

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Prior to Concrete Placement				
Check proof rolling of subgrade	Everywhere prior to final trimming of subgrade.		Specification 2301.03, B, 3 all PCC paving Specification 2115.03, B, 2 Modified Subbase	All subgrades should be proof rolled with a sheep's foot roller no more than 1 week prior to trimming of the final grade. In addition, when Modified Subbase is used, the subgrade is to be proof rolled with a loaded truck to identify soft spots, etc.
Check stringline	As needed			Prior to checking subgrade and subbase cross slope and elevation, check to ensure that the stringline is properly placed relative to the paving hub. This can be done simply by measuring from the paving hub up to the stringline. Make sure to factor in the contractor's machine constant when measuring.
Check trimmed subgrade	10/mile (IM-204)	Form E109	Specification 2109.03, A, 10 plus or minus 0.05 foot	Check to ensure subgrade is trimmed to the proper cross slope and elevation. Usually checked by placing string across subgrade from stringline to stringline and measuring down to top of subgrade. When stringline is not available, a survey rod and level may be used. Laser levels have been used but are less common. GPS rovers have also been used, but are not accurate enough to measure within the specification tolerances.
Make sure the contractor is not driving haul vehicles on granular subbase	As needed		Specification 2111.03, E	The specification prohibits the contractor from driving on the granular subbase material. This is a concern because excessive haul traffic on the granular subbase material can cause the material to break down and generate an excessive amount of fines. This is undesirable because granular subbase is intended to be a drainable material. Haul equipment must be operated on the material for delivery and placement purposes. A reasonable expectation of the contractor is that they get on and off the material within a 500 to 1000 foot stretch. When recycled materials are used, the distance should be kept closer to 500 feet. When virgin materials are used, the distance can be extended up to 1000 feet depending upon how much breakdown of the material occurs.

Appendix 9-9:1

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Check trimmed subbase (granular or modified)	10/mile (IM-204)	Form E109	<p>Modified Subbase Specification 2115.03 plus 0 and minus 0.05 foot IM 204 Appendix C</p> <p>Granular Subbase Specification 2111.03, D, 4 plus 0 and minus 0.05 foot IM 204 Appendix D</p>	<p>Check to ensure subbase is trimmed to the proper cross slope and elevation. This, along with the subgrade checks, will ensure proper subbase thickness. Usually checked by placing string across subbase from stringline to stringline and measuring down to top of subbase.</p> <p>When stringline is not available, a level may be used. Laser levels have been used but are less common. GPS rovers have also been used, but are not accurate. The width of the subbase should also be checked at this time to ensure that the proper placement width is being achieved. Note that subbase width typically includes an added three feet on each side of the pavement for a padline.</p>
Check steel reinforcement storage			<p>Specification 4151.03, G</p>	<p>Steel reinforcement should be stored in a manner that reduces the risk of corrosion, damage, and breakdown of epoxy coating. All reinforcement is to be stored on supports to prevent contact with the ground and extended contact with moisture. Epoxy coated bars should be covered with a non-transparent material if exposed for 2 months or more.</p>
Check dowel basket placement		Form E111	<p>Specification 2301.03, E Specification 4151.02, B Road Standard PV-101 Paving typicals in B sheets of project plans</p>	<p>Dowel baskets should be checked for spacing, alignment, proper anchorage, and adequate bond breaker coating. A quick and simple method to check alignment is to sight down the grade. Baskets that are out of alignment will be visible as the dowels will not line up. The baskets should also be checked to ensure that the dowel bars are level and parallel with each other. It is important to check alignment of dowels to ensure that the contraction joint works properly in the pavement. Once the joint is sawed and the pavement cracks, the concrete is intended to slide over the dowel as the pavement expands and contracts. If the dowels are out of alignment, the pavement cannot properly slide on the dowels which may result in random cracking.</p>

Appendix 9-9.2

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
				Baskets should be anchored with a minimum of 8 basket stakes per lane width. Dowel baskets are required to be coated with a bond breaker. Typically the bond breakers used are a bituminous material or a paraffin based material called Tectyl. Often the bituminous coating can become dry and brittle and will develop cracks in the material. If this occurs, recoating of the bars may be necessary. The contractor is not required to cut the tie wires on the baskets as long as the basket is manufactured correctly. The PV-101 road standard shows three #10 gauge wires on the basket. If more than three wires are provided, only three may be left uncut. One final check that should be made for dowel baskets is to check that the contractor has marked the center of each end of the basket to identify the location of the basket for purposes of sawing. This is typically done by placing a basket stake off each end of the basket along with a paint mark.
Inspect the finishing machine	Once each paver and when information changes.	Form 830213	Specification 2301.03, A, 3 Construction Manual Appendix 9-3	A few days prior to start of paving, several checks should be made on the paver, and form 830213 should be completed. Use this form to record vibrator spacing and angle. The paver width and cross slope should also be checked. The form can also be used to record vibrator frequency checks during paving.
Check paver vibration monitoring system			Specification 2301.03, A, 3, a Vibration monitoring required for all projects with mainline paving quantities greater than 50,000 square yards	Discuss layout of vibrators with contractor to confirm locations of each relative to data being recorded on monitoring system.
Check paver vibrator spacing	Once each paver and each time the paver width is changed.		Specification 2301.03 A, 3, a 16 inch maximum spacing	Record on form 830213. Spacing may be increased due to structural limitations of finishing machine. Greater spacing should not be allowed for tie steel insertion or lack of correct number of vibrators.
Check paver vibrator angle	Once each paver.		Specification 2301.03 A, 3, a Vibrators should be mounted parallel to direction of paving and trailing end tilted to approximately 15 degrees below horizontal	Record on form 830213.

Appendix 9-9.3

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
During Concrete Placement				
Place date in headers	Daily			The date should be stamped in the headers at the beginning and end of each day's run. The date should be placed in the outer 2 feet of the pavement in a position where it will not be destroyed by possible milled shoulder rumble strip placement.
Check subgrade/subbase moisture	As needed.		Specification 2109.03, B Specification 2301.03, B	The subgrade or subbase should be periodically checked throughout the paving day to ensure that the material is uniformly moist. Moisture should be added as needed to keep the material in a uniformly moist condition. As the subgrade or subbase material dries out, moisture will be wicked out of the concrete and can cause loss of strength and reduction in effective pavement thickness. After periods of rain, addition of moisture may not be necessary if sufficient moisture is present.
Check dowel baskets	Periodically		Specification 2301.03, E	It is a good practice to periodically walk out in front of the paving train and check to make sure dowel baskets are still in proper alignment and free from contamination. Occasionally baskets can become damaged or contaminated with mud or other debris during handling and placement. These baskets should be cleaned and repaired or removed and replaced.
Check joint layouts	As needed		Specification 2301.03, E K and L sheets in project plans	There are certain locations on a project where specific joint types and spacings are required. Areas such as turn lanes, paved crossovers, and side road connections will have a specific jointing layout included in the K and L sheets of the project plans. It is important to review the project plans and inspect the contractors jointing layout prior to placing concrete.

Appendix 9-9.4

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Check concrete delivery time	At start of concrete placement and when delivery routes or distances change	Ready mix - Form 830212 Central batch - N/A	Specification 2301.02, C, 4	The specification requires that concrete hauled without continuous agitation be placed within 30 minutes after batching. This time may be extended an additional 30 minutes when a retarder is used with approval of the Engineer. Concrete hauled with continuous agitation must be placed within 90 minutes after batching. When using ready mix concrete, the time batched should be included on Form 830212 (Ready Mix Concrete) when received on grade. After discharge, the discharge time should also be recorded on the form. For central batch concrete, haul routes and haul times should be discussed with the contractor prior to placement. Factors such as delays due to heavy traffic (i.e. - rush hour in an urban area) should be discussed along with possible alternate haul routes. Haul times should be observed and recorded in the daily diary for the project.
Check and document water added on grade	Each load	Form 830212	Specification 2301.02, C, 4	Record water added to each load on the ready mix ticket for that load. Total water added to all loads for the placement should be totaled and reported to the plant inspector for inclusion on the plant report.
Check concrete placement operation	Periodically		Specification 2301.03, F Specification 2301.03, J	<p>Concrete should be placed in a manner that minimizes segregation and disturbance of reinforcement. When a belt placer is being used, check to make sure that a deflector is in place and being used. This will help to minimize segregation. During hand placements, hand operated vibrators should not be used to move the concrete. They should only be used for consolidation purposes.</p> <p>Concrete placement should also be monitored to ensure that concrete does not sit on the grade for more than 30 minutes before consolidation and finishing. This is to ensure that the concrete is plastic and workable when consolidated and finished by the finishing machine.</p>
Test slump of plastic concrete	Minimum 1/700 CY Minimum of 1 test per placement	Form E115 Form E111	Specification 2301.02, B, 3 Slip form paving N/A Non-slip form paving 0.5" to 4" IM 204 Appendix E, IM 317	There are no slump requirements for slip form pavement since the ability of the pavement to hold a slipped edge governs slump.

Appendix 9-9.5

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Test entrained air content of plastic concrete	Minimum 1/700 CY Minimum 1/100 CY for transit mix Minimum of 1 test per placement	Form E115 Form E111	Specification 2301.02, B, 4 Slip form paving target of 8% with a tolerance of plus or minus 2% Non slip form paving target of 7% with a tolerance of plus or minus 1.5% IM 204 Appendix E, IM 318, IM 327, IM 527, IM 530 Construction Manual 9.63	<p>As concrete is placed, consolidated, and finished, air entrainment is lost. It is desirable to have an entrained air content of approximately 6% after finishing. The specification limits for air content are set up to account for air loss during placement and finishing. Air tests should occasionally be run behind the paver to confirm that the anticipated air loss is occurring and that the desired air content is achieved. It is recommended that air loss through the paver be checked once per day for the first three days of paving on a project. After that, checks should be made weekly to confirm the amount of air loss through the paver.</p> <p>It is important that verification tests for air content are random. Testing frequency must be random in order for the test to be valid. Testing should not be performed at regular intervals or at fixed times each day. On QM-C projects, verification testing should not be timed to match contractor quality control testing.</p>
Observe and record contractor quality control air tests	As requested by contractor	Form E115	Construction Manual 9.63	Contractors are only required to perform quality control (QC) testing on QM-C projects. However, if the contractor elects to perform QC testing on a non-QM-C project, testing should be witnessed and documented, when requested by the contractor. Form E 115 includes a column indicating whether a test is a witnessed QC test or not. Witnessing and documenting contractor QC tests is important because it may reduce the amount of non-compliance and/or testing that a contractor may be responsible for when non-complying material is identified .
Check concrete mix temperature	Daily when near specification limits	Form E111	Specification 2301.03, S Minimum 40 degrees F at time of placement	<p>It is important to check concrete temperatures in the early spring and late fall to ensure that the minimum mix temperatures are achieved. Early spring is the more critical time to ensure minimum mix temperatures since the subgrade/subbase as well as all of the mix ingredients are much colder after the winter. Typically mix temperatures are not an issue in the late fall as the mix ingredients are usually warmer than the ambient air temperatures.</p> <p>While Iowa does not have an upper limit for concrete mix temperatures, temperatures should be taken and recorded when complications with air entrainment or finishing are encountered during hot weather.</p>

Appendix 9-9.6

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Check pavement width and cross slope	At start of paving and when paving widths change	Form E111	Specification 2301.03, A, 3 Specification 2301.03, F and G Paving typicals in B sheets of project plans	Similarly to checks made on the finishing machine prior to start of paving, the pavement itself should be checked to ensure that the proper width and cross slope are provided. Cross slope checks can be accomplished by running a stringline across the pavement from one stringline to another. Measurements can then be made down from the stringline to top of pavement at centerline and both pavement edges to determine the cross slope of the pavement.
Check depth of plastic concrete	Daily	Form E111 Form E110	Specification 2301.03, A, 3 Paving typicals in B sheets of project plans	Typically contractors check the thickness of the pavement in the plastic concrete to ensure that they are paving plan thickness or thicker. This activity should be observed by the grade inspector or the grade inspector should perform the checks on their own if the contractor is not.
Check concrete yield	1/1000 CY	Form E 137 Form E111		Comparison should be made between the cubic yards of concrete batched and the cubic yardage of concrete required for a given area of pavement. Typically the quantity batched will be between 103% and 106% of the quantity required.
Check paver vibrator frequency	2/day	Form 830213 Form E111	Specification 2301.03, A, 3	<p>It has been proven that excessive vibration can cause significant entrained air loss in concrete, and can result in non-durable concrete and premature deterioration. For this reason, vibration should be monitored very closely on every project.</p> <p>The specifications require contractors to use vibration monitoring systems for all slip form paving on projects with quantities 50,000 square yards and greater. These systems record significant information such as vibration rate, station location, paver speed, etc. The systems have a display that shows the vibration rate for each individual vibrator. When a vibration monitoring system is in use, inspectors should still check the vibration rate of individual vibrators by hand to ensure that the monitor is accurate. Vibration monitoring data is required to be submitted to the Engineer. This information should be reviewed on a regular basis to ensure that vibrators are run within the specification limits.</p> <p>For projects less than 50,000 square yards and no vibration monitors, each vibrator on the paver should be checked twice per day to ensure that the vibrator is within the allowable tolerances.</p> <p>The paver operator should never be allowed to adjust the paver vibrator rates prior to or during vibration rate checks.</p>

Appendix 9-9.7

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Check hand operated vibrator frequency	Once per unit	Form E111	Specification 2301.03, A, 3	The specification requires the vibration rate of vibrators used for hand finished pavement to operate between 3500 vpm and 6000 vpm. This should be checked for each vibrator used prior to the first hand pour. Document the check in the daily diary and on Form E111.
Check centerline tie steel insertion in plastic concrete	Daily	Form E111	Specification 2301.03, E Road Standard PV-101	The final location and alignment of tie steel should be checked in the plastic concrete behind the finishing machine. Often a hack saw blade or trowel is inserted into the concrete at centerline to determine the location and depth of centerline tie steel. Once located at centerline, the depth and alignment of the ends of the bar should also be checked to ensure that the bar is not shifted horizontally or vertically out of alignment. Spacing of tie bars can be determined by observing the frequency of insertion on the finishing machine.
Check finishing operation	Periodically		Specification 2301.03, H	<p>The primary purpose for hand finishing behind the finishing machine is to remove small imperfections in the final pavement surface and provide a uniform surface. The surface of the slab should be observed behind the finishing operation to determine if finishing operations are adequate. Occasional "bug holes" are permissible, but should be kept to a minimum. Overfinishing is also undesirable as it can affect pavement smoothness and potentially cause a loss of entrained air at the surface. A balance must be reached between the positive and negative effects of finishing.</p> <p>During finishing, free water may not be added to the surface of the pavement. A small amount of water may be added to a burlap drag attached to the back of the finishing machine. A good indicator that too much water is being added to the burlap drag is the presence of bubbles off the trailing end of the burlap. Another indicator that excessive water has been added to the burlap is the collection of excessive amounts of mortar by the floats. When excessive amounts of mortar are collected, this material should be wasted over the edge of the pavement and not finished into the surface. Addition of water to the burlap should be restricted.</p> <p>For smoothness purposes, the contractor is required to periodically check the pavement longitudinally with a 10 foot straightedge. The surface should not deviate more than 1/8" in 10 feet. Edge slump should also be checked. Up to 1/2" of edge slump is permissible if abutting pavement is not to be placed. If abutting pavement is to be placed, up to 1/4" of edge slump is permitted.</p>

Appendix 9-9.8

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Check structural rumble strip placement (when required)	Periodically		Road Standard PV-11	Check spacing and depth of structural rumble strips in plastic concrete.
Check texture placement in plastic concrete	Periodically	Form E140 Form E111	Specification 2301.03, H Construction Manual 9.40	<p>Microtexture should be placed using artificial turf, coarse carpet, or burlap. Placement of microtexture roughens the pavement surface and provides grip for tires to assist with stopping.</p> <p>Macrotexture (tining) can be placed either longitudinally or transversely (longitudinal tining is most common). Macrotexture is placed to provide a break in the pavement surface to allow water to escape from under tires during a rain and reduce the tendency for hydroplaning. When tining is placed transversely, a 4 to 6 inch gap centered around each transverse joint is to be left untined. Longitudinal tining should be straight and as parallel to centerline as possible. The depth of tining should be kept at or slightly less than the specified 1/8" target to minimize noise created by tires interacting with the pavement surface. When tining is placed longitudinally, a 2 to 3 inch gap centered around each longitudinal joint is to be left untined. Some contractors have attempted to leave a single tine in the center of the gapped area as a marker for their sawing operation. This practice should not be allowed due to concerns about alignment of the centerline sawcut and raveling.</p>
Check cure brand and lot number	Periodically			White pigment cure is typically delivered to a project in reusable totes. The totes should periodically be inspected to ensure that the proper brand and lot number of the cure are identified on the tote. The lot number should also be cross checked with the list of approved lots of cure found on the Office of Materials web site.

Appendix 9-9.9

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Check cure placement	Periodically for uniformity of coverage Daily for yield	Form E111	Specification 2301.03, K	<p>The specifications require cure placement within 30 minutes after finishing. Timing of cure placement should be observed throughout each day to ensure that this requirement is being met. The specification also allows an extension of the 30 minute requirement when weather and/or mix properties require an extended period before curing. This is allowed to ensure tining can be placed at the proper depth. If a mix is still too plastic within the 30 minutes after finishing, it is not desirable to proceed with tining and curing if the tining depth will be too deep.</p> <p>Cure placement should be checked to ensure uniformity of application. Streaks should be minimal and areas of visible gray should be recured. Yield checks should be performed daily based upon total cure applied throughout the days run and the total square yardage of pavement cured including the sides of the pavement. If forms are used to support the edge of pavement, the pavement edge should be cured by hand if the forms are removed prior to the pavement reaching opening strength.</p>
Place station markers in plastic concrete	Each station			<p>Station markers should be placed in the outside two feet of the mainline pavement and in a position where they will not be removed or destroyed by possible milled shoulder rumble strip placement. If a station marker happens to fall on a transverse joint location, shift the marker to avoid falling on the joint. Place station markers facing outward so they can be read from the shoulder.</p>
Check cold weather protection	When used	Form E137 Form E111	Specification 2301.03, K Specification 2301.05, J	<p>Monitor forecast temperature conditions to determine if cold weather protection will be necessary during curing. Table 2301.03-1 identifies the required covering necessary based on forecast low temperatures. The table also includes conditions under which the cold weather protection may be removed. Quantities of cold weather protection must be tracked and recorded since payment is made to the contractor for providing it (see 2301.05, J).</p>
Cast concrete beams to determine pavement opening strength	Two per day when maturity is not used to determine opening strength	Form E114	Specification 2301.03, U IM 328 IM 316	<p>On projects in which the contractor chooses not to use maturity to determine pavement opening strength, opening strength is determined based upon a combination of time and flexural strength. Two beams are cast daily. Beams should be cured similarly to the pavement and stored on site overnight. The following day the beams can be moved to plant inspectors lab for further curing until broken. Care should be taken in handling the beams to avoid detrimental cracking that may cause low strength results.</p>

Appendix 9-9:10

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Cast concrete beams for pavement design purposes	One set of two beams every 10,000 CY	N/A Beams tested in Central Materials	IM 328 QM-C Developmental Specification	On QM-C projects, inspectors should cast one set of two beams every 10,000 CY. These beams are to be delivered to Central Materials to be tested for 28 day flexural strength. Information obtained from testing of these beams is used to assist in future pavement designs.
Monitor maturity probe placement on projects where maturity is used to determine pavement opening strength	Daily	Form E141 Form M142	Specification 2301.03, U IM 383	On projects in which the contractor chooses to use maturity to determine opening strength, the contractor is responsible for placement of the maturity probes and taking temperature readings. However, probe placement should be observed to ensure the temperature readings accurately reflect the temperature of the pavement. For instance, if portions of the pavement are in shaded areas, additional probes should be placed there as that pavement will gain temperature and strength more slowly than the unshaded areas. Maturity probe locations should be recorded on Form E141.

Appendix 9-9.11

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
After Concrete Placement				
Report water added on grade to plant inspector	Daily/each placement	Form 830212	IM 527	The plant inspector is required to report average water/cement ratio for each placement on the project plant report. When using ready mix concrete, this requires water added on the grade to be tracked and reported back to the plant inspector. Water added on grade should be reported to the plant inspector on a daily basis to allow timely completion of the plant report.
Check milled rumble strip placement		N/A	Road Standard PV-12 and PV-13	Milled rumble strips may be placed on the shoulder or centerline of the roadway. They are placed in the hardened concrete after opening strength is achieved. Rumble strip placement should be checked to ensure proper spacing, depth, and location requirements are being met.
Check saw cuts	Daily	Joint Check Worksheet	Specification 2301.03, N Road Standard PV-101 K and L sheets in project plans Construction Manual 9.20	Saw cuts should be checked daily to ensure proper depth, width, layout, straightness, and spacing. It is important to keep in mind that even though the joint layout may be correct during placement, the saw crew may not saw joints at the correct locations. Occasionally saw cutting errors are made in irregular areas due to lack of adequate marking of the joint layout in the plastic concrete. This may result in the saw operator not knowing where and/or what type of joints to saw. Saw cuts should also be checked to make sure the saw operator is pulling up the blade before reaching the edge of pavement as shown on the PV-101 standard. This is important for early entry sawing as the backward rotation of the saw blade can "blow out" the edge of the pavement if the saw cut is not stopped short of the pavement edge.
Check joint filling	Daily	Joint Check Worksheet	Specification 2301.03, P Road Standard PV-101 Construction Manual 9.20	Joints should be checked to ensure that they are properly cleaned before filling, and joint filler should be placed to the proper level. Unless otherwise approved, joint filling should only be performed when pavement and ambient air temperatures are above 40 degrees F.

Appendix 9-9.12

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Check texture placement in hardened concrete	Daily	Form E140	Specification 2301.03, H Construction Manual 9.40	In addition to the checks made in plastic concrete, macrotexture should also be checked in the hardened concrete. The depth of the tining should be checked to ensure that it falls within the specification requirements. The procedure outlined in Construction Manual 9.43 should be followed to determine compliance with tining depth requirements.
Review initial contractor smoothness information	Daily until 3 consecutive days of 100% pay or better	N/A	Specification 2317 Specification 2316 IM 341	The contractor is required to submit smoothness information daily until they have paved for three consecutive days resulting in 100% payment or better. There are several reasons for this requirement. First is to identify if there are equipment or process issues causing placement problems in the paving operation. It is not desirable to allow the contractor to continue paving if acceptable smoothness levels are not being achieved. This requirement also may identify problems in the contractor's smoothness evaluation. It also gives inspection staff the opportunity to review the contractor's profilograph settings to make sure they are correct.
Review final contractor smoothness information	After submittal of final profilograph reports and traces	N/A	Specification 2317 Specification 2316 IM 341	The contractor is required to submit all final profilograph reports and traces to the Engineer within 14 days after completion of paving. After receipt of all final reports and traces, the information should be reviewed to ensure that all sections of pavement have been evaluated. In addition, the smoothness information should be evaluated to determine if the incentive or disincentive requested by the contractor is accurate.
Determine time for opening pavement for use	Daily/as needed	Form E114	Specification 2301.03, U Form E141	The contractor is responsible for curing and breaking beams to determine time of opening. The contractor is also responsible for placing probes, taking temperature readings, and calculating TTF when maturity is used. However, the Engineer is responsible to determine if a section of pavement may be opened to traffic. For this reason, beam break and maturity information should be obtained from the contractor and reviewed prior to opening pavement to traffic. Maturity information should be recorded on Form E141.
Check longitudinal tie steel placement in hardened concrete	Spot check in each day's run	Form E111	Specification 2301.03, E Road Standard PV-101 Construction Manual 9.26 and 9.27	Check tie steel in hardened concrete to ensure proper alignment and that the correct number of bars are included in each panel (see Construction Manual 9.27). This check is important to determine that the bars are centered across the joint, level, and perpendicular to centerline. Tie steel checks in hardened concrete are typically made using a survey pin finder.

Appendix 9-9:13

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
Determine pavement thickness	Once per project		Specification 2301.04 and 2301.05 IM 346 and 347	<p>There are several steps to take in evaluating pavement thickness. First, random core locations for each section of pavement, as defined by IM 346, should be obtained from District Materials. Then the core locations should be marked on the pavement. Taking of the cores must be witnessed by inspection staff and inspectors must take immediate possession of the cores after removal from the pavement by the contractor. Cores should then be measured according to IM 347 and a thickness index determined for each section of pavement. After measurement, the cores should be delivered to District Materials for assurance testing.</p>

Appendix 9-9.14

PCC Paving Field Inspection Checklist

01/31/13

Duty	Frequency	Record Checks	Specification/Resource	Commentary
General				
Check traffic control	When travelling on the project			Even though traffic control checks are a responsibility of the contractor, if problems or deficiencies are observed, inform the contractor when the observations are made so that corrections can be made in a timely manner.
Check contractor's traffic control daily diary	As needed	N/A	Specification 2528.1, C	The contractor is required to check traffic control and record significant information. It is a good practice to review the contractor's diary occasionally to ensure that documentation is being recorded as required. For instance, after noting damaged signing or deficiencies in the traffic control devices or setup, review the daily diary to ensure the deficiencies and the remedies are recorded.
Monitor the project for fugitive dust	Daily	N/A	Specification 1107.07, E	The contractor is responsible for controlling fugitive dust on the project. When dust is being generated and leaving the project site, the contractor should be reminded of their responsibility to control dust and a request should be made to take measures to do so. In urban areas, it is even more critical that dust be controlled as property owners will be more sensitive to dust generated by the project.
Monitor contractor haul roads	Daily	N/A	Construction Manual 2.12	The contractor is required to submit a request for haul road designation for roads used to haul materials for the project. Once designated as a haul route, the contractor is expected to use the haul route for the designated purpose. The contractor's operations should be observed daily to ensure that haul traffic is using the appropriate, approved haul routes.
Issue noncompliance notices	When noncompliance occurs	Form 830245		The owner is obligated to notify the contractor in writing when noncompliance occurs. This is done using Form 830245. Noncompliance notices should be issued as quickly as practical after observation of the noncompliance to give the contractor ample time to take corrective action. The noncompliance notice also provides a written record of notification being provided to the contractor.

Appendix 9-9:15