



# Bureau of Materials Materials Approval Procedures

MAP Number: **129-19**

Effective Date: June 3, 2019

Approved By: Edward M. Inman

## PROCEDURE FOR APPROVAL OF INERTIAL BARRIER SYSTEMS

### **PURPOSE:**

To establish a procedure to approve inertial barrier systems (sand barrel type crash cushions) for addition to the NJDOT Bureau of Material's Qualified Products List (QPL).

### **REFERENCES:**

*New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction*  
Section 611.02

MASH Report:

[https://safety.fhwa.dot.gov/roadway\\_dept/countermeasures/reduce\\_crash\\_severity/aashto\\_guidancecfm.cfm](https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/aashto_guidancecfm.cfm)

### **PROCEDURE:**

#### **A. Manufacturer's Request for Approval.**

The Manufacturer shall request in writing for the approval of the product. Include the following information in the request:

1. The name, address, and contact information for the manufacturer.
2. The name and designation of product to be evaluated.
3. Documentation of FHWA acceptance of the inertial barrier system, if issued by the FHWA.
4. Documentation of MASH, including crash test videos, and test level 2 (TL-2) & test level 3 (TL-3) results.
5. Four copies of detailed drawing and specification sheet for the inertial barrier system.
6. Four copies of the Manufacturer's recommendations for installation, maintenance and repair of the inertial barrier system.
7. An estimate of initial cost and repair costs for the inertial barrier system.

Mail the request for approval to the following:

#### **Mailing Address (USPS):**

Manager, Bureau of Materials (Thiokol Bldg. 4)  
New Jersey Department of Transportation  
P.O. Box 600  
Trenton, NJ 08625-0600

#### **Street Address (UPS, FedEx, etc.):**

Manager, Bureau of Materials (Thiokol Bldg. 4)  
New Jersey Department of Transportation  
930 Lower Ferry Road  
West Trenton, NJ 08628

**B. Bureau of Materials Review.**

The ME will review the submitted package for completeness and will verify that the submitted inertial barrier system was approved by comparison with the MASH website. If the package is incomplete or the inertial barrier system does not comply, the ME will notify the manufacturer.

**C. Departmental Review.**

If the ME determines that the package is complete, he will schedule a meeting for Departmental review of the inertial barrier system with representatives from:

- North, South, and Central Regional Maintenance Offices (RE's for each of the three Regional Beam Guide Rail and Attenuator Repair Contracts).
- Division of Highway and Traffic Design (Roadway Design - Group 1).
- Division of Bridge Engineering and Infrastructure Management (New Technologies and Products Unit).
- Division of Capital Program Support (Roadway Standards Unit).

The manufacturer's representative will be invited to this meeting to make a product presentation at the beginning of the meeting, then depart from the meeting.

The Departmental Review Team will consider the following information in their evaluation of an inertial barrier system:

1. Cost, ease, and frequency of maintenance.
2. Cost and ease of construction.
3. Design parameters and requirements (Does product have same parameters as other approved products on QPL such as module to module spacing and module to obstruction spacing).
4. The number of currently approved systems and the impact on the inventory of adding a new system.

The Departmental Review team will conclude at the meeting to either accept or reject the product.

**D. Product Approval/Rejection.**

The Departmental Review Team will determine the acceptability of the inertial barrier system. The ME will notify the manufacturer of the Department's decision.

If the Product is accepted, the Roadway Standards Unit will submit the following to the ME for the product to be listed on the "INERTIAL BARRIER SYSTEM, MASH QPL":

- Product Name
- Manufacturer/Supplier
- General Comments

The ME will have the product information shown above inserted into the "INERTIAL BARRIER SYSTEM, MASH QPL" on the following website:

<http://www.state.nj.us/transportation/eng/materials/qualified/QPLDB.shtm>.

The Roadway Standards Unit will write design guidelines for the inertial barrier system, if necessary, for inclusion in the Roadway Design Manual via a Baseline Document Change (BDC) memo.

**PROJECT ACCEPTANCE REQUIREMENTS:**

Qualification of a product and addition to the QPL does not constitute a blanket approval of the material. The Contractor for each proposed project must submit the product and source on a Materials Questionnaire as specified in Section 106. The ME will approve the product and source on a project to project basis based on the specifications for the project.

**DISQUALIFICATION:**

The ME may remove the product from the QPL for non-conformance with specification requirements or for a documented history of poor field performance. The manufacturer shall notify the ME, in writing, of any change in inertial barrier system configuration. Failure to notify the ME of changes in the product will result in disqualification. The Departmental Review Team may also disqualify a product to limit inventory control problems with a proliferation of inertial barrier systems.

**REQUALIFICATION:**

The ME will reevaluate a product which has been disqualified and removed from the QPL only after submission of a formal request along with acceptable evidence that the problems causing the disqualification have been resolved.

The ME may require the manufacturer to requalify the product for any of the following reasons:

1. To ensure that obsolete products are not kept on the list, the ME may request written confirmation from the manufacturer that the product is still available and has not changed design. Failure to respond to the Bureau's written request will result in the product being removed from the list.
2. If the design of the product has changed, the ME will require that the new design be requalified.
3. If the Department's standard specifications change or if the MASH criteria change, the ME may require requalification to ensure that the product meets the new specification.