DIVISION 500

BITUMINOUS PAVEMENT

501.00 ASPHALT PAVEMENT CHECKLIST

SSHC References:

Section	*503*	*Asphalt Concrete Pavement*
	1028	*Asphalt Concrete*
	1033	*Aggregates*

Inspection Crew:

Plant Inspector
Laydown Inspector
Lab Inspector

Inspection Equipment:

Nuclear Density Gauge
Thermometer (Surface)
Thickness Ruler
3 m (10 foot) Straightedge
Cleaning Solvent
Insulated Container
Gravel Sampling Bags
Paper Sacks
1.3 m (4 ft.) Carpenter Level
Performance Graded Binder Sample Cans

Inspection Procedures:

1. Review all Plans, Specifications, Road Standards, Materials & Research Manuals/guidance and the *Construction Manual*. Prepare field books.
2. Check traffic control, work zone length, flaggers, signing, pilot car operations.
3. Check project quantities to insure accuracy.
4. Are asphalt concrete mix designs approved?
5. Obtain necessary inspection equipment and review sampling and testing procedures and frequencies.
6. Locate and reference fixtures to be adjusted prior to placing final layer.
7. Does equipment meet requirement of *SSHC*:
   - Trucks
   - Tampers
   - Rollers
   - Material Bins
   - Weighing Equipment
   - Distributors

Spreaders
Brooms
Trenchers
Pavers

8. Check paver screed for proper crown and excessive wear. Are automatic grade and slope controls operational (*SSHC Subsection 503.03*)?
9. Check frequency of vibratory rollers to assure 30-40 impacts/m (100-130 impacts/ft.) with a tachometer.
10. Where a rubber-tired roller is used, verify the manufacturer's recommended contact pressure.
11. Are there enough rollers to obtain required density (*SSHC Subsection 503.04*) and smooth out bumps, ridges, and marks in surface? (*SSHC Subsection 503.03*)
12. Are tarps or insulated truck boxes required? Check for improper use of cleaning solvents. (*SSHC Subsections 501.02 and 503.03*)
13. Check hand equipment. Lutes, rakes, and shovels should be heavy enough to do the job. (*SSHC Subsection 501.02*)
14. Check distributor spray bar height and nozzle angle against manufacturer's recommendations to achieve uniform tack coat. Is the distributor tank calibrated? (*SSHC Subsection 501.02*)
15. Were all vertical faces tack coated?
16. Determine if correct type and rate of tack coat material is being applied. (*SSHC Section 504*)
17. Check each truck load of mix for proper scale ticket. (*SSHC Section 503*)
18. Are trucks properly loaded and within legal weight limits?
19. Is mix being placed at proper temperature range? (*SSHC Subsection 503.04*) Check surface temperature. (*SSHC Subsection 501.01*)
20. Don't expose conveyor. Make sure material is on the hopper conveyor at all times.
21. Is paver hopper near full at all times? (*SSHC Subsection 503.04*) Check flow gates and augers. Paver wings should not be dumped as large aggregate accumulates in the wings. Waste it at the end of each day.

22. Are proper number of trucks available for continuous paving?
23. Compare paver speed to plant output to reduce amount of stopping. (*SSHC Subsection 503.04*)
    Consistent speed results in more consistent pavement properties.
24. Check width, depth, and cross-slope, and compare to spread width typical and typical section as per plan.
25. Check and record yield based on megagrams (tons) of mix required compared to megagrams (tons) of mix used. (Recommend 2-hour intervals)
26. Is gradeline string accurately set and maintained? (*SSHC Subsection 503.04*)
27. Are transverse and longitudinal joints constructed properly? (*SSHC Subsection 503.04 and Construction Manual 502.40.3*)
28. Is surface texture uniform, dense, and free from irregularities, tearing, steel roller marks, check cracks, solvent spots, and segregation? (*SSHC Subsection 503.04*)
29. Check smoothness (*SSHC Section 502*) with 3 m (10 foot) straightedge when profilometer smoothness (*SSHC Section 502*) is not required.
30. Are temporary runouts and fillets in compliance with applicable standards?
31. Obtain required performance graded binder samples. Obtain tack samples if required.
32. Mark original and any recut core locations and observe core sampling. Be sure core holes are properly filled. May use nuclear density gauge to check density.
33. Think safety! Use proper equipment, wear protective clothing, and be aware of contractor's operations.
34. Is the established rolling pattern being maintained and documented? (*SSHC Subsection 503.04*) Are asphalt concrete properties in the test strip determined to be acceptable prior to proceeding?
35. Do shoulder rumble strips conform to the Plan details? Check indentation depth and alignment of strip.
36. Do drop-offs comply with plan details?

37. Has grade and alignment staking been completed and checked?
38. Is subgrade according to plan, stable, and corrected tolerance (*SSHC Section 302*)? Check subgrade according to *Construction Manual 540.1*.
39. Are any string line offsets referenced to permanent stakes?
40. Review "Manufacturer's Operations Manual"
41. Make sure loader operator does not contaminate aggregates.

Laydown Procedures:

1. Keep records on temperature at plant and at laydown site.
2. Asphalt spilled while loading finishing machine must be picked-up.
3. Have Contractor demonstrate how they will maintain level & smooth finishing operation.
4. Keep scale records.
   a. Know what is on the records.
   b. Save records in project files.
5. Note: "Daily Report of Asphaltic Concrete Mass".
6. Do not allow any longitudinal joints in the driving lanes wheel path. Paver must be able to cover the entire lane in one pass.
7. Continuously monitor thickness & notify the Contractor as soon as he/she is out of limits.
8. Take all densities including recuts by random schedule.
9. Traffic will not be allowed over bumps greater than 50 mm (2 inches). Wedges must not exceed 25 mm (1 inch) in 1 m (3 feet) (40 to 1).
10. Before laydown, the surface shall be clean.
11. Verify breakdown rolling has been accomplished before minimum temperature is reached.
12. If thickness is 12.5 mm (½ inch) less than required, then investigate to determine the extent and why.
13. If thickness is 12.5 mm (½ inch) greater than required, investigate to determine the extent and why.

Construction Critical Areas:

1. Asphalt should not be heated to more than 175°C (350°F) in the plant.
2. Asphalt at laydown should be 115 to 160°C (240 to 320°F).
3. Watch joints to make sure they close tightly and attain proper density. Tack vertical face of joints.

Safety Areas:

1. Maintained Traffic:
   a. Keep Contractor vehicles behind pilot car.
   b. Flaggers should use proper procedures.
2. Watch for trucks and loaders traveling at an unsafe speed.
3. Electrical cords near plant must be safely used.
4. All work must comply with OSHA and other applicable safety requirements.

NDR Tests:

1. Nuclear Density Gauge Procedures NDR T 238 & T 587
2. NDR T 99 Soil Density

Sampling Requirement/Freq.:
SSHC Subsection 1028.02

1. Performance Graded Binder
   a. 1 L/Day and 1 L/3400 Mg of mix (1 qt/day & 1 qt/3750 tons).
2. Asphalt Concrete
   a. Density Cores: 1/680 Mg; 5 cores/3400 Mg Lot (1/750 tons; 5 cores/2750 ton lot)
   b. Thickness Cores: (See contract Special Provisions.)
   c. Mix Properties: 1/1000 Mg (1/1100 tons)

Inspector's Records & Forms:

1. Profilogram
2. DR Form 143 - Pavement Marking Report
3. DR Form 261 - Daily Report of Cores Drilled
4. DR Form 295 - Summary of Quantities and Location of Surfaced Intersections and Driveways
5. Density Pay Factor Summary (DR Form 173 or equal)