Roadside Safety Pooled Fund

# Research Problem Statement

**2021-06-LSRB**

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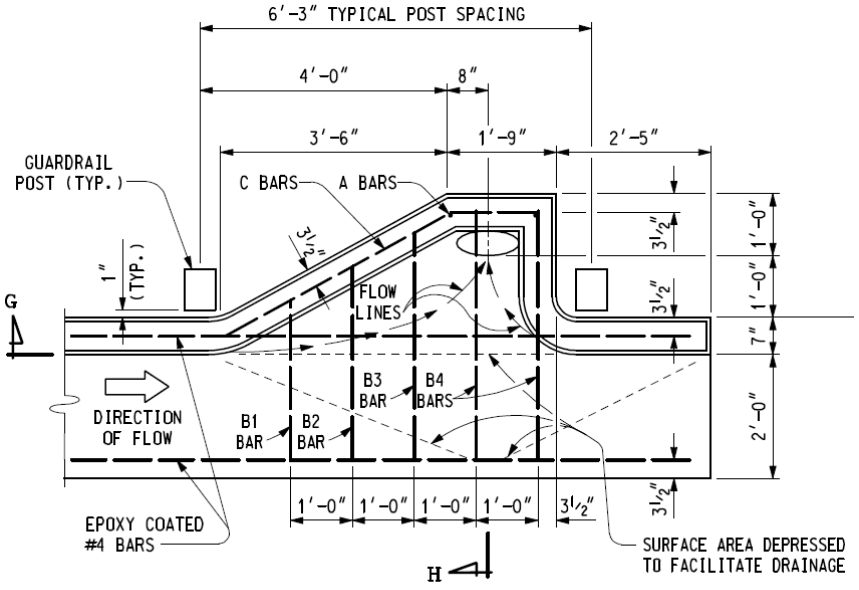
| **Project Title:** | MASH TL-3 Transition Design with a Storm Drain Inlet<br>( task order T4541-DY) |
| **Project Synopsis:** | Storm Drain Inlets are meant to be free opening for discharging storm water from roadways. However, having such an opening creates a discontinuity for a roadside safety device such as a transition. This project is to address the integration of storm drain inlet with a transition to have a crashworthy MASH TL-3 transition with a storm drain system. |
| **Project Goal(s):** | The research objective is to develop a MASH TL-3 Transition Design with a Storm Drain Inlet. |
| **Project Background:** | The inlet designs come in different shapes and layout. Their geometries are developed with the hydraulic requirement in mind. Hence, their crashworthiness and their effect on the crashworthiness of the hardware that is placed along with the inlet.<br>  <br> |

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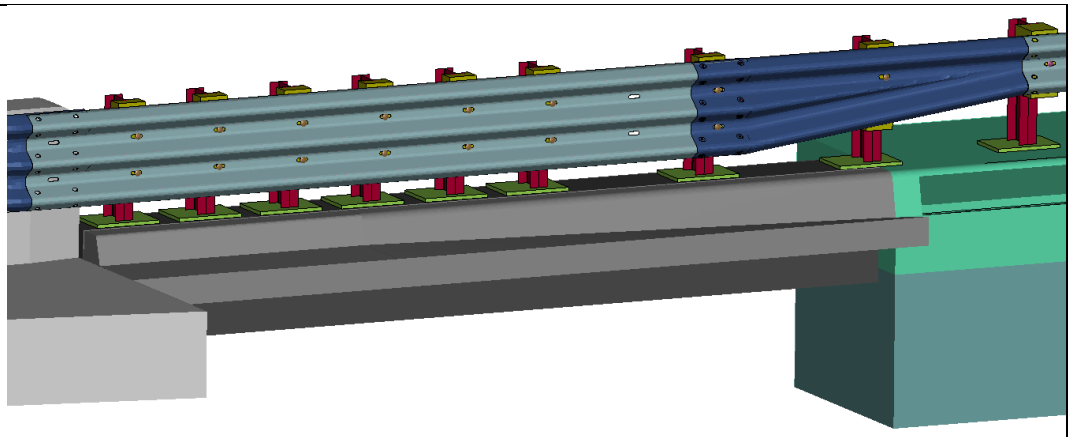
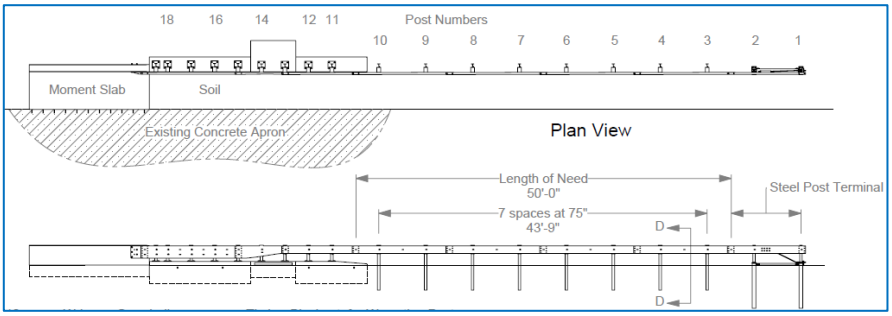
| |  <br>  <br>Designers face a challenge to implement the hydraulic need with the safety requirement without knowing what the proper design parameters are needed to incorporate the two requirements. |
| **Proposed Work Plan:** | Task 1: Literature review<br>Review previously conducted work related to transitions with discontinuity<br>Task 2: Data Collection Survey of DOTs storm drain designs in proximity to transition and their state of practice<br>Task 3: simulation of a “median” value design that reflects wider implementation scope<br>Task 4: Construct the system and perform crash testing according to MASH 3-21<br>Task 5: Provide research documentation via a report including recommendation for testing MASH 3-20 if deemed needed |
| **Deliverables:** | Design recommendation and report outlining the research effort. |
| **Urgency and Expected Benefit:** | The integrating non-safety hardware with a roadside safety device can compromise the crashworthiness of the roadside safety hardware. Hence a properly design integrated system |
| **Problem Funding** | The estimated (continuation) cost is **$57,437** and the duration is 12 months |

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| **and Research Period:** | NOTE: this additional funding is requested as the design shifted from the originally budgeted to reflect the desired implementation scope of the DOT's surveyed. |
| **Developer (s) of the Problem Statement** | Derwood C. Sheppard, Jr., P.E (Florida Department of Transportation)<br>Derwood.Sheppard@dot.state.fl.us<br><br>(850) 414-4334 |