BarrierGuard 800 | A steel barrier formed from two step profile, thin gauge sheets of steel being welded together to form a long hollow section. | Proprietary | B280 | Pass | Full-Scale Crash Testing |
| | <u>31.8" Tall 12" J-J Hooks Free</u> <u>Standing 19-8 1/4ft Barrier</u> | 31.8 " tall J-J Hooks F shape free standing barrier system, consists of 11 barrier lengths of 6000 mm (19'-8 ¼"ft.) Long, utilizing reinforcing bars connecting the proprietary connector plates at each end, connected together via proprietary with 12" connector plate connector plates. | Proprietary | B307 | Pass | Full-Scale Crash Testing |
| | <u>BarrierGuard 800 MASH TL-3</u> <u>Standard</u> | BarrierGuard 800 is 0.80 m (31.5 in) high and 0.54 m (21.3 in) wide without anchor units or 0.70 m (27.6 in) with anchor units. The weight is approximately 90 kg/m or 620bs/ft. For the MASH TL-3 standard setup, 12 standard sections were lined up on asphalt, forming a 72.0 m (236 ft) string. Joining of the sections is done by linking them together and applying one security bolt per section to keep the sections securely fastened. If desired, two or three sections can remain connected permanently to form 12.0 m (472 in) or 18.0 m (709 in) combined sections for quicker placement on the road. | Proprietary | B303 | Pass | Full-Scale Crash Testing |
| | BarrierGuard 800 MASH TL-3 Standard Minimum Deflection | BarrierGuard 800 is 0.80 m (31.5 in) high (0.916 m (3 ft) including Hop) and 0.54 m (21.3 in) wide without anchor units or 0.70 m (27.6 in) with anchor units. The weight is approximately 126 kg/m or 84 lbs/ft. For the MASH TL-3 Minimum Deflection setup, four (4) different types of barrier sections were lined up on asphalt, forming a 42.0 m (137.8 ft) string. | | B302 | Pass | Full-Scale Crash Testing |
| | <u>J-J Hooks® MASH Free-</u> <u>Standing Barrier</u> | J-J Hooks® MASH Free-Standing Barrier is an F-shape, precast median temporary concrete barrier with J-J Hooks connections. Each barrier segment is 12 ft long, 32 inches tall, and 24 inches wide at the base, tapering to 9 inches wide at the top with symmetrical lower and upper slopes on both faces. | Proprietary | B300 | Pass | Full-Scale Crash Testing |

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| ACTIVATE ACTIVATION | RTS Guard | The RTS Guard is comprised of a polyethylene segment measuring approximately 11 3/8 in (0.3m) wide, 35 1 /2 in (0.9m) long and 1 O 3/16 in (0.3m) tall. The segment is fastened to the tops of concrete or steel barriers using concrete anchors or hardware. The RTS Guard may be applied to the QuickChange Moveable Barrier Concrete Reactive Tension System (QMB-CRTS) or similar barrier systems. | Proprietary | B299 | Pass | Full-Scale Crash Testing |
| | <u>Defender Barrier 100 FS</u> | The Defender Barrier [™] 100 FS (Free Standing) is an unanchored Test Level 3 longitudinal steel temporary. Each barrier measures 3960mm (155.9") long x 800mm (31.4") high x 680mm (26.7") wide and have a dry weight of 320kg (705.61bs). | Proprietary | B296 | Pass | Full-Scale Crash Testing |
| | <u>QuickChange Moveable</u> <u>Barrier Steel Reactive</u> <u>Tension System</u> | The Steel Reactive Tension Quickchange® Movable Barrier System (SRTS) is an unanchored longitudinal barrier capable of rapid lateral transfer by a transfer vehicle. It is designed to meet the rigid requirements of deployment in movable barrier applications where positive separation is required and where lane widths and lateral space are limited. | Proprietary | B304 | Pass | Full-Scale Crash Testing |
| | SafeZone MASH TL-3 Limited | SafeZone system is a proprietary modular high containment and low deflection steel barrier developed by Laura Metaal Road Safety. It is designed for both permanent and temporary use in construction and roadwork applications. | Proprietary | B292 | Pass | Full-Scale Crash Testing |
| | J-J Hooks Bolt Down F-Shape Barrier for Concrete Surface | J-J Hooks Bolt Down F-Shape Barrier for Concrete Surface | Proprietary | B-52b | Pass | Testing + Engineering Analysis |
| | <u>Retrofit, Low-Deflection</u> <u>Portable Concrete Barrier</u> <u>Version 1</u> | 32" tall, 12.5ft long section length, low-deflection TCB | Non-proprietary | B255 | Pass | Testing + Engineering Analysis |
| L.C.LUN | Wedge Anchored Studs | 31-inch tall Indiana anchored TCB with wedge anchored studs; 31-inch TCB with Wedge Anchored Studs and modified top connection is also avaliable | Non-proprietary | B258 | Pass | Testing + Engineering Analysis |
| | <u>18-Inch Wide QuickChange</u> <u>Moveable Barrier Concrete</u> <u>Reactive Tension System</u> | 39 inch long, 18 inch wide barrier segments. Steel variable length barriers are used in conjunction with the concrete segments. | Proprietary | B277 | Pass | Full-Scale Crash Testing |
| | <u>Zoneguard™ - Asphalt</u> | Anchored in asphalt every 50'-0". | Proprietary | B176B | Pass | Testing + Engineering Analysis |
| Statement of the state of the state | <u>Retrofit, Low-Deflection</u> <u>Portable Concrete Barrier</u> <u>Version 2</u> | Modified 32" tall, 12.5ft long section length, low-deflection TCB | Non-proprietary | B255A | Pass | Testing + Engineering Analysis |
| | <u>TL-3 Upstream Anchorage for</u> <u>F-shape Temporary Concrete</u> <u>Barrier</u> | Precast Kansas F-Shape Barrier | Non-proprietary | B221 | Pass | Testing + Engineering Analysis |
| | Retrofit, Low-Deflection Portable Concrete Barrier Version 1 | Stiffened Temporary Concrete Barrier | Non-proprietary | B255 | Pass | Testing + Engineering Analysis |
| | <u>Portable Concrete Barrier</u> (PCB) Deflection Reducing <u>Retrofit</u> | J-J Hook Temporary Concrete Barrier w/Retrofit | Proprietary | B251 | Pass | Testing + Engineering Analysis |
| K | <u>12-Foot T-LOC F-Shape</u> Portable Concrete Barrier | Rockingham Precast T-LOC barrier | Proprietary | B42B | Pass | Full-Scale Crash Testing |

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| | Zoneguard™ - Concrete | Anchored in concrete at ends. | Proprietary | B176C | Pass | Testing + Engineering Analysis |
| | Zoneguard™ (Standard and Minimum Deflection Arrangements) | Anchored in concrete every 33'-4" and at ends. | Proprietary | B176A | Pass | Full-Scale Crash Testing |
| | <u>F-Shape Concrete Traffic</u> <u>Barrier with Quick-Bolt</u> <u>Connection</u> | Portable Concrete Barrier with Quick Bolt Connection, F-Shaped Barrier | Proprietary | B190 | Pass | Testing + Engineering Analysis |
| | <u>Delta Block DB 80</u> | Connected with tension link that consists of 2 Y-profile hooks and the connecting K150 coupling | Proprietary | B233 | Pass | Full-Scale Crash Testing |
| | <u>Free Standing Temporary</u> <u>Barrier</u> | F-Shape Free standing with pin and loop connection | Non-proprietary | B215 | Pass | Testing + Engineering Analysis |
| | <u>J-J Hooks Bolt Down F-Shape</u> <u>Barrier</u> | F-Shape bolt-down barrier system | Proprietary | B52-B | Pass | Testing + Engineering Analysis |
| | <u>J-J Hooks Pin Down F-Shape</u> <u>Barrier</u> | F-Shape PCB pinned to 2-in deep asphalt pad | Proprietary | B52-C | Pass | Testing + Engineering Analysis |

Conti Half Shape Concrete

| | <u>Conti Half Shape Concrete</u> <u>Bridge Rail</u> | Half-shape NJ pre-cast steel reinforced concrete barrier | Proprietary | B226 | Pass | Full-Scale Crash Testing |
|----------------------------|--|--|-----------------|-------|------|-----------------------------------|
| | <u>32 inch tall stiffened New</u> York State PCB | Unanchored temporary concrete barrier with box beam stiffener | Non-proprietary | B239 | Pass | Testing + Engineering Analysis |
| 1 milion | <u>Free Standing Temporary</u> <u>Barrier</u> | F-Shape free standing with pin and loop connection | Non-proprietary | B215 | Pass | Testing + Engineering Analysis |
| | <u>HighwayGuard LDS TL-4</u> | HighwayGuard is a steel barrier formed from two profiled, thin gauge sheets being welded together along the join at the top, and to feet at the base, to form a long hollow section, the overall dimensions of each barrier section is 540mm wide at the base, 250mm wide at the top, 800mm high and 6,000mm long | | B-331 | Pass | Full-Scale Crash Testing |
| tive Barrier Length 3900mm | <u>Defender Barrier 100 HC</u> | Barrier segments are manufactured from Q235B grade steel with a nominal 3.0mm wall thickness. Each barrier measures 3960mm (155.9"") long x 800mm (31.4"") high x 680mm (26.7"") wide and have a dry weight of 303kg (668.1 lbs). Each of the steel barriers connect together via interlocking flanges and a steel galvanized connecting pin at each end. The installed length of each barrier segment is 3900mm (153.5"").The two lifting points for the barrier are approximately 1350mm (53.15"") apart | | B-297 | Pass | Full-Scale Crash Testing |
| | <u>HV2 Barrier</u> | The HV2 Steel Barrier was a free-standing barrier and was designed and tested at TL4 and TL-3 impact speeds and can be used for lower speed applications. Each barrier section is 5.8 m (19 ft-% inch) in length connected with proprietary dual finger-and-knuckle connector welded into the ends. | Proprietary | B308 | Pass | Full-Scale Crash Testing |

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proprietaryFHWA Eligibility
LetterPass/FailEvaluationSafeZone MASH TL-4 LimitedSafeZone is 0.81 m (32") high and 0.45 m (18") wide without anchor
units or 0.64 m (25") with anchor units. The weight is approximately 93
kg/m or 621bs/ft. It is designed for both permanent and temporary use
in construction and roadwork applications.ProprietaryB294PassFull-Scale Crash Testing