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| fhwa_shield | U.S. D.O.T. – Federal Highway Administration – Missouri Division |
| **Review Focus Area – Structural Steel Pile Driving** |
| Job Piece |       | Project # |       |
| Inspection Date |       | Report Date |       |
| Inspection By  |       | Report # |       |
| DOT District |       | DOT Residency  |       |
| Time Elapsed |       | Work Complete |       |
| PODI Oversight | [ ]  Emphasized [x]  Focused | Inspection Type | [ ]  Initial [ ]  Intermediate[ ]  Final [ ]  Focused |
| Contractor |       |
| Accompanied By |       |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Question** | **Yes** | **Partial** | **No** | **N/A** | **N/V** | Questions | **Reference**  |
| ***Material Specifications*** |
| 1.1 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the pile type, size, grade, and provided quantities match the bridge plans for the location? Comment: | Sec 702.2Plans and Specifications |
| 1.2 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the galvanized coating thickness meet the requirements?Comment: |  Plans and SpecificationsSec 702.4.8.2 |
| 1.3 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does each pile have proper Pile Point Reinforcement per the plans and specifications?Comment: | Plans and specificationsSec 702.4.5 |
| 1.4 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the Pile Point Reinforcement web and flange thickness meet requirements in the specifications? (*For ASTM A27 Grade 65-35 2.0(t), for ASTM A148 Grade 90-60 – 1.6(t) where t = thickness of web or flange)*Comment: | Sec 702.4.5 |
| 1.5 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Galvanizing repairs meet specifications?Comment: | Sec 702.4.8.2 |
| 1.6 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Structural piles meet camber and sweep requirements of (length (ft) /40 in inches)?Comment: | Sec 702.2.2 |
|   | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |  |
| ***Buy America*** |
| 2.1 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the pile material meet Buy America?Comment: | 23 CFR 635.410 |
| 2.2 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the pile point reinforcement material meet Buy America?Comment: | 23 CFR 635.410 |
| 2.3 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the welding rod for field splices meet Buy America?Comment: | 23 CFR 635.410 |
|  |  |  |  |  |  |  |  |
| ***Pile Driving Operations*** |
| 3.1 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was the Pile Driving Verification method specified in the plans, specifications or job special provisions, and was that method used for the substructure unit inspected/reviewed?Comment: | Plans and specifications |
| 3.2 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was the frequency for pile driving verification specified in the plans, specifications or job special provisions, and was that frequency followed for the substructure unit inspected/reviewed?Comment: | Plans and specifications |
| 3.3 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | For subsequent piles, was the results from the pile driving verification method used to determine pile capacity when driving additional piles? (Hammer setting and blow count / inch for refusal, etc.)Comment: | Plans and specifications |
| 3.4 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was prebore or pipe pile spacers incorporated as required? *Prebore or pipe pile spacers are used to reduce downdrag of piles driven into recent fills)*Comment:  | Plans and Specifications |
| 3.5 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was Minimum Nominal Axial Compressive Resistance achieved for each pile as indicated by the Pile Driving Verification method?Comment: | Plans, Sec 702.4.11 |
| 3.6 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was minimum pile tip elevation achieved?Comment: | Plans |
| 3.7 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was Minimum Galvanized Penetration elevation per the plans achieved?Comment: | Plans |
| 3.8 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Were Plie Placement Tolerances met? *(generally ¼” per foot out of plumb and max of 2” off plan position at cut-off for pile caps and 6” off plan position for footings completely buried.)*Comment: | Sec 702.4.4 |
| 3.9 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was pile orientation, spacing and location as specified on the plans? Comment: | Plans |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |  |
| ***Field Splices*** |
| 4.1 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was the top of the lower pile cut square and ground flat? Comment: | Plans, Structural Pile Splice Detail |
| 4.2 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was the bottom of the upper pile ground to the angle shown on the field splice detail in the plans? *(Typically 45*°*)*Comment: |  Plans, Structural Pile Splice Detail |
| 4.3 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was the gap between lower and upper pile sections per the Steel Pile Splice detail in the plans prior to welding? *(Typically 1/8”)*Comment: |  Plans, Structural Pile Splice Detail |
| 4.4 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Were the pile sections lined up reasonably prior to welding?Comment: | Visual |
| 4.5 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Were appropriate welding rods used for the field splices? (Properly dried E7018 rods)Comment: | Section 702.4.6 |
| 4.6 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was welding performed by MoDOT-certified field welders?Comment: | Section 702.4.6 |
|  4.7 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was the galvanizing properly removed in the vicinity of the welding per the Steel Pile Splice detail in the plans.Comment: |  Plans and specifications |
| 4.8 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was galvanizing properly field galvanized where removal was necessary at field splices (if within the required Minimum Galvanized Penetration zone)? Comment: |  Sec 702.4.8.2 |
| 4.9 | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Were lifting holes removed from the finished pile when splicing piles? *(The lifting holes shall be removed when making field splices and shall not be include in the finished pile length at the top)*Comment: | EPG702.1.4.3 |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |  |  |

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|  | **Y/N** |  |
| **Question** | **Promising Practice** | **Major Finding** | **Issue Resolved** | Additional Comments |
|    |   |   |   |       |
|    |   |   |   |       |

**Checklist Follow-Up Action Requirements**

1. All Questions answered as “Partial” or “No” are required to have a comment in the comment section.
2. Comments must describe the deficiency and required follow-up action (if not completed) or the best practice.
3. Comments must contain information on what type of follow-up is required, the manner in which it must be completed (if applicable) and the timeframe to complete the follow-up.
4. Completion of any follow-up required, that is not to be completed prior to the completion of the inspection report, is the responsibility of the MoDOT to complete and/or provide direction to the Contractor to resolve.
5. For general findings or observations that cannot be characterized by a given question and are worthy of being noted, a comment can be provided in the comments section on the checklist but must be entered into the general notes field in the database.