|  |  |
| --- | --- |
| fhwa_shield |  Federal Highway Administration – Missouri Division |
| **Focused Review - HMA Pavement Construction** |
| MoDOT Job # |  | Federal Project # |  |
| Contract # |  | Inspection Date |  |
| MoDOT District |  | Report Date |  |
| Contractor |  | MoDOT RE |  |
| % Time Elapsed |  | % Work Complete |  |
| Accompanied By |  |

| **Question** | **Yes** | **Partial** | **No** | **N/A** | **Comment** | Questions |
| --- | --- | --- | --- | --- | --- | --- |
| ***Pre-Paving/QC Plan*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Was a pre-paving meeting held and documented by MODOT in accordance with EPG 460.2? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are all MoDOT and Contractor material sampling and testing technicians assigned to the project certified for tests performed on the project? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | At the pre-paving meeting was the approved QC plan reviewed and discussed?*(Contractor technicians and their certification status documented in approved QC Plan)* |
| ***Plant Operation/Field Lab*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the daily plant diary kept in accordance with EPG Article 400.3.5? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the Resident Engineer have a documented approved, verified, tested JMF for plant startup and production?  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Does the approved JMF properly account for effective virgin binder replacement from recycled materials per MoDOT Standard Specification 401.2.2 or project JSP? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | If the contractor adjusted the JMF in the field are the adjustments within tolerance of the approved JMF as allowed by Standard Specification Section 403.11/413.30.6.5?*(Total binder content +/- 0.3% max – new mix design required otherwise, no additional material fractions/new materials, engineer notified prior to any changes to cold feed and Gsb reestablished using revised cold feed percentages if applicable)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is there a documented check by MoDOT of QC calibration records to ensure field lab equipment has been calibrated and/or verified in accordance with Standard Specification Section 403.17.3.1? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the field lab gyratory compactor calibrated and verification process performed and documented daily at start of production?*(Confirm by checking gyratory compactor onboard memory)* |
| ***Surface Preparation*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are air, roadway surface and mix temperatures checked at point of placement and recorded in accordance with MoDOT EPG Article 460.6.3.2? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the surface condition at point of placement satisfactory for tack coat application and paving?*(Not frozen, clean, dry, excessive crack sealant/vegetation removed, necessary pavement repairs made etc.)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is tack coat applied at a rate based on surface type in accordance with MoDOT EPG Table 407.1.4?*(Target application rate 0.05 - 0.10 undiluted gal/sy to 0.06 - 0.13 diluted gal/sy @ 20% maximum water dilution ratio)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | If tack coat emulsion has been water diluted was it terminal blended by the manufacturer in accordance with MoDOT Standard Specification 403.12?*(Dilution rate indicated on manufacturer’s bill of lading - field dilution of tack coat emulsion is not permitted)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the tack coat placed satisfactorily with uniform coverage and minimal pick up/damage from construction traffic?*(For locations where no tracking or low tracking is needed, a Job Special Provision should be specified in the contract.)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Have all structures, curb, gutter, manholes etc. been covered prior to tack coat being applied? |
| ***Hauling Operation*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the hauling operation sufficient to produce a continuous lay down operation by avoiding paver stops due to discontinuity of delivered material? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are truck beds clean/smooth with release agent applied and covered with tarpaulin?*(Approved release agent used in accordance with manufacturer recommendation – no diesel fuel)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are loads being delivered safely and within the legal load limits off project site and on project site?*(Legal load limits may be waived on projects sites with permit from Resident Engineer)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are trucks following best management practices for unloading mix to prevent segregation and surface irregularities?*(Not bumping MTV/paver or engaging at skewed angle; raising bed slightly before opening end gate etc. 460.6.4.1)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Do truck delivery tickets provide the required information per EPG Article 460.3.2?*(Delivery Date & time, tare weights, MoDOT Job Mix Type, Job Number, Route and County, Quantity, and Ticket Number)* |
| ***Paver Operation*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the paver screed consistently heated prior to the start of paving operations and after periods of extended shutdown to avoid sticking? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | If equipped, is the paver screed consistently being operated in vibratory mode to aid compaction? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the contractor using the paver’s automatic transverse slope and longitudinal grade control with minimal manual input? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the paver producing the required even surface without tearing, shoving, gouging or segregation? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | If the project requires a Safety EdgeSM, is the forming device installed properly to the screed to produce the required 30-degree edge taper in accordance with EPG 450.9/Std. Plan 401.00? |
| ***Mat Compaction*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are there sufficient type and size rollers available for compaction?*(Breakdown, intermediate, pneumatic tire etc.)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are roller operations in conformance with Standard Specification 403.15.1?*(No displacement occurring because of roller starting, stopping or changing direction; no excess water, solvents, or other detrimental products used on roller drums or tires as release agents.)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are rollers following established roller pattern and roller best management practices to ensure adequate uniform mat compaction without degradation to materials?*(Adequate pass count, proper following distance behind paver, not operating or sitting on mat in tender zone)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are rollers operating in vibratory mode only when the mix temperature is above 225 F, or 200 F when warm mix technology is used, per Standard Specification 403.15? |
| ***Joint Construction*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are transverse joints constructed in accordance with EPG 460.6.8? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are longitudinal joints constructed in accordance with EPG 460.6.9? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the density of the unconfined longitudinal joint consistently within the maximum allowable 2% below the minimum density of the confined longitudinal joint and traveled way mat? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are rollers avoiding over-rolling the longitudinal joint and crushing aggregate at the confined joint or displacing/shoving materials at the unconfined edge? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Have joints been staggered on successive layers and offset on surface from lane lines (460.6.9)? |
| ***Construction Inspection*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are roadway inspectors reviewing each load of mix for acceptance and rejecting any mix that does not comply with specifications (460.6.6)?*(Reasons for rejecting mix; too hot/cold, excess moisture, lean/fat, segregated, contaminated etc.)*  |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the finished surface mat free of any noted irregularities?*(Free from segregation, raveling, gouges, tears etc.)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Has the Contractor corrected any identified surface mat irregularities? |
| ***Material Sampling and Testing*** |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are both QC and QA technicians following proper procedures to determine volumetrics of the mix and compliance with Standard Specification Sections 403.5.3 through 403.5.5? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | If the absorption of any aggregate fraction used in the mix is greater than 2.0%, is dry-back method used to calculate Rice specific gravity (Gmm) as required by Standard Specification 403.19.3.1.2? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are random numbers identifying roadway core and loose mix sample locations generated by QA and provided to QC in accordance with Standard Specification Section 403.19.1? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Are loose mix samples thoroughly mixed and quartered with an approved splitting/quartering device? |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Is the chain of custody requirement being followed for QA density cores?*(QA density cores not in possession of the engineer shall be sealed in tamper proof bags after extraction)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Do documented measurements of roadway density core heights support achievement of compacted mat lift thickness in attaining contract design pavement thickness?*(Uncompacted mix placed between 120% and 125% of the compacted lift thickness to account for roll down when compacted)* |
|  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | Have all cores holes been properly tacked, filled and compacted using mix under production, or an approved cold patch to prevent pothole formation (460.6.10)? |

|  |  |  |
| --- | --- | --- |
| **Question #** | **Y/N** | Comments |
|  | **Best Practice** | **Major Finding** | **Issue Resolved** |  |
|    |   |   |   |       |
|    |   |   |   |       |
|    |   |   |   |       |
|    |   |   |   |       |
|    |   |   |   |       |
|    |   |   |   |       |