

New drawing

Post by Administrator on 6/3/05 at 10:55

An updated drawing and spec for this system has been posted at
<http://users.wpi.edu/~skwirl/HardwareGuide/New/Barriers/sgr02.pdf>.

Note that so far I have only revised the drawing and spec to match the standard format. There remains the question of updating the system based on recent research. Improvements to the PennDOT version include:

- Splices moved to midspan
- W-beam backup plates at posts
- Mounting height of 820mm (top of rail)
- Post-rail connection consisting of one 7.94-mm A307A bolt with two 40-mm-square washers and two nuts

These are described in "Improvements to the Weak-Post W-Beam Guardrail," by Ray et al, in TRR 1743.

Re: New drawing

Post by mhray on 6/8/05 at 7:25

In my opinion we should only show the Penn DOT version of this barrier since it is the only one (that I know of) that has been crash tested. Since the Guide is supposed to have only R350 systems, that is really the only choice.

Malcolm Ray

Re: New drawing (emailed comments)

Post by Administrator on 6/8/05 at 9:43

The following comments were sent via email:

From Roger Bligh: How are we handling distinctions in test level within the Guide? I agree that the PennDOT version of the SGR02 (weak post W-beam) should be incorporated into the Guide. It has been successfully crash tested to Test Level 3. The "original" version of system does not meet TL-3, but was successfully crash tested to TL-2. Should it be retained in the Guide as a TL-2 system?

The weak post W-beam median barrier (as detailed in the Roadside Design Guide) was tested by New York DOT and does meet NCHRP Report 350 TL-3. The current SGM02 drawing appears to accurately reflect the tested system, but I will compare the details to be sure.

From Terry Hale: FYI, New York State is in the (manpower constrained) process of eliminating the old version of the weak post corrugated guide rail from our standard sheets. We will soon not approve any new installations of the old system, while we will accept the continued maintenance of the system in lower speed environments. While it will be difficult, we intend to phase out existing old systems on higher speed highways, but that will probably take many years. I agree that we should only show the improved configuration for the weak post W-beam.

From Roy Riedl: I agree that the pennDOT version should be used in the new guide as a test level 3 system. Maybe we should retain the old system for use on TL 2 roadways.

Re: New drawing (more email comments)

Post by Administrator on 6/8/05 at 9:46

The following comments were sent via email:

From Terry Hale: Roger, my perspective is that the modified configuration is better, even if marginally, regardless of whether it is on a high- or a low-speed system. As the costs are very comparable, I believe we should not encourage the installation of a system that is not as good, even if it did pass. I can see retaining or maintaining existing installations, but I'd not want to do anything to encourage installation of a system that is not the better one of two equally priced choices.

From Greg Speier: I agree that we should show only the TL-3 option. Perhaps it would be a good idea to include a comment on the back side of the drawing indicating that a TL-2 option is used by some agencies and to list the differences.

Re: test levels

Post by Administrator on 6/8/05 at 9:49

As far as the test level information, the test level will (or should) be indicated in the intended use section of the spec page. We are also thinking about doing something like the ERF safety barrier page (see <http://www.erf.be/content/article/detail/2588>) where instead of a flat text table of contents we have a text/picture table of contents which links to the drawing and photo files. One of the advantages is that we could list the TL on that index page in much the same way ERF lists containment level or working width. What do you think of that idea?

Re: New drawing

Post by cheimbecker on 6/9/05 at 10:05

I am of the opinion that any 350 approved system should be included - regardless of test level.

Especially considering the extent of installations of the TL-2 design that could require maintenance, we should keep both versions in the Guide.

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Drawing Comments:

UNITS: Dimensions need to have a units symbol next to value. (i.e. 150" [3810mm])

Also - I understand using mm for metric, but why are we not using FEET' INCHES" format for English ?

SECTION VIEW: The post (PSE03) appears proportionally much larger than it should relative to the w-beam. It looks more like a W6 x 8.5.

ELEVATION AND SECTION: Duplicate dimensions showing plate depth below groundline. This value is questionable in it's usefulness. I would much rather see height from groundline to top of post (SECTION) and the embeddment depth (minimum) required. (ELEVATION)

APPROVALS: The FHWA approval code is underlined, but does not link. Is there a way to make it so that these links are active so we can test them ?

Re: New drawing

Post by Administrator on 7/12/05 at 14:21

We are going to keep both systems in the online Guide. The TL-2 version will be SGR02a, and the TL-3 version will be SGR02b. The files have moved to <http://users.wpi.edu/~skwirl/HardwareGuide/New/Ready/Systems/sgr02a.pdf> and <http://users.wpi.edu/~skwirl/HardwareGuide/New/Ready/Systems/sgr02b.pdf>

Re: New drawing

Post by Administrator on 8/3/05 at 13:00

I've fixed some drawing errors in Detail A and reposted a revised drawing. No other changes.
