

STATEOFTENNESSEE

March 28, 2022

January 1, 2021

SPECIAL PROVISION**REGARDING****ELECTRONIC TICKET DELIVERY SYSTEM****FOR CONCRETE****Description**

This work shall consist of the use of an Electronic Ticket Delivery System (e-ticketing) for each load of concrete mixtures delivered to the project site. Using an automated real time process with no direct personnel interaction necessary, the e-ticketing system shall monitor and report the concrete batching information and the concrete delivery e-ticket information at the project site.

Construction Requirements

Provide electronic Certified Plant Technician e-tickets for each load of concrete mixtures that are delivered to the project. E-tickets shall be automatically generated using a combined software and hardware fleet management system or an e-ticketing delivery system. Fully integrate the e-ticketing system with the load read out scale system used to batch the mixture being delivered.

The system shall be capable of maintaining the data offline due to loss of power or connectivity.

Provide real time continuous ticketing system access to the Department for the duration of the project using a web based application. E-ticketing delivery system shall be identified and access granted after an agreement has been reached between the Contractor and Department. Provide on-site technical assistance for the e-ticketing system at the Pre-Construction Meeting and as needed throughout the project to operate the system. Do not deliver any concrete mixture to the project that will use the e-ticketing system before an agreement has been reached.

The e-ticketing system shall allow individual certified e-tickets and generate daily summary sheets to be exported as PDF files by the Department. The system shall be designed so data inputs cannot be altered by either the Contractor or the Department. The Department shall have the ability to make notes on each e-ticket for documentation (e.g., comments, rejection of load). At the end of each concrete placement, generate a summary sheet of the e-tickets and make available to the Engineer within 24 hours of the materials being placed. The e-ticket and summary sheet shall list all the required information in tabular form and be digitally signed by a Certified Plant Technician. Any loads not meeting requirements of **604.03**, shall be rejected and no payment will be issued.

The certified e-tickets for concrete mixtures shall be accessible real time at any point prior to, during or after placement of the mixture. The certified e-tickets and summary sheets shall include the following:

1. Date
2. Contract number
3. County
4. Class of concrete
5. Approved TDOT concrete mix design number
6. Number of cubic yards
7. Load number
8. Truck number
9. Maximum water allowed by design
10. Total water added at the plant
11. Maximum water allowed to be added on the project
12. Water-Cementitious material ratio
13. Time Loaded
14. Time discharged (detected at placement site)
15. Actual and target batch weights of each component including each aggregate, chemical admixture and mineral admixture used. Include the % difference between the actual batch weights and target weights.
16. Digital signature of producer's TDOT Certified Concrete Plant Quality Control Technician
17. Contractor's Daily Report of Concrete Inspection with the initial load. (may be submitted separately, if needed)
18. Engineer Comments (to document rejection of a load if necessary)

Method of Measurement

Utilize an electronic ticket delivery system (e-ticketing) for concrete mixtures as specified. If any e-tickets or the summary sheets are not available to the Engineer, payment may be withheld for the items of work on the monthly estimate.

Basis of Payment

The Department will not directly pay for the electronic ticket delivery system (e-ticketing) separately. The contract unit prices for the concrete mixtures that e-tickets are required to be used shall be full compensation for all activities, including materials, equipment, labor, and any incidentals to complete the work as specified.