

# Local Road Maintenance Jurisdictions Quietly Replacing Trinity Highway Products ET-Plus Terminals

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The ET-Plus guardrail terminal manufactured by Trinity Highway Products (THP) of Dallas Texas has received considerable negative publicity in recent years from claims that the roadside device does not function properly and has caused needless injuries and deaths when errant vehicles collide with these roadside structures. In the U.S. THP lost a court case in the fall of 2014 whereby it was ordered to pay fines of over \$600 million dollars with respect to their actions surrounding unreported adjustments to the design of the ET-Plus terminal. THP is now in the process of appealing that verdict of the jury in that federal case.

In the meantime the U.S. Federal Highway Administration's (FHWA) actions in seemingly protecting THP have not gone unnoticed. As the federal agency in the U.S. that is responsible for making sure that roadside hardware is safe to the general public the FHWA was responsible for conducting investigations of real-life collisions involving the ET-Plus terminals. For unexplained reasons the FHWA failed to do so until THP was found liable by the noted federal jury. Although there has been fairly comprehensive news media coverage regarding the suspected dangerous functioning of the ET-Plus terminal, no one has actually questioned why the FHWA failed to conduct the investigations that they were required to do.

Instead the focus of discussions has been on the results of re-tests of the ET-Plus ordered by the FHWA under controlled conditions that do not replicate what might happen in real life collision. The test protocols referred to as NCHRP-350 cause an unmanned vehicle to be pulled into an impact with the ET-Plus while varying the speed, size of vehicle and angle of approach. Failures that could be clearly seen in the videos of the re-tests were judged to be successful, passing grades because the narrow definitions of what constituted a pass failed to address the obvious concerns visible in the videos of the tests.

Secondly, the FHWA also requested collision data from other agencies regarding the results of real-life impacts so that they could draw conclusions regarding the performance of the ET-Plus in real-life collisions. In this second phase of their investigations the FHWA failed to obtain sufficient, good-quality data upon which they could draw reasonably accurate conclusions regarding the performance of the ET-Plus. Yet the FHWA drew those conclusions anyway. Once again, the general news media failed to inform the general public of these deficiencies.

The results of all the investigations is that there has been a general creation of a fog of misinformation as various groups and agencies have expressed claims while others have denied those claims. In this fog collisions keep occurring with the ET-Plus terminals and there is no solid, reliable and reasonably independent group or individual that can be trusted to provide an unbiased opinion.

In Canada there has been essentially no publicity regarding the events in the U.S. that also affect Canada. The ET-Plus terminal is just as densely populated along Canadian highways as those in the U.S. The added problem in Canada is that there is no visible entity equivalent to the U.S. FHWA to whom Canadians can go to for explanations of what Canada is doing to resolve the controversy.

The only entity that has attempted to inform Canadians is the Global Television network and its television documentary program "16 X 9". Global Television producers Francesca Fionda and Gil Shochat sought the opinions of various experts in the U.S. and Canada about the safety of the ET-Plus. They even contacted Gorski Consulting and interviewed Zygmunt Gorski in the fall of 2015 in preparation for their news segment that was aired in late October of 2015. Gorski Consulting was the only entity known to the Global news producers who was actually conducting any form of research into the ET-Plus issue in Canada.

In fact we at Gorski Consulting were also unaware of the controversy until the late summer of 2014 when we began to conduct surveys of ET-Plus installations in the vicinity of south-western Ontario. While we reported a number of potential problems via articles that were posted on the Gorski Consulting website it was clear that only detailed information from real-life collisions could truly answer the question whether the ET-Plus was malfunctioning. Yet, the only ones with that detailed information have failed to collect it, or have reported that such detailed data is not available.

Those officials responsible for roadway maintenance in the Province of Ontario have failed to provide information on the performance of the ET-Plus. When Global News interviewed Mark Ayton, a senior engineer and spokesperson for the Ontario Ministry of Transportation, he indicated that he did not know how many ET-Plus terminals were installed on the province's highways. As reported by Global "...the Ontario Ministry of Transportation had not done a review of how the ET-Plus was performing and officials maintained they were not aware of any safety issues". Other than living in a dark cave, this response would be difficult to understand as Ministry officials only needed to examine the events carried out south of the border to become aware of the alleged safety issues. Those events included instances where impacting vehicles were being harpooned by the alleged jamming of the ET-Plus system. It is difficult to understand how officials from Ontario's Ministry of Transportation would be unaware of these dramatic events.

Subsequent to that information Global News was informed that the Ministry looked back at fatal accidents involving guardrails for the years 2005 through 2012 and the Ministry indicated "During this eight years period there were no fatalities involving steel beam energy attenuating terminals including the ET-Plus system. As stated previously, MTO

is not aware of any safety performance issues with the Trinity Highways Products ET-Plus system on provincial highways in Ontario". Yet, when Global news asked for a copy of that review the Ministry indicated "The review we mentioned did not lead to a physical report".

The problem with examining only fatal collisions would be obvious: there would not be a large enough sample to draw any conclusions. That should have been clear to anyone who was knowledgeable in such analysis. Thus when the Ministry indicates that it is not aware of any problems does that mean that they obtained a reasonably large sample to draw a conclusion that there was no problem or were they unaware because they did not conduct a sufficient inquiry?

Gorski Consulting listened to the Global News documentary and we were surprised when Mr. Ayton indicated that the Ministry was no longer installing ET-Plus terminals. Yet, at the likely time of his interview, we were aware that such installations were taking place. As an example, a collision had taken place with an ET-Plus terminal in the westbound lanes of Highway 401 just east of Woodstock Ontario and we witnessed the installation of such an ET-Plus terminal.

This is the type of fog that officials continue to create around the issue so that it leads to further questions and mistrust. This is partially understandable but should not be acceptable. Since there is a vast number of ET-Plus terminals already installed on North American highways, likely in the hundreds of thousands, the determination that these installations are defective would result in massive costs and repercussions. These devices might be required to be removed and replaced. Many individuals in Canada and the U.S. would have to provide explanations of their actions and inactions, not just the manufacturer of the device. In this obvious state of conflict of interest there would be a large incentive for these officials to hide the safety-related problem if indeed such a problem existed. But when these officials withhold information about how the ET-Plus performs in real-life collisions there is no other source of information whereby the public can determine if what is being said is accurate and truthful.

In the meantime, without any announcement or information to the public, a different type of terminal began to be installed in the vicinity of London Ontario in 2015. The first installation identified by Gorski Consulting was located on St. Thomas, Ontario on Wellington Road at the bridge that crosses the Dodd Creek, near the intersection with Sunset Drive. In Figure 1 below we can see a northward view of the bridge taken on December 15, 2013 when there was no guardrail attached to the bridge. Sometime before August, 2015 a guardrail and terminals were installed as shown in Figures 2 through Figure 8. The terminals located here were likely manufactured by Road Systems Inc. of Big Spring, Texas and they are called "SKT" terminals.

Another new installation of the SKT terminals occurred during the spring and summer of 2015 on Sunset Drive, in St. Thomas, Ontario, again at another bridge crossing Dodd Creek, as shown in Figures 9 and 10.



Figure 1: View, looking north, on Wellington Road toward the bridge over Dodd Creek. This photo from December 15, 2013 shows that a guardrail did not exist at that time.



Figure 2: View, looking south, toward the bridge at Dodd Creek showing the newly installed guardrail and terminals. This photo was taken on August 16, 2015.



Figure 3: View, looking south, at the newly installed guardrail and terminals at the Dodd Creek Bridge. This photo was taken on August 16, 2015.



Figure 4: Roadside view of one of the terminals located at the Dodd Creek Bridge.



Figure 5: Ditch-side view of one of the terminals at the Dodd Creek Bridge.



Figure 6: View of the much-wider channel of the new terminal at the Dodd Creek Bridge.



Figure 7: View of the end of the guardrail as it rests within the head of the terminal at the Dodd Creek bridge.



Figure 8: View of the "RSI" designation on the terminal at the Dodd Creek bridge indicating that this is probably a SKT terminal manufactured by Road Systems Inc. of Big Spring, Texas.



Figure 9: View of reconstruction over the Dodd Creek bridge on Sunset Drive in St. Thomas on August 23, 2015.



Figure 10: View of the newly-installed SKT terminal at the Dodd Creek bridge on Sunset Drive. This photo was taken on August 23, 2015.

New SKT terminal installations also occurred in London, Ontario. For example, a re-development of the Egerton Road Bridge over the south branch of the Thames River occurred in the summer of 2015, as shown in the overall view, looking south, in Figure 11 and the closer view of the SKT terminal in Figure 12.

Ontario's Ministry of Transportation has also begun to install SKT terminals as evidenced at the newly completed Wonderland Road interchange to Highway 401 in south-west London, shown in Figure 13.

Thus, it is obvious that a number of municipalities and the Province of Ontario have switched over to the installation of SKT terminals instead of the Trinity ET-Plus. Yet, when approached about the safety concerns of the ET-Plus, representatives of these organizations continue to say that they have found no evidence of any safety concerns. This raises the question, if there are no safety concerns, why stop stalling the ET-Plus?

In the opinion of Gorski Consulting, the issue of Trinity's ET-Plus terminals safety has not been fully resolved. Agencies that should be responsible for providing the public with reliable information seem to be unable to do so. If there truly is a safety problem with the ET-Plus terminals it must be determined whether they should be removed from the highway system before further, needless, injuries and deaths occur. However that decision has to be made on the basis of solid research and data. To date that research and data has not reached the general public.



Figure 11: View, looking south, along Egerton Road toward the Thames River bridge. SKT terminal can be seen at the end of the guardrail on the right edge of this photo which was taken on August 15, 2015.



Figure 12: View of the new SKT terminal located on the south end of the guardrail of the Egerton Road bridge in London.



Figure 13: View, looking north, at one of several SKT terminals installed on Wonderland Road at its newly built interchange with Highway 401.

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