

Roundabout Innovation for Oversized Loads

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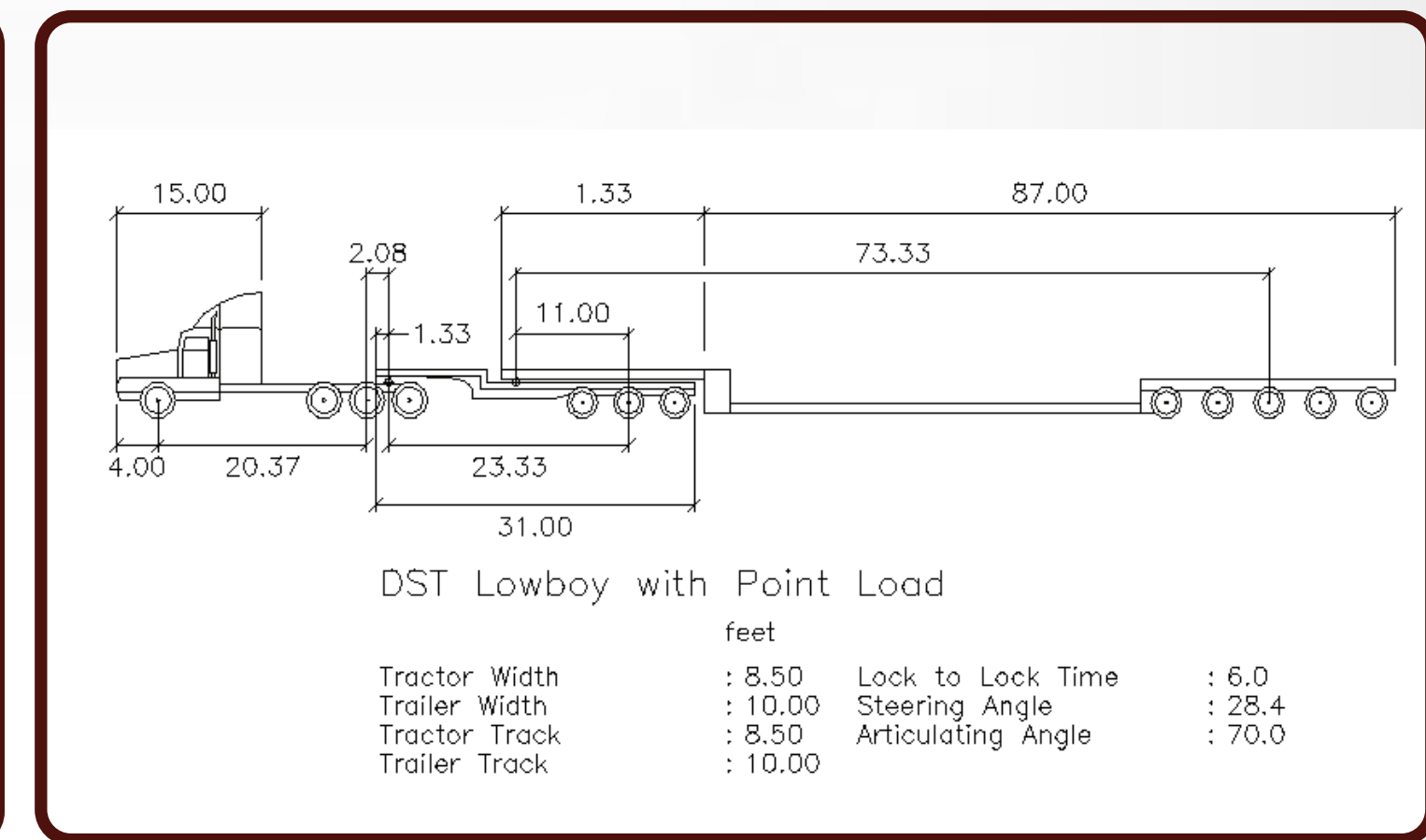
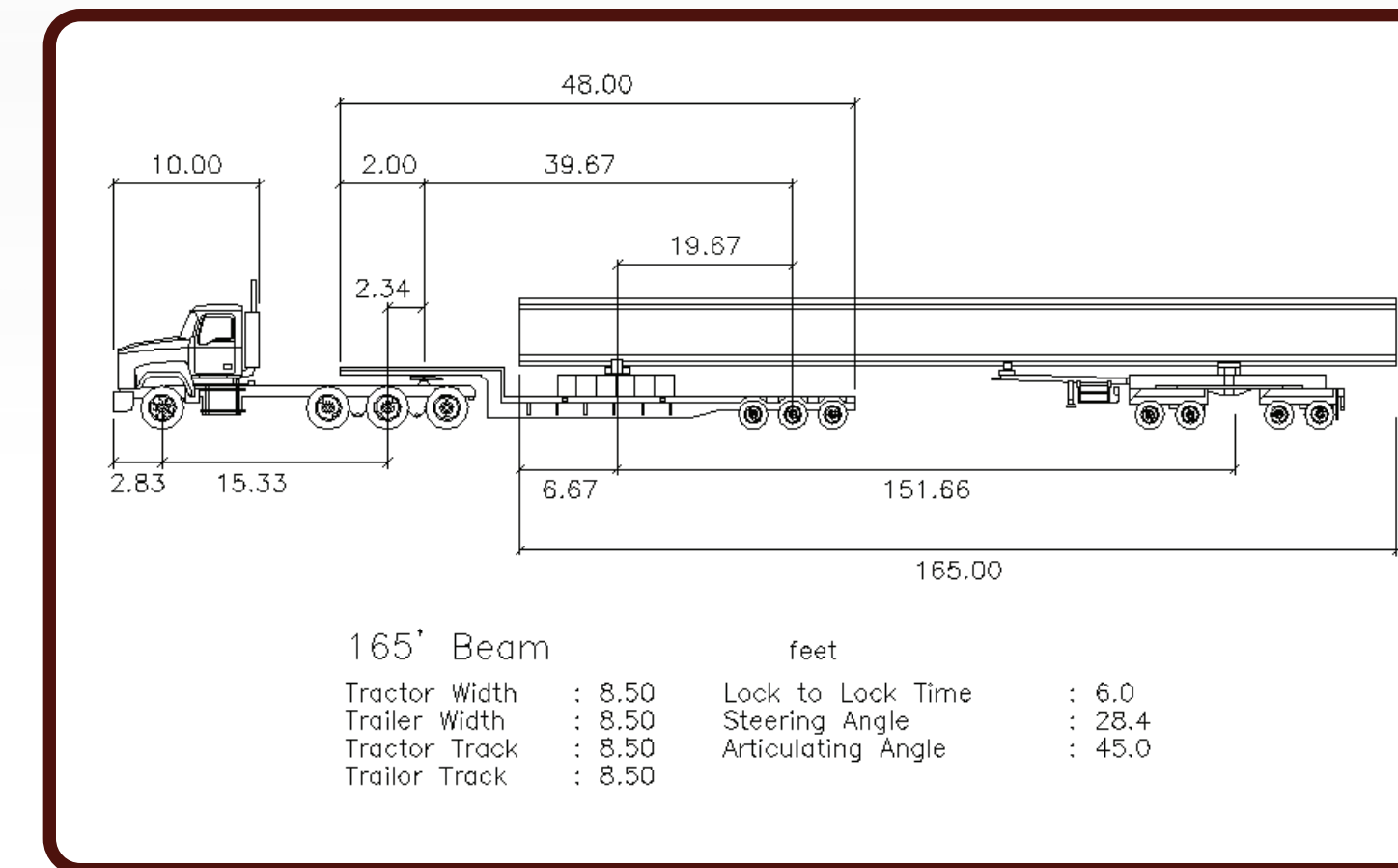
Project Information:
I-94 & WIS 65, Roberts, WI
Completed: Fall 2013

Roundabout Information:

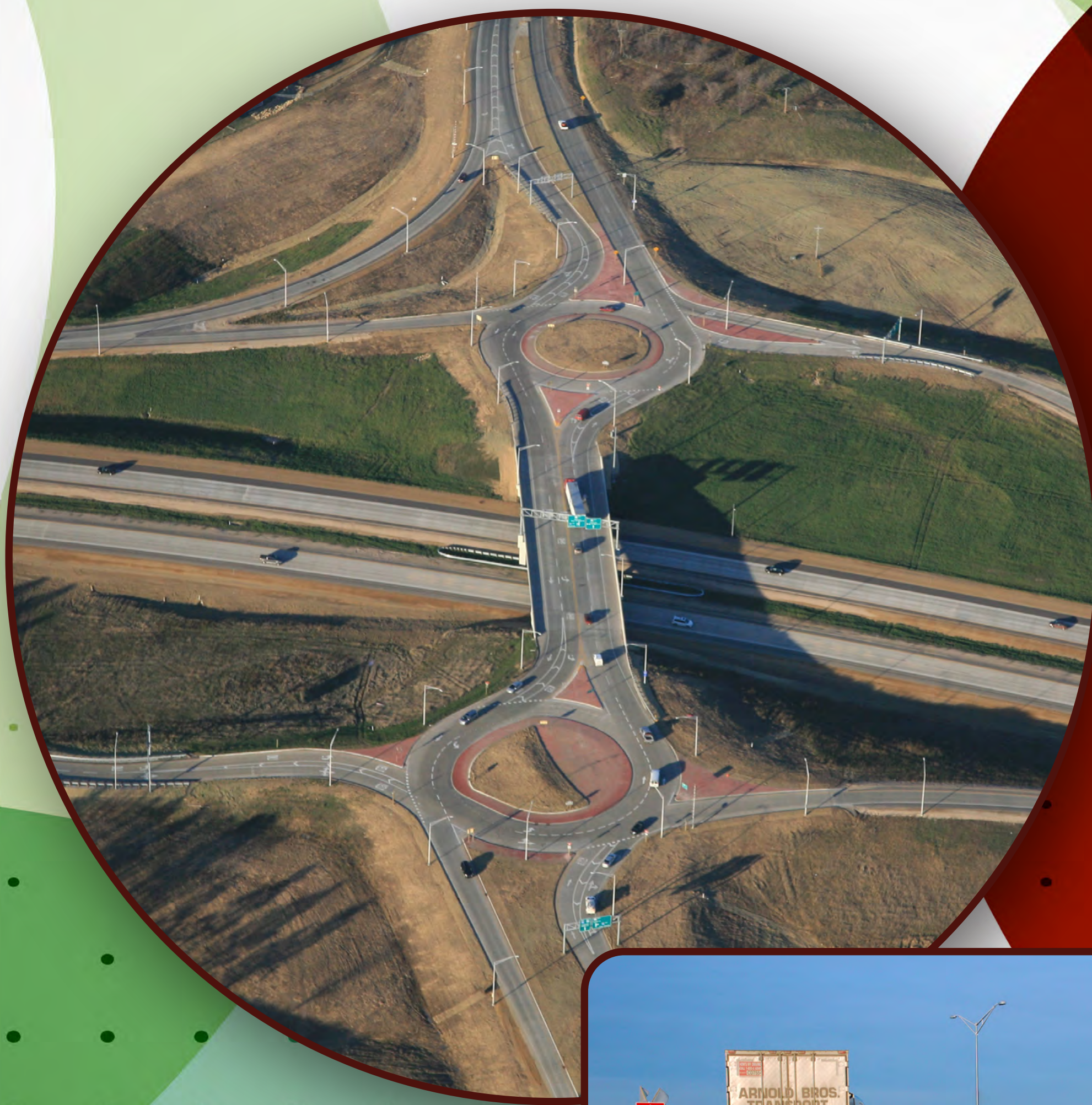
- Inscribed Circle Diameter (ICD)- 195'
- Entry Width - 34' Face-to-Face (6' Painted Truck Gore)
- Circulatory - 35.5' Face-to-Face (12' Inside Lane, 19' Outside Lane)

Design Vehicles:

- WB-67 to Stay within Lane on Approach and Circulating (Now WisDOT Case III Truck Design)
- 200' Concrete Beam Truck
- Lowboy Semi (6" Clearance)



Beam Hauler (Left) and Lowboy (Right)
Oversized / Overweight Vehicles



I-94 & WIS 65 Interchange



PROBLEM: With poor stopping sight distance, heavy commuter traffic, and the need for improved ramp terminals, the full service interchange at Interstate Highway 94 (I-94) and Wisconsin State Truck Highway 65 (WIS 65) was in dire need of improvements and repairs.

The interchange was used frequently for oversize/overweight loads, such as concrete bridge girders. These girders were routinely delivered from County Materials on the northeast corner of the interchange to both Minnesota and Wisconsin. For this reason, all movements at the roundabout ramp terminals had to accommodate these vehicles.

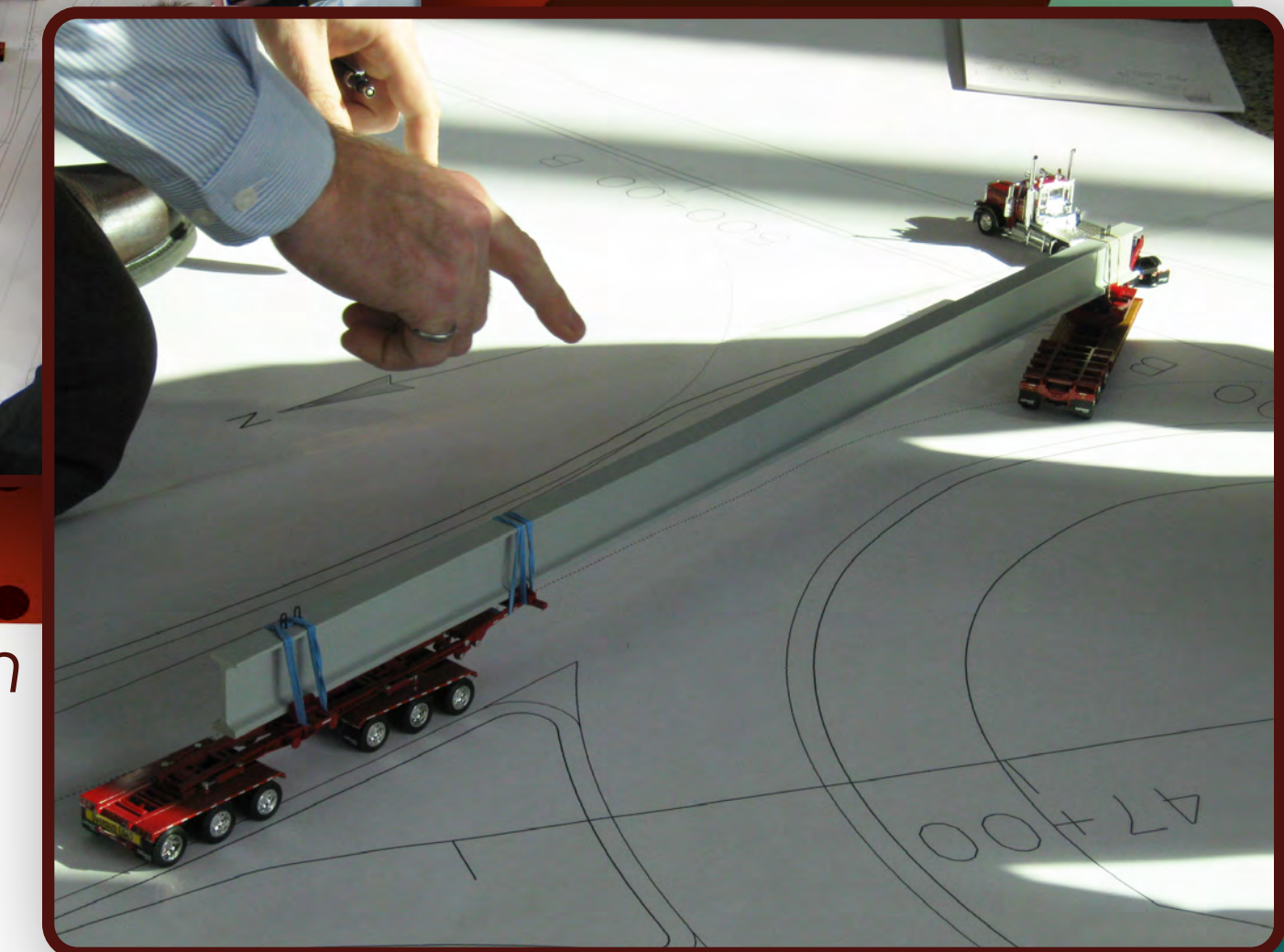
SOLUTION: We conducted several meetings with County Materials to include design that accommodated trucks returning to the factory fully loaded. As the design progressed, we invited County Materials to visit our office. Representatives arrived with a 1:64 scale model of the company's concrete beam hauling truck. We plotted the interchange design at the same scale as the truck and ran truck movements to determine if additional impacts or special accommodations would be necessary. Because an accurate Auto-Turn model of County Materials' truck was not available, without these meetings, the design would not have properly accommodated the trucks. Through this effort, the following items were modified or identified:

- Increase RAB ICD
- Fine tuned design parameters to control speed
- Additional off-tracking pavement
- Locations where removable signs needed to be located

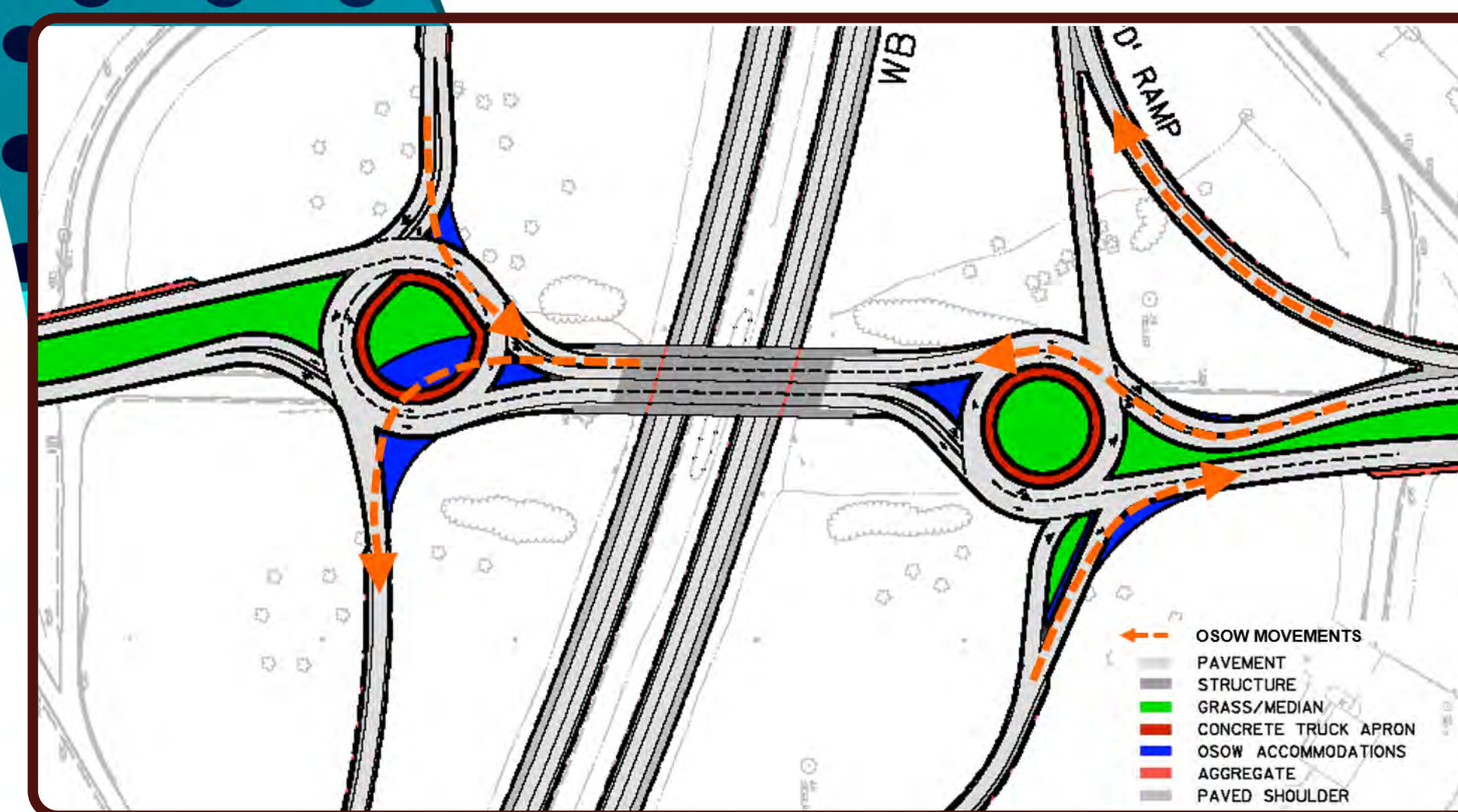
CURVEBALL: During construction, WisDOT identified a state-wide need to accommodate low-boy semis with 6-inch vertical clearance. We drove this new design vehicle through our roundabouts and identified cross slope transitions and profile changes that would need to be updated to allow for the movements of these vehicles. Updates were provided to the contractor as the ramp terminal construction began and were implemented in the design.



Simulating OSOW vehicles within the interchange at 1:64 scale allowed for the proper accommodations and design



Lowboy Semi driven on final surface to identify trailer "hang-up" locations within the design.



OSOW vehicle paths were incorporated into the design to allow all movements at the interchange