

THIS ENTIRE SCOPE OF WORK FALLS UNDER SOURCE TYPE 6265

PROJECT OVERVIEW

State intends to conduct a study on the feasibility of “Zone” painting and spot maintenance of critical bridge structures and elements. This is to be accomplished by developing protocols for initial and annual subsequent field observation. Contractor will document all information and incorporate it into a comprehensive final report. Components of the maintenance painting test process are to include methodologies for pre-cleaning, surface preparation, selection of coating manufacturer’s (as currently approved by State), and material selection of applicable coating systems. Following initial commencement of the test process, Contractor will monitor the components and test areas over a three year period. Contractor will then be submit a final report, which will indicate its conclusions and recommendations for future bridge painting maintenance in accordance with our evaluation results. State, in consultation with Contractor, will select the project test site(s) to perform maintenance painting. As stated previously, Contractor will evaluate maintenance painting products and provide recommendations to State for test site application. State crews, with advisement from paint suppliers, will perform field preparation and application operations. In preparation for site testing, State will provide traffic control and access, as necessary. State and the paint supplier will provide the equipment and materials necessary to perform the work. State and Contractor will evaluate the field performance of the products over a 3-year period. The final report will include results and recommendations for the updating of the best practices guideline per State’s Bridge Maintenance Painting Manual.). Contractor understands that the date of the test project will take place over a 2-day period of time in the spring of 2015. Contractor will also conduct annual inspection visits each spring, on or near the annual anniversary date of the initial test. Actual dates will be determined in consultation with State and other project stakeholders.

PROJECT TASKS

Task 1: Select Test Sites, Develop Site and Testing Protocol

Under this task, Contractor will:

- Hold a kick-off meeting with State, prior to performing the remaining subtasks.
- Conduct research, by contacting State approved vendor(s) for recommendation of products, surface preparation and coating system combinations based on degree/modes of failure. Contractor will make initial contact by written letter listing project information, detailing vendor responsibilities and asking the approved vendor(s) whether they want to participate in the project. Once the list of participating vendors is set, Contractor may make follow-up contact by phone and/or e-mail.
- Consult current State approved field protective coating applicators for history on current practices and successes. With applicator input, Contractor will determine site assistance needs for State crews at the test site specific to preparation and application equipment; this will eventually be used to determine its implementation at the test site.
- Consult the Bridge Maintenance Supervisors, provided by State’s project lead, for history on current practices, successes and available expertise, tools and equipment.
- In consultation with State, select the test site(s). The test site(s) will need to be representative of different locations with various degrees of paint deterioration as well as specific areas showing pack rust. The test areas must be reasonably accessible.
 - o Selection protocols for selecting a suitable test site will be based on State’s Bridge Maintenance Painting Manual Table 2.1 condition state definitions. The test site(s) selected needs to exhibit poor to severe paint failure in accordance with element 515 Steel Protective Coating and will also be further evaluated using field testing.
 - o Contractor, in conjunction with State, will visually inspect the test site(s) using Table 2.1 to determine the best candidate. Documentation of the selected test site will be included in the Task 1 Summary Document.
 - o Following initial site selection, Contractor will perform additional documentation and testing of the site in accordance with State guidelines and or The Society for Protective Coatings (SSPC) Standards specific to the existing coating system/steel substrate. Equipment needed will include; a digital camera, with extra batteries and a reference scale, adhesion test equipment to conduct adhesion test equipment, such as Knife Test – American Society for Testing and Materials D6677. A visual inspection of the substrate beneath the peeled paint will be done to look for rust, mill scale, or previous blast profile.

- Paint chip test sampling will also be taken to determine if lead and/or other heavy metals (8 Resource and Conservation and Recovery Act) are present in advance of test site implementation. The testing will be done in accordance with State's steel structure paint removal program for employees (dated February 2013). However, if there is a record of the painting system on the bridge that will indicate that there is no lead or heavy metals present in the paint applied testing will be deleted.
- Contractor will provide photographs and testing documentation and results in the Task 1 Summary Document.
- Prior to implementation of the selected test site(s), perform a preliminary lay out and provide documentation of the test site(s) to State for review and approval.
- Facilitate the cleaning, surface prep and coating product selection based on interviews with State approved paint vendors, and following internal consultation between Contractor and State, prior to, and after, the site(s) are determined.
- Facilitate the selection of a paint technical representative from each participating vendor for deliverable paint materials and appropriate reducers, brushes, rollers, rags, etc. The vendor(s) will be requested to provide availability for technical assistance during the site test for proper mixing and application of the products chosen to be used at the site.
- Develop forms, approved by State, for Quality Control (QC) documentation for this project.
- Coordinate classroom pre-training of State personnel being used for test site implementation. Training will include cleaning, preparation and coating systems application procedures that will be used at the project test.

Anticipated Task Deliverable(s): Summary Document – Site Testing Protocol

Anticipated Task Schedule: Contract Notice to Proceed – May 2015

Under this task, State will:

- Consult with Contractor to select the project test site(s).
- Be responsible for the examination of the selected steel to determine if any structure or element examined for paint failure has enough section loss or other damage that would create a need for structural repairs prior to. State will also provide risk assessment to determine a need for containment, social impact such as lane closures or detours, Safety and Health for workers, public and environment.
- Supply all personal safety equipment for their onsite personnel. State will supply equipment and tools for mixing, preparation and, application of the paint products. State maintenance crews will be used for the application of the coatings.

Task 2: Perform Initial Site Maintenance and Document Post-Maintenance Observations

Under this task, Contractor will:

- In cooperation with State, implement convention and methodology for photographs and documentation as determined in Task 1.
- Review forms to be used and State's Bridge Maintenance Painting Manual sections appropriate for implementation of Task 2 and its subtasks.
- Along with participating approved paint vendor(s), and participating approved field protective coating applicator(s), provide task protocol guidance to State's field staff responsible for operational implementation specific to surface preparation and coating application requirements.
- Provide QC of cleaning, surface preparation and coating applications when the site specific coating system is determined. The coatings will be determined following consultation with State's approved vendor(s). QC will consist of parameters already in place in Chapter 6: Maintenance Painting Procedures (for State Personnel) 3. Quality Control page 27. Equipment needed and good practices for suitable inspection will follow the guidelines outlined in SSPC-PA-17.
- Provide photos and documentation of post-maintenance test evaluation of pre-cleaning and cleaning, surface preparation methods, coatings and coatings application.
- Work with State to coordinate access for videoing the cleaning, surface preparation and coating application operations.

Anticipated Task Deliverable(s): Initial Report – Records, submitted to State within 60 days post application

Anticipated Task Schedule: Spring of 2015; Commencement determined by weather, the availability of project stakeholders and product selection. The anticipated operation schedule will be provided with the completion of the Site Test Protocol referenced under Task 1

Task 3: Interim Inspection and Testing Reports

Under this task, Contractor will:

- Perform annual performance evaluations of each test section in accordance with the protocols developed in Tasks 1 and 2, anticipated in the Spring 2016 and 2017.
- Provide observations, photos and documentation for each year, on, or near, the anniversary date of the original test for two consecutive years.
- Coordinate with State to provide traffic control and access, as necessary.
- Arrange for vendor(s) assistance to provide additional technical input with regard to coating system performance as based on the condition of the coating at that time of inspection.

Anticipated Task Deliverable(s): Annual Interim Reports – including inspection results of the field observations in accordance with reporting method(s) previously identified in Task 1 (reports will follow State’s Research Publishing Guidelines)

Anticipated Task Schedule: Task 2 is anticipated to take approximately 8 hours (Based on a single site); Reports will be available for State’s for review within 30 days after the annual evaluation

Task 4: Final Inspection and Testing Report

Under this task, Contractor will:

- Perform a final annual performance evaluation of each test section (as outlined in Task 3) in accordance with the protocols developed in Tasks 1 and 2, in the spring of 2018.
- Create a Final Report, which will include the annual reports for years 1 through 3 and summation evaluation of existing conditions.
 - o The report will outline conclusions and recommendations based on first and final inspection - of pre-cleaning and cleaning methods, surface preparation, products applied, and best practices recommendations. The report format will be in accordance with State’s Research Report Guideline.
 - o The report will include additional technical review(s) of State’s current Bridge Maintenance Paint Manual, steel structure paint removal program for employees outing lining applicable adjustments for:
 - Existing procedures,
 - Future State personnel training suggestions to benefit the maintenance painting program,
 - Further evaluation of this project (site) going forward, and
 - Future projects of similar scopes.

Anticipated Task Deliverable(s): Final Report, as described above

Anticipated Task Schedule: Draft Final Report submitted for review by State within 60 days following the 3rd annual inspection; Final Report submitted to State within 30 days following receipt of final comments, submitted for the University of Minnesota’s Center for Transportation Studies editorial review

PROJECT SCHEDULE

Task	Start Date	Final Date
1:	November 2014	June 2015
2:	June 2015	September 2015
3: (Year 1)	May 2016	September 2016
3: (Year 2)	May 2017	September 2017
4:	May 2018	October 2018