TECHNICAL PROPOSAL REPORT

Agreement: E00978 **Project Specific** **Active**

Name: Statewide Bridge Inspection Quality Assurance

Selection Process: Modified
Initiating Org: Bureau of Design

Supplement: 1 **Normal** **Executed**

Description: adding new sub and transfering costs

Part 3 - On System Bridge Inspections & Ratings

Description

This part involves: bridge inspections, load ratings, office file reviews, summary reports, close out meetings and other miscellaneous requirements.

Task 1 - Other Structures Activities

Objective:

2.7.99
This includes any other necessary PennDOT structure activities for the project which are not otherwise covered under the standard structure tasks.

Scope:

2.7.99
Provide work as detailed by the Department. See Below.

Detail Task 3 - Category A1 Inspection

Department Details:

Field Inspection and Report

The team performing the office file review for a given District\Turnpike will not perform the field inspection portion of this Task for that District\Turnpike. Office file information provided to the QA inspectors such as field sketches or field measurements that are used as part of the load rating analysis or the Scour Assessment should not be reviewed before inspection.

Field inspections shall use electronic data collection using Department provided software.

Perform an independent NBIS field inspection of the selected bridges, clearly defining and reporting the following:

(a) Verify and identify the structure using BMS (BMS2) description information. Refer to QA Manual, 205.3 (Level IV.)

(b) Color photographs (approximately 3" x 5") shall be used to supplement field inspection notes and drawings, and shall be sufficiently clear, properly identified, and indexed. General views depicting the bridge and showing the approach roadway and alignment, plus an elevation view, as well as photographs of defects or other significant features, including scour shall be included as part of the bridge inspection report. Photograph prints scanned from 35mm film or negatives meeting the above criteria are acceptable.

(c) Record inventory items for comparison to data on BMS printout.

(d) Record condition/appraisal ratings on E-Forms (I-Forms). Provide supporting narrative comments, photos and/or sketches as appropriate.

(e) List and prioritize maintenance/repair needs. Record Major Improvement Needs and conduct Maintenance Needs assessment.

(f) Provide maintenance and protection of traffic for field inspection activities.

(g) Take measurements and make sketches as needed for performing load rating analyses.

(h) Prepare sketches showing scour, streambed aggradations, degradation, debris, countermeasures, etc. After completing the field inspection and Forms D450E-G for bridges over water, review office file information for historical information (including the USGS Bridge Scour Assessment Report for the site, if available) that may amend the "snapshot picture" from the QA inspection.

Compare final QA ratings for W06 versus the USGS value and the last NBIS inspection rating. Compare final QA ratings for W11A and the last NBIS inspection rating.

(i) Use digital format to video the structures inspected, especially the out of tolerance items, for use at the Close-Out Meeting.

Video shall at a minimum include the following:

* Display sheet listing QA cycle, District, and BMS I.D.
* Near and far approach views.
* Bridge elevation view.
* Deck surface and traffic safety features views.
* Downstream and upstream views.
* Superstructure units and underneath of superstructure views.
* View of Substructure units and any scour problems if present.
* View of any out of tolerance items present.

Method of Measurement - Each
Each unit of work consists of the inspection of a bridge, as described herein.

Approach:

Follow Department Scope

Detail Task 4 - Category A2 Inspection

Department Details:

See task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 5 - Category A3 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 6 - Category A4 - Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 7 - Category A5 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 8 - Category B1 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 9 - Category B2 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 11 - Category B4 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 12 - Category C1 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 13 - Category C2 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 16 - Category D1 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 17 - Category D2 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty

Engineering and to assign units to NTM Engineering.

Detail Task 20 - Category D5 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 21 - Category A1 Load Rating Analysis

Department Details:

The QA load rating shall be performed independently of the previous load ratings. During the field review the QA team must obtain sufficient data to perform Level IV of load rating verification. All calculations are to be documented neatly using sketches as necessary and included in the QA records for each sample bridge. Refer to 208.5 (Level IV) of QA Manual.

Provide independent Inventory and Operating load ratings for H20, and ML80 loadings. Use Department software where appropriate. Supply complete copies of all analysis computations including either long-hand computations or PennDOT programs input and output with input preparation calculations. Other Department approved analysis or rating software may be used. Include any sketches and/or drawings necessary to accurately depict the members.

Compare the QA load ratings to those in the bridge file and highlight any differences. List any inaccuracies, omissions or errors. Comment on existing or required load postings. Be prepared to discuss differences in analysis results or methods at the Close-Out Meeting with each District, and Turnpike.

Method of Measurement - Each
Each unit of work consists of the load rating of a bridge, as described herein.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 22 - Category A2 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 23 - Category A3 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 24 - Category A4 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 25 - Category A5 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 27 - Category B2 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 28 - Category B3 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 29 - Category B4 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 38 - Category D5 Load Rating Analysis

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 39 - Category A1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 40 - Category A2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 41 - Category A3 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 42 - Category A4 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 43 - Category A5 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 44 - Category B1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 45 - Category B2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 46 - Category B3 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 47 - Category B4 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 48 - Category C1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 49 - Category C2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 52 - Category D1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 53 - Category D2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 57 - Category A1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 58 - Category A2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 59 - Category A3 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 60 - Category A4 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 61 - Category A5 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 62 - Category B1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 63 - Category B2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 64 - Category B3 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 65 - Category B4 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 66 - Category C1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 67 - Category C2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 70 - Category D1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 71 - Category D2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Consultant Hierarchy

Business Partner	DBE Type	Supervising BP
Mackin Engineering Company	No	
NTM Engineering, Inc.	Yes	Mackin Engineering Company
Specialty Engineering, Inc	Yes	Mackin Engineering Company

Attachments

No records found.

Part 4 - Off System Bridge Inspections & Ratings

Description

This part involves: bridge inspections, load ratings, office file reviews, summary reports, close out meetings and other miscellaneous requirements.

Task 1 - Other Structures Activities

Objective:

2.7.99
This includes any other necessary PennDOT structure activities for the project which are not otherwise covered under the standard structure tasks.

Scope:

2.7.99
Provide work as detailed by the Department. See Below.

Detail Task 3 - Category A1 Inspection

Department Details:

Field Inspection and Report

The team performing the office file review for a given District\Turnpike will not perform the field inspection portion of this Task for that District\Turnpike. Office file information provided to the QA inspectors such as field sketches or field measurements that are used as part of the load rating analysis or the Scour Assessment should not be reviewed before inspection.

Field inspections shall use electronic data collection using Department provided software.

Perform an independent NBIS field inspection of the selected bridges, clearly defining and reporting the following:

(a) Verify and identify the structure using BMS (BMS2) description information. Refer to QA Manual, 205.3 (Level IV.)

(b) Color photographs (approximately 3" x 5") shall be used to supplement field inspection notes and drawings, and shall be sufficiently clear, properly identified, and indexed. General views depicting the bridge and showing the approach roadway and alignment, plus an elevation view, as well as photographs of defects or other significant features, including scour shall be included as part of the bridge inspection report. Photograph prints scanned from 35mm film or negatives meeting the above criteria are acceptable.

(c) Record inventory items for comparison to data on BMS printout.

(d) Record condition/appraisal ratings on E-Forms (I-Forms). Provide supporting narrative comments, photos and/or sketches as appropriate.

(e) List and prioritize maintenance/repair needs. Record Major Improvement Needs and conduct Maintenance Needs assessment.

(f) Provide maintenance and protection of traffic for field inspection activities.

(g) Take measurements and make sketches as needed for performing load rating analyses.

(h) Prepare sketches showing scour, streambed aggradations, degradation, debris, countermeasures, etc. After completing the field inspection and Forms D450E-G for bridges over water, review office file information for historical information (including the USGS Bridge Scour Assessment Report for the site, if available) that may amend the "snapshot picture" from the QA inspection.

Compare final QA ratings for W06 versus the USGS value and the last NBIS inspection rating. Compare final QA ratings for W11A and the last NBIS inspection rating.

(i) Use digital format to video the structures inspected, especially the out of tolerance items, for use at the Close-Out Meeting.

Video shall at a minimum include the following:

* Display sheet listing QA cycle, District, and BMS I.D.
* Near and far approach views.
* Bridge elevation view.
* Deck surface and traffic safety features views.
* Downstream and upstream views.
* Superstructure units and underneath of superstructure views.
* View of Substructure units and any scour problems if present.
* View of any out of tolerance items present.

Method of Measurement - Each
Each unit of work consists of the inspection of a bridge, as described herein.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty

Engineering and to assign units to NTM Engineering.

Detail Task 4 - Category A2 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 5 - Category A3 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 6 - Category A4 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 7 - Category A5 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 8 - Category B1 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 9 - Category B2 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 11 - Category B4 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 12 - Category C1 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 13 - Category C2 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 16 - Category D1 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 17 - Category D2 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 20 - Category D5 Inspection

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 21 - Category A1 Load Rating Analysis

Department Details:

The QA load rating shall be performed independently of the previous load ratings. During the field review the QA team must obtain sufficient data to perform Level IV of load rating verification. All calculations are to be documented neatly using sketches as necessary and included in the QA records for each sample bridge. Refer to 208.5 (Level IV) of QA Manual.

Provide independent Inventory and Operating load ratings for H20, and ML80 loadings. Use Department software where appropriate. Supply complete copies of all analysis computations including either long-hand computations or PennDOT programs input and output with input preparation calculations. Other Department approved analysis or rating software may be used. Include any sketches and/or drawings necessary to accurately depict the members.

Compare the QA load ratings to those in the bridge file and highlight any differences. List any inaccuracies, omissions or errors. Comment on existing or required load postings. Be prepared to discuss differences in analysis results or methods at the Close-Out Meeting with each District, and Turnpike.

Method of Measurement - Each
Each unit of work consists of the load rating of a bridge, as described herein.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 22 - Category A2 Load Rating Analysis

Department Details:

See Task 1.21 for write up

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by

Specialty Engineering and to assign units to NTM Engineering.

Detail Task 23 - Category A3 Load Rating Analysis

Department Details:

See Task 1.21 for write up

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 24 - Category A4 Load Rating Analysis

Department Details:

See Task 1.21 for write up

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 25 - Category A5 Load Rating Analysis

Department Details:

See Task 1.21 for write up

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 27 - Category B2 Load Rating Analysis

Department Details:

See Task 1.21 for write up

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 28 - Category B3 Load Rating Analysis

Department Details:

See Task 1.21 for write up

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 29 - Category B4 Load Rating Analysis

Department Details:

See Task 1.21 for write up

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 38 - Category D5 Load Rating Analysis

Department Details:

See task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 39 - Category A1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 40 - Category A2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 41 - Category A3 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 42 - Category A4 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 43 - Category A5 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 44 - Category B1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 45 - Category B2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 46 - Category B3 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 47 - Category B4 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 48 - Category C1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 49 - Category C2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 52 - Category D1 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 53 - Category D2 Inspection -subconsultant

Department Details:

See Task 1.3 for write up.

Approach:

Inspections will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 57 - Category A1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 58 - Category A2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 59 - Category A3 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 60 - Category A4 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 61 - Category A5 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 62 - Category B1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 63 - Category B2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 64 - Category B3 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 65 - Category B4 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 66 - Category C1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 67 - Category C2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 70 - Category D1 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Detail Task 71 - Category D2 Load Rating Analysis -subconsultant

Department Details:

See Task 1.21 for write up.

Approach:

Load Rating Analysis will be performed in accordance with the Department Scope of Work and detail; Units will be adjusted to reduce units by Specialty Engineering and to assign units to NTM Engineering.

Consultant Hierarchy

Business Partner	DBE Type	Supervising BP
Mackin Engineering Company	No	
NTM Engineering, Inc.	Yes	Mackin Engineering Company
Specialty Engineering, Inc	Yes	Mackin Engineering Company

Attachments

No records found.