|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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  Focused | Inspection Type | Initial  Intermediate  Final  Focused |
| Contractor |  | | |
| Accompanied By |  | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **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 702.2  Plans and Specifications |
| 1.2 |  |  |  |  |  | Does the galvanized coating thickness meet the requirements?  Comment: | Plans and Specifications  Sec 702.4.8.2 |
| 1.3 |  |  |  |  |  | Does each pile have proper Pile Point Reinforcement per the plans and specifications?  Comment: | Plans and specifications  Sec 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 | | |
|  |  |  |  |  |  |  |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **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.