U.S. Department
of Transportation
Federal Highway
Administration

400 Seventh St., S.W.
Washington, D.C. 20590

November 28, 2000

Refer to: HSA-1\HSA-B74

Mr. Richard Moore
Valley Rubber, L.L.C.
P.O. Box 1209
Hartselle, AL 35640-1209

Dear Mr. Moore:

In your October 13 letter to Mr. Richard Powers of my staff, you requested the Federal Highway Administration's (FHWA) acceptance of your Valley Rubber guardrail offset block for use with strong post, metal beam guardrail on the National Highway System (NHS).

You indicated that your blockout is produced from a proprietary blend of natural rubber and styrene butadiene rubber with 60 per cent recycled tire cord. The external dimensions of the Valley Rubber block, which is a hollow rectangular tube, are 114.3 mm x 158.8 mm x 355.6 mm (4.5 inches x 6.25 inches x 14 inches). The internal opening is 74.7 mm x 112.8 mm (2.9 inches x 4.4 inches) and the blockout includes a 6.35 mm (.25 inch) protrusion along one vertical edge to prevent the block from rotating about the steel post flange. These and other dimensions are shown in Enclosure 1.

Since your Valley Rubber blockout was not a solid block, we requested a full-scale test be ran in lieu of a pendulum test to demonstrate its impact performance. The results of this test were documented in a report dated October 2000, prepared by Mr. John F. LaTurner, Manager of E-TECH Testing Services, Inc. in Rocklin, California and entitled "NCHRP Report 350 Crash Test Results for the Valley Rubber Blockout." Enclosure 2 is a summary sheet of the results of the pickup truck test that was successfully conducted.

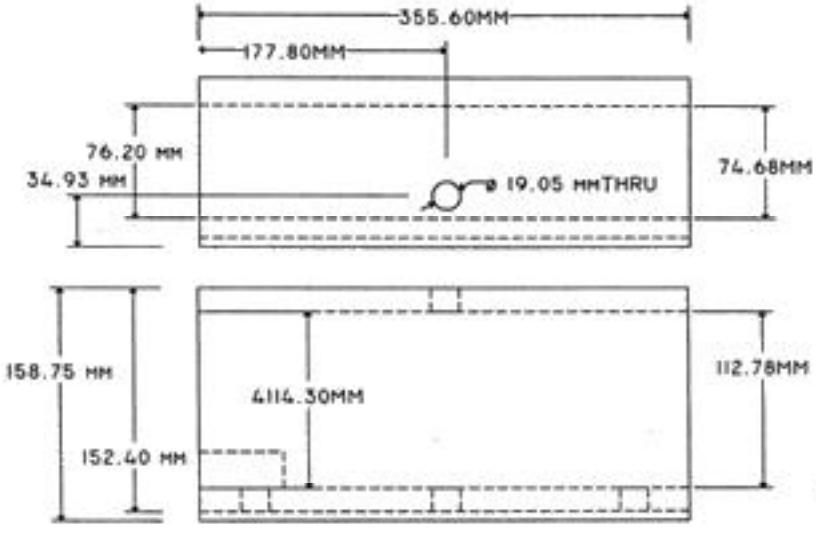
Based on our review of the information you provided, the Valley Rubber Guardrail Blockout is considered acceptable for use on the NHS with a strong steel post guardrail when molded to the same dimensions and composed of the same materials as the tested blocks. As with all other recycled blocks we have reviewed, this FHWA acceptance is based solely on the reported impact behavior of your product and does not address the long-term performance or durability of the

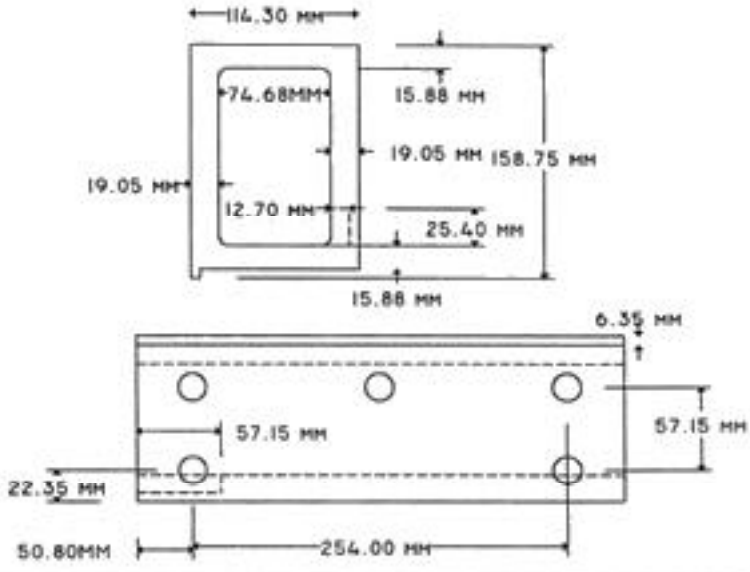
product. Since the Valley Rubber block is proprietary, its use on Federal-aid projects, except exempt, non-NHS projects, is subject to the conditions listed in Title 23, Code of Federal Regulations, Section 635.411. A copy of this regulation is enclosed for your ready reference. If you have any questions, please call Mr. Richard Powers at (202) 366-1320.

Sincerely yours,

Frederick G. Wright, Jr.
Program Manager, Safety

3 Enclosures

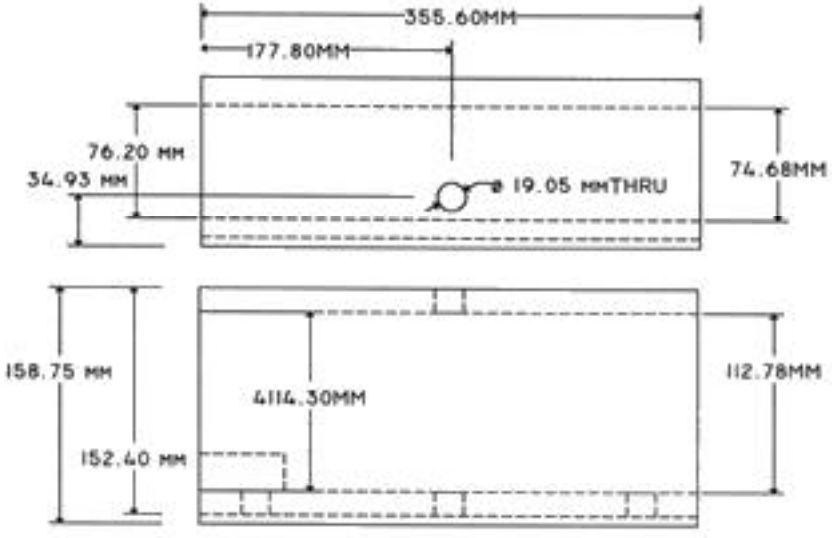


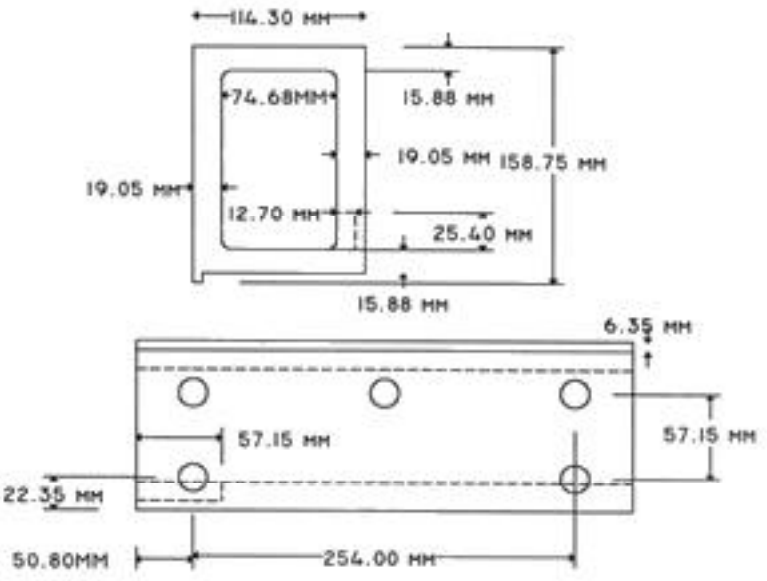


RUBBER TYPE
NATURAL RUBBER & STYRENE BUTADIENE RUBBER BLEND W/ 60% RECYCLED TIRE CORD

9-6-00
G-RAIL-II

CUSTOMER		PO#	SHOP #
		STEEL ORDERED:	
DWG STATUS		ORDER RECEIVED:	PART DESCRIPTION
DRAWN BY	DATE	STEEL THICKNESS:	
JASON D	9-6-00	RUBBER THICKNESS:	GUARD RAIL
DWG#		RUBBER TYPE:	
		HOLE SIZE:	
VALLEY RUBBER L.L.C. P.O.BOX 1209 HARTSELLE,AL. 35640-1209 HIGHWAY 31 N. FALKVILLE,AL. 35622 PHONE (256)784-5231 FAX (256) 784-5232		TOLERANCE: +0 / -1/6" LENGTHS + OR - 1/16" POSITION	CUSTOMER APPROVAL





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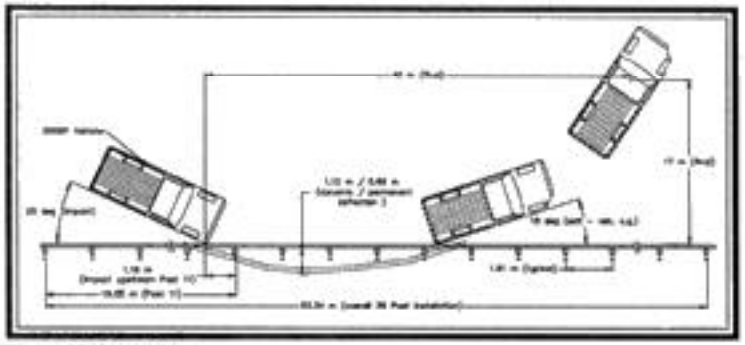
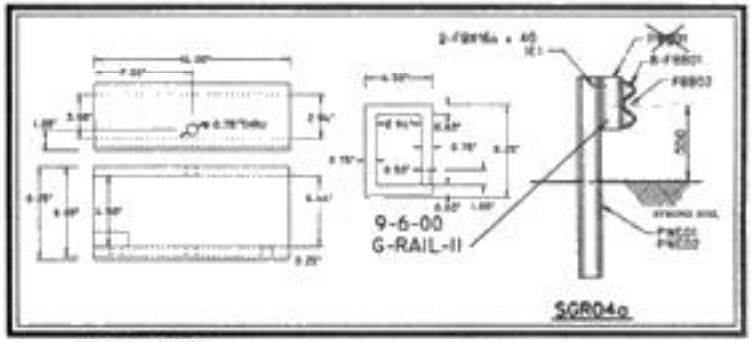
t = 0.000 sec | t = 0.180 sec | t = 0.360 sec | t = 0.540 sec | t = 0.720 sec | t = final





General Information

Test Agency	E-TECH Testing Services, Inc.
Test Designation	NCHRP 350 Test 3-11
Test No.	28-9857-001
Date	9/5/00

Test Article

Type	Valley Rubber, LLC.
	Recycled Rubber Guardrail
	Blockout in Strong Post
	W-Beam Guardrail
Installation Length	53.34 m Guardrail (overall)
Material and key elements	AASHTO SGR04a Guardrail with
	SEW02a End Terminal equipped
	with Valley blockouts of rubber
	and styrene butadiene blend with
	60% recycled tire cord
Foundation Type and Condition	NCHRP 350 Strong Soil, dry

Test Vehicle

Type	Production Model
Designation	2000P
Model	1988 GMC C2500
	3/4 Ton Pickup
Mass (kg)	
Curb	1966
Test inertial	1999

Impact Conditions

Speed (km/h)	100.4
Angle (deg)	25
Impact Severity (kJ)	138.7

Exit conditions

Speed (km/h)	63.0
Angle (deg - veh. c.g.)	18

Occupant Risk Values

Impact Velocity (m/s)	
x-direction	4.8
y-direction	-4.3
Ridedown Acceleration (g's)	
x-direction	-8.1
y-direction	-7.9

European Committee for Normalization (CEN) Values

THIV (m/s)	6.2
PHD (g's)	10.3
ASI	0.6

Test Article Deflections (m)

Dynamic	1.12
Permanent	0.69

Vehicle Damage

Exterior	
VDS	RFQ-3
CDC	01RFYW2
Interior	
OCDI	AS0000000

Post-Impact Vehicular Behavior (deg - rate gyro)

Maximum Roll Angle	25.7
Maximum Pitch Angle	-18.4
Maximum Yaw Angle	-50.9

Figure 1. Summary of Results - Valley Rubber Blockout Test 28-9857-001

Sec. 635.411 Material or product selection.

(a) Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

(1) Such patented or proprietary item is purchased or obtained through competitive bidding with equallysuitable unpatented items; or

(2) The State highway agency certifies either that such patented or proprietary item is essential for synchronization with existing highway facilities, or that no equally suitable alternate exists; or

(3) Such patented or proprietary item is used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes.

(b) When there is available for purchase more than one nonpatented, nonproprietary material, semifinished or finished article or product that will fulfillthe requirements for an item of work of a project and these available materials or products are judged to be of satisfactory quality and equally acceptable on the basis of engineering analysis and the anticipated prices for the related item(s) of work are estimated to be approximately the same, the PS&E for the project shall either contain or include by reference the specifications for each such material or product that is considered acceptable for incorporation in the work. If the State highway agency wishes to substitute some other acceptable material or product for the material or product designated by the successful bidder or bid as the lowest alternate, and such substitution results in an increase in costs, there will not be Federal-aid participation in any increase in costs.

(c) A State highway agency may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest. When the Division Administrator's approval is not obtained, the item will be nonparticipating unless bidding procedures are used that establish the unit price of each acceptable alternative. In this case Federal-aid participation will be based on the lowest price so establislhed.

(d) Appendix A sets forth the FHWA requirements regarding (1) the specification of alternative types of culvert pipes, and (2) the number and types of such alternatives which must be set forth in thespecifications for various types of drainage installations.

(e) Reference in specifications and on plans to single trade name materials will not be approved on Federal-aid contracts.