

TO: Project File

FROM: Ken Upmal, Roadway Design Project Manager

DATE: January 20, 2009

SUBJECT: South Burlington IM 089-3(37), Interstate 89 Exit 14 Southbound Off Ramp C
Special Experimental Project No. 14 (SEP-14) Final Report

The following Final Report summarizes use of SEP-14 for the subject project. It includes a brief overview of the project, an evaluation of the technique used, the industry and Agency reactions and a recommendation as to whether or not to use this construction method on future projects.

Overview:

The project involved 0.407 miles of full depth reconstruction and widening (additional lane) of Interstate 89 Exit 14 Southbound Off-Ramp C, minor realignment of Ramp D and widening of US Route 2. Included in this work were new pavement, sub-base, curb, sidewalk, pavement markings, new traffic signals at the intersection of Ramp C and US Route 2, a new overhead sign bridge on Ramp C and the installation of new overhead signs at the Patchen Road Overpass just north of the interchange. The project design and development were performed expeditiously to address safety concerns resulting from insufficient capacity of the Off Ramp and subsequent excessive queuing of vehicles back along southbound Interstate 89 during peak hour periods.

The Agency submitted the subject work plan as a No Excuse Bonus (NEB) in the amount of \$100,000 under the provisions of SEP-14 for the use of innovative contracting practices. Incentive/Disincentive (I/D) clauses have previously been used to accelerate construction. However, road user costs were too low for this project to provide a significant I/D amount and the Agency felt the NEB would be a more effective method to insure completion of construction during the 2006 construction season. The Substantial Completion Date for payment of the NEB was October 20, 2006.

Evaluation:

The project was advertised on May 24, 2006 with an estimated construction cost of \$2,116,000. Bids were opened on June 16, 2006. Morrill Construction was the low bidder at \$2,589,925. Notice to proceed was given on July 13, 2006 and construction began on July 17, 2006. Substantial completion was reached on November 22, 2006. The contractor failed to meet the SEP-14 requirement of substantial completion by October 20 and was not awarded the NEB.

Morrill Construction retained F.R. Lafayette, Inc. to provide the traffic signal mast arms and the overhead sign bridge for the project. Lafayette had originally indicated to Morrill that they would not be able to have these components fabricated in time to satisfy the NEB substantial

completion date of October 20. Subsequently, Morrill assumed the NEB was unachievable and did not pursue the possibility of negotiating additional compensation with the fabricator to accelerate delivery of these components. Morrill indicated the remaining construction requirements did not prevent them from satisfying the NEB substantial completion date and that the mast arms and overhead sign bridge structure were actually delivered in advance of their original construction schedule. All traffic signals and signs were in place by November 1 and substantial completion was reached by November 22.

Reactions:

From the contractor's standpoint, Morrill Construction expressed regret over not pursuing accelerated fabrication of the critical traffic features and that there was an opportunity to take advantage of the NEB. However, the project had proceeded under the premise that they would not satisfy the NEB requirements, additional bonus compensation would not have altered their construction schedule and that they met their anticipated completion date of November 24, 2006.

From an Agency perspective, the primary reason for including the NEB in the contract was to insure substantial completion of the project in 2006 and avoid increased hazards associated with vehicles queuing back along Interstate 89 during winter months. Subsequently, the Agency determined the limited timeframe to complete construction, combined with the unacceptable potential for continued risks associated with the safety issues on Interstate 89, justified the reward afforded by the NEB. Considering the NEB was not awarded, even though there was potential for the contractor to take advantage of the bonus opportunity, and that construction was still substantially completed within the 2006 construction season, there was no forfeiture of compensation or safety by the Agency.

Recommendation:

Due to the nature of the limited construction season in Vermont, there are often challenges and concerns with completion of work prior to weather conditions may delay or postpone the ultimate completion of certain projects. When constructing projects that affect the mandatory operation and safety of a critical public transportation system, strategies to accelerate construction to achieve scheduled completion should always be considered. The NEB utilized for this project provided an incentive for timely completion in a situation where the user costs were not sufficient enough to generate adequate additional compensation and safety concerns were the primary consideration. For that reason, future use of a NEB should be available when failure to complete construction may significantly compromise the safety of the traveling public. Additional consideration of a NEB might also be appropriate when important public services may be affected in areas such as hospitals, schools and airports.

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