
J. A. McDONALD, INC.

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IRASBURG STP CULV(30)

TRAFFIC CONTROL PLAN Rev. 1.0

J. A. McDonald, Inc. has been awarded a contract by the State of Vermont to replace two 96" CGMP culverts on VT Route 58 in Irasburg, VT. This work will require that traffic be restricted to alternating one-way traffic to allow for phased installation of the precast box culverts. Traffic will be controlled by temporary/portable traffic signals for the duration of Stage II (culvert installation). During Stage I and III alternating one-way traffic will be controlled with flaggers during day construction and returned to normal two-way traffic during non-work hours. Traffic Control Notes on plan sheet 4 and Traffic Control Plan sheets 18 and 39 of 55, VT AOT "T" Standards and the Manual on Uniform Traffic Control Devices (MUTCD) are referenced and incorporated into this site specific plan. Stage construction as noted below is applicable to both sites (BR6 & BR7) unless otherwise noted.

STAGE I:

Construction activities include: EPSC measures (demarcation/barrier/silt fence), temporary access road & staging areas, temporary relocation of stream, clearing and grubbing, guardrail removal/temporary barrier, pavement removal, initial Stage I excavation at BR6 (to Elev. 850), Phase I Detour/roadway widening.... Prior to Stage I work, Construction Approach signs will be erected as shown on Vermont AOT Standard Sheet T-10. Alternating one-way traffic controlled with flaggers will require additional temporary signage per MUTCD Typical Application 10. Signs required for Stage II Construction (Box Culvert Installation) are as shown on Sheets 18 and 39 of 55 and will also be erected and covered.

Stage I work is anticipated to last one to two weeks. Portable traffic signals will be located as shown on Sheet 14 and 35 of 55 and ready to be activated when needed.

STAGE II:

Construction activities include: maintenance of EPSC, construction access and staging areas, and temporary stream relocation/dewatering installed in Stage I; removal of structure, excavation, installation and backfilling of proposed precast concrete box culverts. Stage II is further broken down into Phase I & II construction.

In the initial phase (Phase I), portions of the existing CGMP is removed and the proposed outlet cutoff wall, wingwalls/mitered end section and box sections are installed and backfilled. Following the installation of the fifth box section (BR7) and the sixth box section (BR6) concrete blocks will be installed to allow for the installation of an additional box section at each culvert location. The setting of blocks and installation of the additional box section will occur in the same day. Alternating one-way

traffic with temporary/portable signals will control traffic on the temporary Phase I detour on the north side (BR6) and south side (BR7) of Route 58 constructed in Stage I. In Phase II, the Phase I detour is removed and the remaining box culvert is installed and backfilled. Alternating one-way traffic will be maintained with portable traffic signals on the previously installed Phase I portion. Refer to stream profile plan sheets 16 and 37 of 55.

Signs installed in Stage I will be uncovered and portable traffic signals at the locations shown on Sheets 14 and 35 of 55 will be activated.. At the conclusion of Phase I, flaggers will be used to control traffic while the barriers are relocated to the Phase II configuration. At the conclusion of Phase II, traffic will return to normal two way with alternating one-way traffic during the work day.

STAGE III:

Construction activities include remaining stone fill at inlet/outlet, placement of the stream bed material within the culvert, subbase, guardrail installation, cold plan/pavement, line stripping, removal of EPSC and stream relocation measures. Alternating one-way traffic will be controlled with flaggers and temporary signage per MUTCD Typical Application 10.

7CP3

IRASBURG STP CULV(30) - Signal Phasing Diagram

5/15/2015

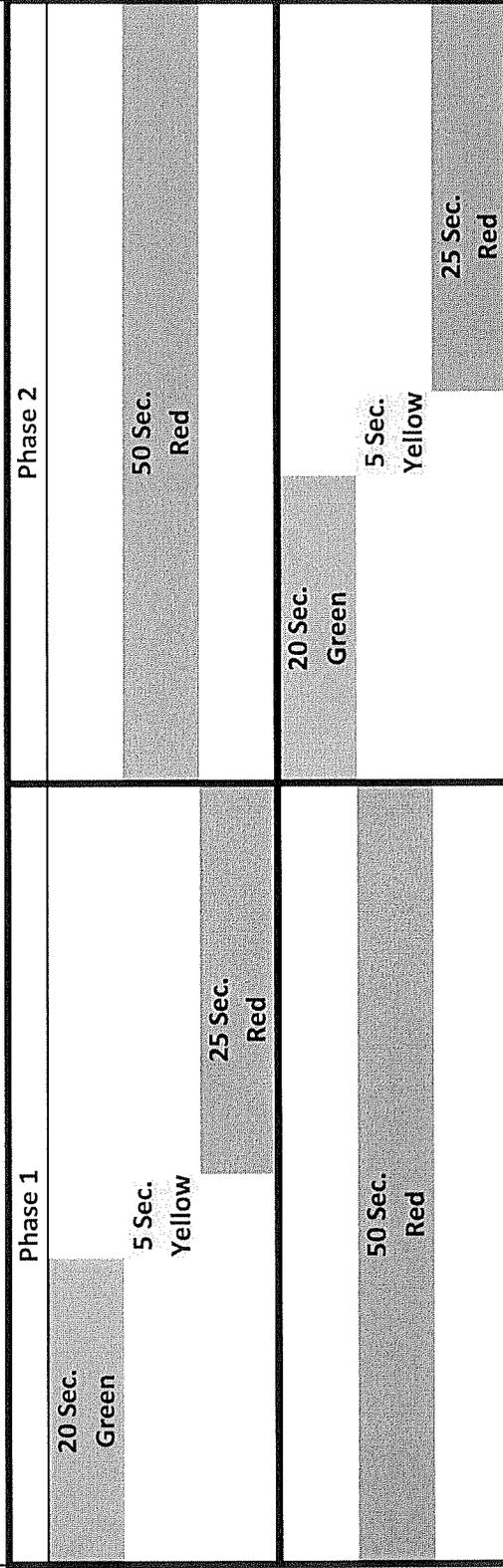
J.A. McDonald, Inc.

Stop Light
Phase 2

Work Zone
Concrete Barrier

Stop Light
Phase 1

Distance Between Lights = Approx. 300 LF
Avg. Travel speed through zone = 10 MPH

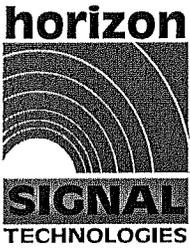


Traffic Signal
Unit #1

Traffic Signal
Unit #2

Signal Cycle
1 Minutes 40 Seconds

TCP#4



SQ3TS[®] System

OR EQUAL

PORTABLE TRAFFIC SIGNAL SYSTEMS



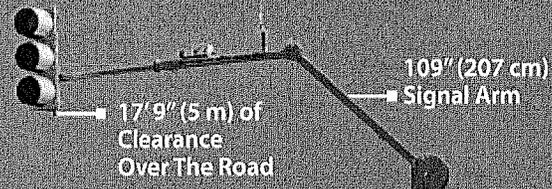
TRAILER TOWABLE PORTABLE TRAFFIC SIGNAL WITH SOLAR ASSIST

The SQ3TS Portable Traffic Signal System combines fast efficient setup with highly reliable performance. The multitude of modular add-on components makes the SQ3TS the most versatile portable traffic signal system available today. The SQ3TS is the smart choice for a wide variety of short and long term traffic control applications. From a simple one lane bridge repair project to complete intersection control, the SQ3TS has the attributes to provide safe efficient traffic control.

SQ3TS® System

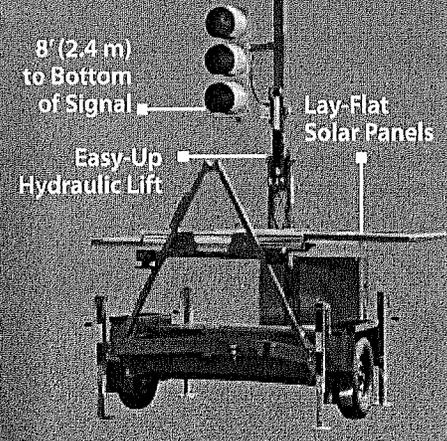
SPECIFICATIONS

Signal Lamp	12" (300 mm) diameter LED
Signal Arm Extension	68 to 109" (173 to 277 cm)
Solar Charge	440W min
Power Source	12V / (16) 6V batteries
Tow Height	89" (226 cm)
Trailer Width	85" (216 cm)
Trailer Weight	3000 lb. (1361 kg)



SQ3TS SYSTEM FEATURES

- Bulletproof 900 MHz radio communication
- True green time extensions
- Conflict monitoring
- Fast efficient setup
- Tandem tow signal trailers
- Highly visible 12" (30.5 cm) LED lights
- Adjustable overhead mast arm
- 180° rotating signal heads
- Fixed time, traffic actuated and manual operation options
- Controls up to seven traffic phases with eight signals
- Battery powered with solar & 110 volt charging

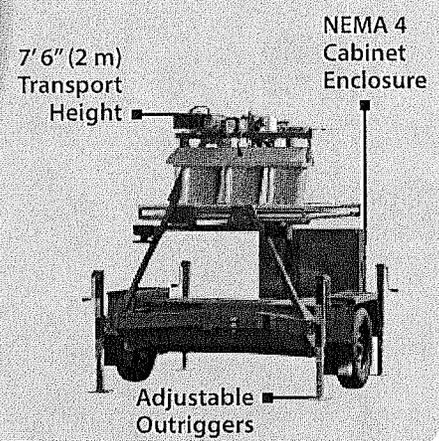


AVAILABLE OPTIONS

- GPS Monitoring** Provides information on location, operating status, battery voltage, etc.
- Interface Module** Allows signal to operate in conjunction with a standard street corner control cabinet.
- Pre-emption System** Recognizes emergency vehicles and changes signal status as programmed.
- Back Plates** Provide an additional background around the signal head to enhance visibility.
- Traffic Actuators** Facilitates traffic actuation via motion sensor or true presence video detection.
- Flagger/Pilot Car Module** Allows flagger or pilot car driver to control signal status with built in safeguards.
- Work Zone Light** Provides visual signal status inside a work zone.

EASY TO DEPLOY

The SQ3TS Portable Traffic Signal is equipped with a one-touch, easy-up hydraulic lifting system to make deployments simple.



DISTRIBUTED BY



General specifications for the SQ3TS® System are subject to change without notice to reflect improvements and upgrades. Additional information is available. Contact Horizon Signal Technologies for details.

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TRITON[®] TL-2 BARRIER

EASY TO DEPLOY STEEL REINFORCED PORTABLE BARRIER



OVERVIEW

The Triton Barrier[®] is a highly portable, water-filled barrier that is ideal for use where time and space are limited. It consists of a number of interlocking, 2 m (6.5 ft) barrier sections made of polyethylene plastic and an internal steel framework.

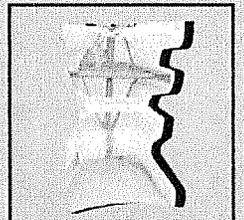
The Triton Barrier's performance exceeds NCHRP TL-2, 70 km/h (45 mph). The FHWA has issued a letter accepting that the Triton Barrier's performance exceeds NCHRP 350, Test Level 2 criteria and can be considered for 100 km/h (62 mph) applications at angles up to 15 degrees for passenger vehicles and lightweight pickup trucks.

CERTIFIED AS OWN END TREATMENT

The Triton Barrier is certified as its own end treatment, saving deployment time and hardware expenses. The last ten sections of Triton Barrier, when oriented properly in relation to traffic and according to the end treatment instructions provided by Energy Absorption Systems, serve as the crashworthy end treatment for this barrier system. Contact Energy Absorption Systems for details.

FEATURES AND BENEFITS

- ▶ Provides positive, crashworthy protection for workers and equipment
- ▶ Absorbs collision energy and redirects errant vehicles — reduces severity of impact for motorists.
- ▶ Fast deployment — 183 m (600 feet) per hour with just three workers.
- ▶ Modular design allows use in varied lengths for both straight and curved applications.
- ▶ No cranes or heavy equipment required for deployment.
- ▶ Certified as its own end treatment.
- ▶ Transition hardware available for attachment to guardrail or concrete barrier.
- ▶ Factory installed internal steel framework — no additional assembly required.
- ▶ Effective in all weather conditions, even when frozen solid.



Steel reinforced, water-filled barrier sections absorb collision energy and redirect vehicles away from work crews.



**ENERGY ABSORPTION
SYSTEMS, INC.**

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SAVING LIVES BY DESIGN



EASY DEPLOYMENT & REMOVAL

The Triton Barrier, at its 65 kg (140 lb) empty weight, can be easily unloaded and positioned without cranes or heavy equipment. In fact, three workers can deploy over 183 m (600 ft) in just one hour! Deployment involves three simple steps: unload; position and pin; and fill with water using a water truck.



Unload (No cranes needed)



Position and pin.

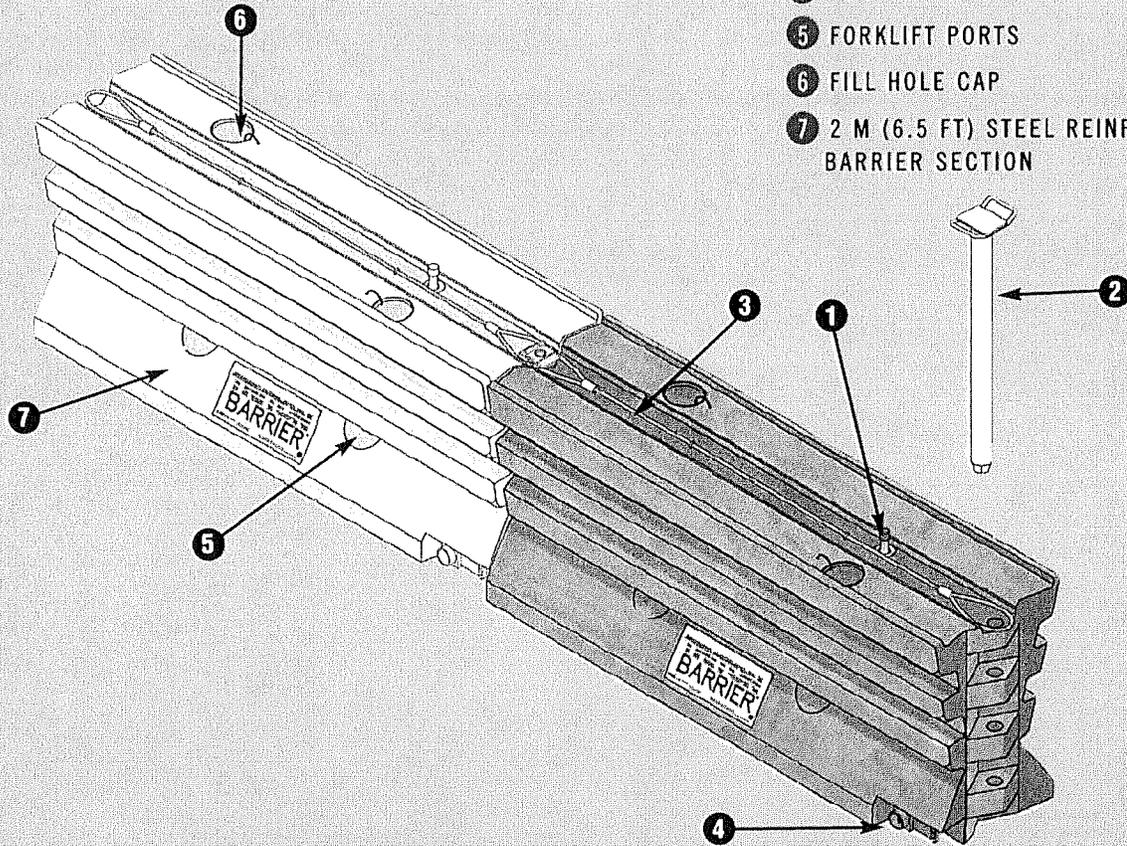


Fill using a water truck.

SPECIFICATIONS

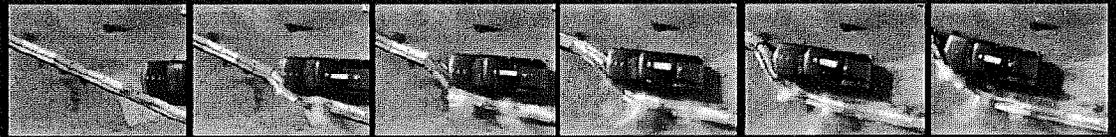
Length	2 m	(78")
Height	800 mm	(32")
Width	500 mm	(21")
Weight Empty	65 kg	(140 lb)
Weight With Water	610 kg	(1,350 lb)
Water Ballast	550 liters	(145 gallons)

- ① FILL LEVEL INDICATOR
- ② STEEL PIN
- ③ FACTORY INSTALLED TENSION CABLE
- ④ GATE VALVE DRAIN
- ⑤ FORKLIFT PORTS
- ⑥ FILL HOLE CAP
- ⑦ 2 M (6.5 FT) STEEL REINFORCED BARRIER SECTION

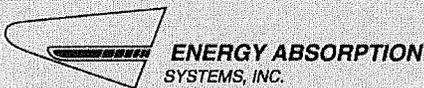
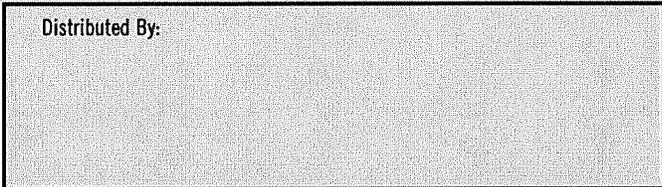


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General specifications for the Triton Barrier are subject to change without notice to reflect improvements and upgrades. Additional information is available in the Product Manual for this system. Contact Energy Absorption Systems for details.

Notes for Figure 6H-10—Typical Application 10 Lane Closure on a Two-Lane Road Using Flaggers

Option:

1. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).
2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short-duration operations.
3. Flashing warning lights and/or flags may be used to call attention to the advance warning signs. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

4. *The buffer space should be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.*

Standard:

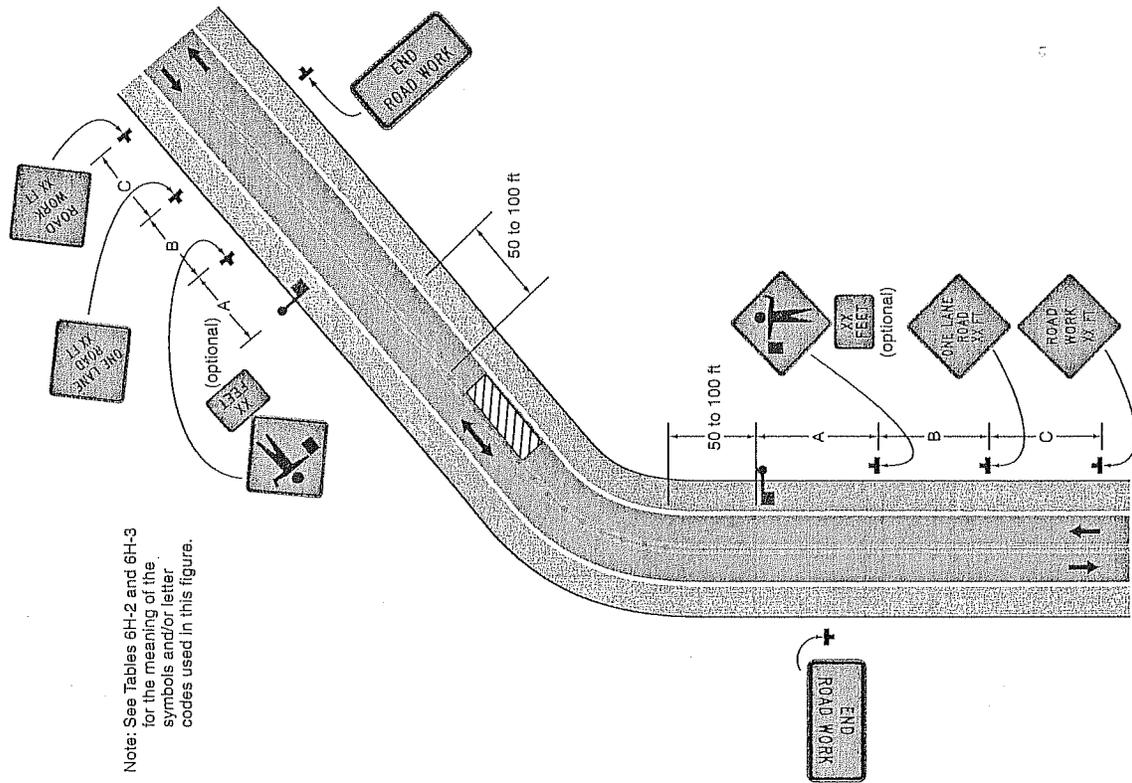
5. At night, flagger stations shall be illuminated, except in emergencies.
6. *When used, the BE PREPARED TO STOP sign should be located between the Flagger sign and the ONE LANE ROAD sign.*
7. *When a grade crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the grade crossing, the TTC zone should be extended so that the transition area precedes the grade crossing.*
8. *When a grade crossing equipped with active warning devices exists within the activity area, provisions should be made for keeping flaggers informed as to the activation status of these warning devices.*
9. *When a grade crossing exists within the activity area, drivers operating on the left-hand side of the normal center line should be provided with comparable warning devices as for drivers operating on the right-hand side of the normal center line.*
10. *Early coordination with the railroad company or light rail transit agency should occur before work starts.*

Option:

11. A flagger or a uniformed law enforcement officer may be used at the grade crossing to minimize the probability that vehicles are stopped within 15 feet of the grade crossing, measured from both sides of the outside rails.

TRP B
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Figure 6H-10. Lane Closure on a Two-Lane Road Using Flaggers (TA-10)



Typical Application 10