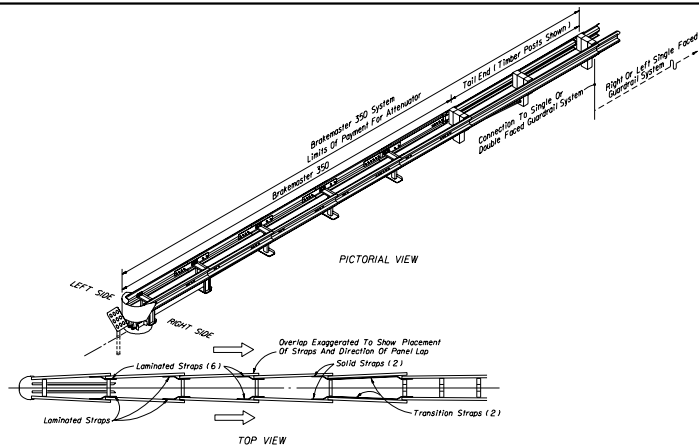


BIDIRECTIONAL SYSTEM

GENERAL NOTES

1. The energy absorbing system represented on this standard drawing is a proprietary design by Energy Absorption Systems, Inc. and marketed under the trade name Brakemaster 350. Any infringement on the rights of the designer shall be the sole responsibility of the user.
2. This standard drawing is produced by the Florida Department of Transportation solely for use by the Department and its assignees. This standard drawing provides the general information and graphics necessary to field identify component parts of the Brakemaster 350 system and their incorporation into a whole system.
3. This standard drawing is sufficient for plan details for the Brakemaster 350 system installed in connection with standard single and double faced W-beam guardrail systems, and precludes the requirement for shop drawing submittals unless the plans otherwise call for such submittals.
4. The Brakemaster 350 system shall be assembled and installed in accordance with the manufacturer's detailed drawings, procedures and specifications.
5. The Brakemaster 350 system is suitable for speeds ≤ 60 mph.
6. The Brakemaster 350 system shall be located on slopes of 1:10 or flatter and not closer than 11' to any traffic lane.
7. The 'tail end' section represented on this drawing applies to connections with single and double faced guardrail. Where the Brakemaster 350 system is installed in conjunction with safety shaped or vertical faced barrier walls or other rigid structures, a special transitional guardrail section between the Brakemaster 350 and wall or structure shall be as detailed on index No. 410 or as approved by shop drawings.
8. Metallic components shall meet the galvanizing requirements for guardrail, index No. 400.
9. A yellow Type I Object Marker shall be centered 3' in front of the nose of the Brakemaster 350 system. Mounting hardware shall be in conformance with index No. 11650 and 11655. The cost of the Object Marker shall be included in the cost of the BRAKEMASTER 350.
10. The Brakemaster 350 system will be paid for under the contract unit price for Impact Attenuator Vehicular (Brakemaster), EA.



UNIDIRECTIONAL SYSTEM

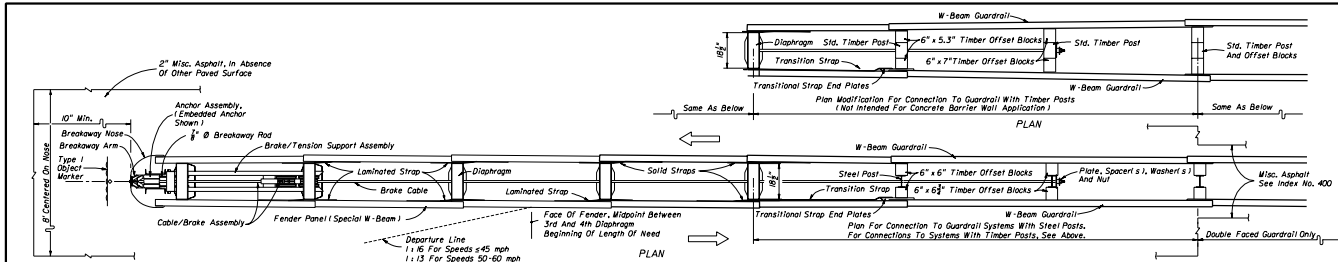
DESIGN NOTES AND GUIDELINES

1. The Brakemaster 350 system is designed to cushion automobile end-on hits and to redirect automobiles from side hits when impacting at speeds up to and including 60 mph. The Brakemaster 350 system has a singular design for all speeds of 60 mph or less, and any adjustment to its design will not be permitted except as authorized by the manufacturer.
2. The Brakemaster 350 system is specially designed to shield both narrow hazards and the ends of other fixed barriers located in low frequency impact areas. The Brakemaster 350 system is not intended for use in gorges of freeways and expressway mainline ramp terminals; gorges of roadway forks and other gore locations where there is a history of high frequency vehicle departures from the roadway or the potential exists for such departures. The Brakemaster 350 system is not a restorable design and therefore requires complete replacement after having sustained either an end-on or a side vehicular impact. Deformed side rail elements of the Brakemaster 350 will be subfunctional and are to be replaced immediately; deformed elements are not to be refurbished for reuse. When replacing an impacted Brakemaster 350 system the cable/break assembly is not to be reused, if the cable sleeve is exposed. After vehicle impact on the Brakemaster 350 system the cable/break assembly can be returned to the manufacturer for credit toward replacement of the cable.
3. Currently the Department does not recognize other proprietary items as being equally suitable alternatives to the Brakemaster 350, and until such alternatives are available, the Brakemaster 350 need not be bid against other proprietary items.

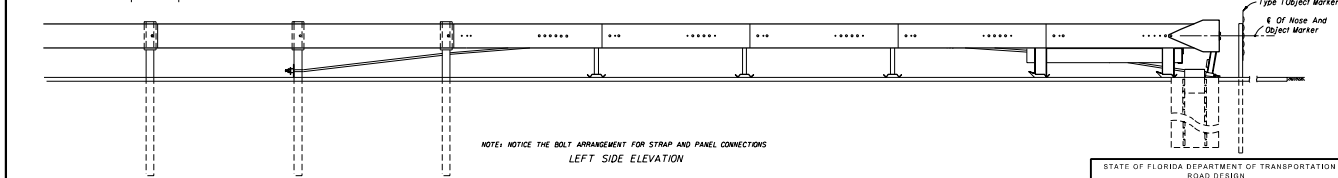
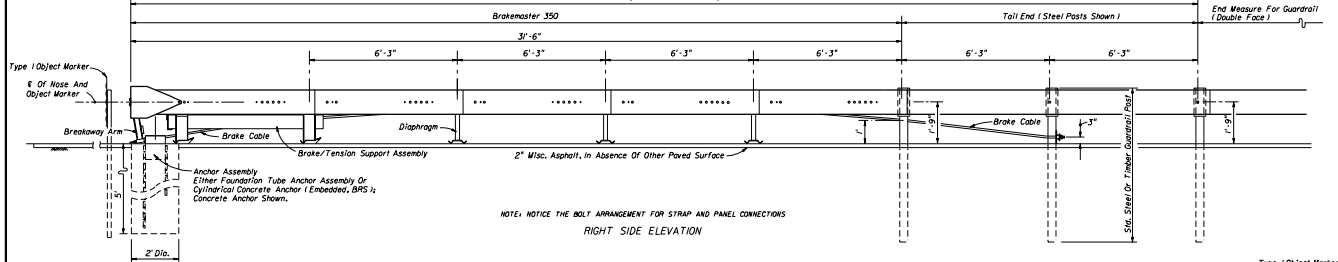
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ROAD DESIGN

BRAKEMASTER 350

DESIGNED BY	DATE	APPROVED BY	DATE
WPC/DC	7/78	[Signature]	8/1/78
DRAWN BY	WPC	CHECKED BY	WPC/DC
CHECKED BY	JMS	DATE	1 of 4 433



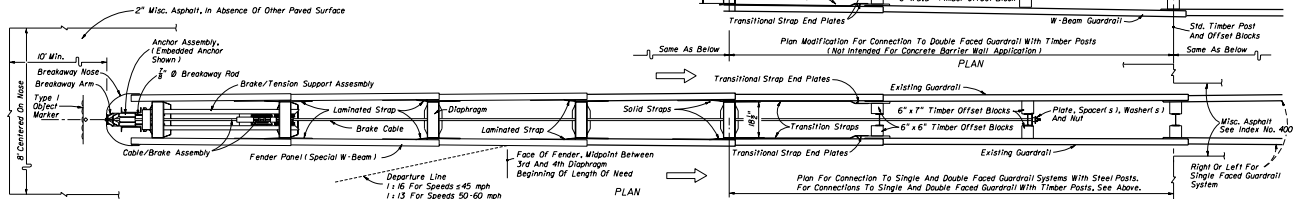
Brakemaster 350 System - Limits of Payment For Attenuator



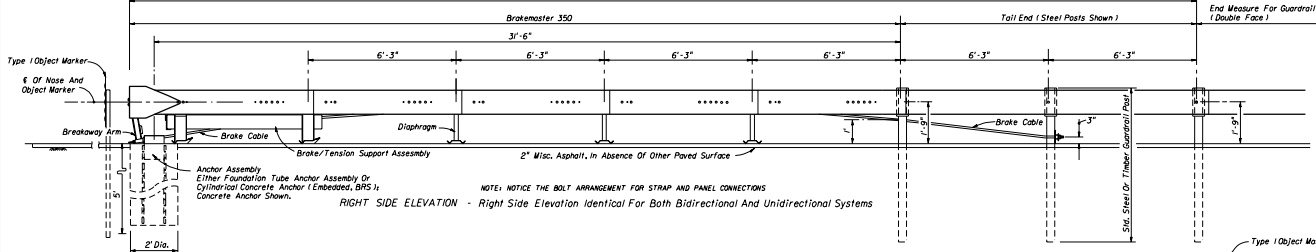
BIDIRECTIONAL SYSTEM

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD DESIGN			
BRAKEMASTER 350			
DESIGNED BY	WFS/MLD	DATE	APPROVED BY
DRAWN BY	WFS/MLD	DATE	BRK/MLD
CHECKED BY	JAG	DATE	00

2 of 4 433



Brakemaster 350 System - Limits Of Payment For Attenuator



NOTE: NOTICE THE BOLT ARRANGEMENT FOR STRAP AND PANEL CONNECTIONS

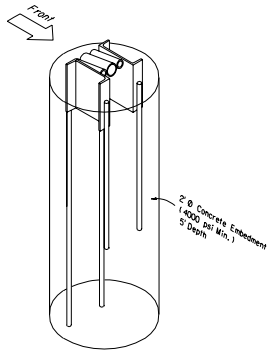
LEFT SIDE ELEVATION

UNIDIRECTIONAL SYSTEM

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ROAD DESIGN

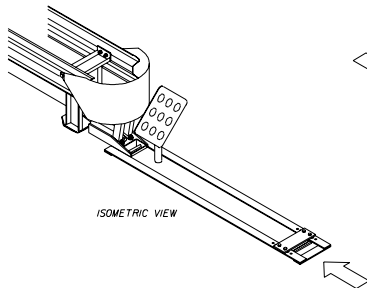
BRAKEMASTER 350

DESIGNED BY	DATE	APPROVED BY
WJD/MSD	7/78	[Signature]
DRAWN BY	WJD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
CHECKED BY	JAG	DATE
		00
		3 of 4
		433

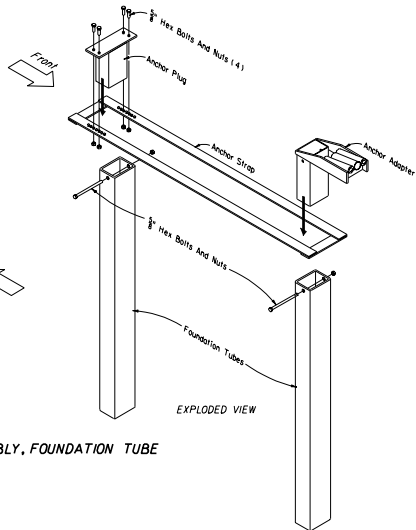


ISOMETRIC VIEW

ANCHOR ASSEMBLY, EMBEDDED BRS

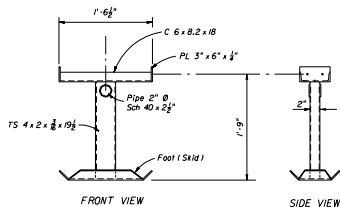


ISOMETRIC VIEW



EXPLODED VIEW

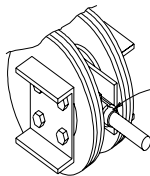
ANCHOR ASSEMBLY, FOUNDATION TUBE



FRONT VIEW

SIDE VIEW

DIAPHRAGM, BRS



Cable Replacement Required When Cable Sleeve Exposed. See "Design Notes And Guidelines", Note No. 2, For Additional Information.

BRAKE/CABLE REPLACEMENT

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ROAD DESIGN

BRAKEMASTER 350

Name	Date	Approved By
Designed By: WJG/ML	7/9	<i>[Signature]</i>
Drawn By: WJG	7/9	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
Checked By: JSE	7/9	00