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Section 829 Supplemental Specifications

(03/14)

**LOUISIANA**

**DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT SUPPLEMENTAL SPECIFICATION**

The Louisiana Standard Specifications for Roads and Bridges 2006 is amended to include the following:

* 1. Instrumentation and Evaluation
     1. DESCRIPTION

Furnish instrumentation, power and backup power systems, access for installation and removal of instrumentation, and provide specified loadings for structural evaluation in accordance with the plans.

* + 1. Materials

Comply with the following sections and subsections.

|  |  |
| --- | --- |
| Electrical Systems | 730 |
| Direct Tension Indicators (DTI)  Metals | 807  1013 |
| Carbon Steel Bolts, Nuts, and Washers  High Strength Bolts, Nuts and Washers | 1013  1013 |
|  |  |

Galvanize bolts, nuts, washers, and DTIs in accordance with section 811.

Machine screws for fastening shall be stainless steel and furnished by the supplier.

Instrumentation shall be as shown on the plans.

* + 1. CONSTRUCTION REQUIREMENTS
       1. Submittals

Submit to the Bridge Engineer for review and acceptance a “Bridge Instrumentation and Evaluation Plan” in accordance with 801.03. Submit the plan no later than 30 calendar days prior to commencing the work. The engineer will evaluate the plan for conformance with the plans and specifications. Allow 21 calendar days for review. Resubmit any parts of the submittal returned for correction and allow an additional 7 calendar days for review of each resubmittal.

No changes in the Bridge Instrumentation and Evaluation Plan shall be made after final acceptance without the concurrence of the engineer.

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Provide at least the following information in the Bridge Instrumentation and Evaluation Plan:

* + 1. Name and address of supplier and manufacturer of component and associate information and cut sheet.
    2. Detailed drawings of placement of all sensors, method and sequence of sensor placement, and layout of wiring, conduit, and data collection system.
    3. Details of the access system for attaching and removing instrumentation and associated equipment.
    4. Schematic of data acquisition system. Plans for sampling frequency, data retrieval, and software to be used. Software setup including configuration of ports and flags, and IP addresses.
    5. Instrumentation enclosure and breakaway mounting pole meeting NEMA 4X requirements.
    6. Estimation of power consumption. Planned power and backup power system for a minimum of 7 days uptime.
    7. Detailed plan for all test loading.
    8. Traffic control for each operation associated with instrumentation and evaluation.
    9. Other information shown in the plans or required by the engineer.
       1. Instrumentation

Furnish instrumentation as shown on the plans. Upon completion of instrumentation work, all instrumentation, power supply, data collection systems, data loggers, conduit and wiring, and data transmitters will become the property of the Department.

Weather proof instrumentation with a rating of IP66 or higher for above water applications and a rating of IP68 for submerged applications. Shelter wiring and data collection systems from the weather.

* + - 1. Instrumentation Assistance

Provide access and assistance as required for installation and removal of instrumentation, and access for data collection during the project.

* + - 1. Evaluation

Furnish test loading equipment, equipment operation, and traffic control as required by the plans.

* + 1. Instrumentation Removal

Remove all sensors, data acquisition systems and associated conduits, and instrumentation enclosure when shown on the plans. Deliver sensors and data acquisition systems to the engineer after removal. Any unsalvageable materials shall become the

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property of the contractor. Dispose of beyond the limits of the project in accordance with section 202.

* + 1. MEASUREMENT
       1. Instrumentation

Instrumentation will be measured per lump sum, which includes all materials, equipment, tools, and incidentals necessary to complete this item. Type and quantity of instrumentation will be shown on the plans.

* + - 1. Instrumentation Assistance

Provide instrumentation assistance for instrumentation items shown on the plans. Instrumentation Assistance will be measured per Lump Sum. Measurement includes all equipment, material, labor, and time necessary to complete this item.

Instrumentation Assistance occurrences that are necessary because of contractor error will not be measured for payment.

* + - 1. Evaluation

Evaluation is measured per lump sum, which includes all materials, equipment, tools, and incidentals necessary to complete this item. The type and description of the evaluation will be shown on the plans.

* + 1. PAYMENT

Payment will be made under:

Item No. Pay Item Pay Unit

|  |  |  |
| --- | --- | --- |
| 829-01 | Instrumentation (Type) | Lump Sum |
| 829-02 | Instrumentation Assistance | Lump Sum |
| 829-03 | Evaluation (Type) | Lump Sum |