
CONTRACTOR LIABILITY AFTER CONTRACT ACCEPTANCE

Upon the acceptance of the project, the contractual obligations of the contractor are satisfied as long as the pavement continues to meet or exceed the warranted values as defined herein.

PCCP, WARRANTED

1. DESCRIPTION. This work shall consist of the construction of warranted PCCP in conformance with the lines and grades shown on the plans as directed by the Department and as follows.

The Contractor shall be responsible for the warranted PCCP for a period of ten (10) years after the date all warranted PCCP is complete and open to unrestricted traffic. The pavement will be designed for **XX,XXX,000** ESALs.

The Contractor shall establish the Concrete Mix Design (CMD) and select all materials in accordance with 501.03.

The Contractor shall develop and submit to the Department a Quality Control Plan that meets the requirements as outlined in Section 10.

The provisions of the warranty work shall apply to all PCCP placed as mainline or shoulders. Section 501 of the Standard Specifications are exempted except 501.03, 501.10, 501.11, 501.18, 501.19, 501.20, 501.24, and 501.25.

The requirements of 503.04 are amended to allow dowel bar inserters in lieu of Dowel Bar Assemblies. The maximum angle of deviation of the bars shall not exceed 1 in 48 units during placement. Dowel bars shall be placed 150 mm (6 in.) from the edges of the pavement and spaced at 0.3 m (1 ft) on center across the joint.

2. WARRANTY. Upon completion of all warranted PCCP and opening of the warranted pavement to unrestricted traffic, the Warranty Bond shall be in effect for a total of ten (10) years. The warranty bond must be properly executed by a

surety company satisfactory to the Department and be payable to the State of Indiana and submitted with the bid.

The warranty bond is \$X,000,000.00 (based on 20-40% of warranted item estimate cost) for the warranted PCCP. The bond is intended to insure completion of required warranty work, including payments for all labor, equipment, materials and closure periods used to remediate any warranted pavement distresses.

Upon the final acceptance of the project, the contractual obligations of the contractor are satisfied as long as the pavement continues to meet or exceed the warranted values as defined herein.

All warranty work shall be in accordance with Section 5 as defined herein. At the end of the warranty period, the Contractor will be released from further warranty work or responsibility, provided all previous warranty work has been satisfactorily completed and accepted by the Department.

3. CONFLICT RESOLUTION TEAM (TEAM). The scope of the Team includes all issues concerning the warranted pavement relative to: material selection, quality control plan, distress rate, and remediation.

The Team will consist of two Contractor representatives, two Department (District and Central Office) representatives, and a fifth person mutually agreed upon by both the Department and the Contractor. Any costs for the fifth person will be equally shared between the Department and the Contractor.

The Team members shall be identified in writing at the pre-construction meeting and will be knowledgeable in the terms and conditions of this warranty and the methods used in the measurement and calculation of pavement distress. Should any impasse develop, the Team will render a final recommendation to the Chief Engineer by a majority vote. Each member has an equal vote.

4. WARRANTY WORK. During the warranty period remedial work shall be performed at no cost to the Department and shall be based on the results of pavement distress surveys. Remedial work to be performed and materials to be used will be the joint decision of the Contractor and the Department.

Prior to proceeding with any warranty work or monitoring, a Miscellaneous Permit shall be obtained from the Department.

A minimum of two mainline lanes in each direction shall be open to unrestricted traffic during any closure period when warranty work is performed. Costs for closure periods will be applied using the following closure period rates:

Peak Hour: \$2,000.00/lane/hour
Non - Peak Hour: \$400.00/lane/hour

Weekday and weekend peak hours are from 6:00 AM to 8:00 PM, and non-peak hours are from 8:00 PM to 6:00 AM.

During the warranty period, the Contractor may monitor the warranted PCCP using nondestructive procedures. All proposed remedial action(s) shall be coordinated with the Department.

The Contractor, without prior consent of the Department, may not perform coring, milling, grinding, or other destructive procedures. If the Contractor elects to conduct any independent testing, both destructive and non-destructive, the equipment shall be calibrated and correlated with the Department's equipment.

The Contractor shall not be responsible for damages to the pavement as a result of coring, milling or other destructive procedures conducted by the Department.

The Contractor shall have the first option to perform the remedial work. If, in the opinion of the Department, the problem requires immediate attention for safety of the traveling public and the Contractor has not performed the remedial work within twenty-four (24) hours, the Department has the option to have the remedial work performed by other forces. The Contractor shall be responsible to pay for all the cost incurred. Remedial work performed by other forces shall not alter the requirements, responsibilities, or obligations of the warranty.

5. PAVEMENT DISTRESS INDICATORS, THRESHOLDS AND REMEDIAL ACTION. The Department will use the following pavement distress indicators:

For Mainline, Auxiliary Lanes, and Shoulders:

- Friction Number
- International Roughness Index (IRI)
- Joint Sealant Condition
- Longitudinal Cracking
- Scaling
- Transverse Cracking

The Department procedures for the measurement, evaluation, and reporting of pavement distresses for warranted PCCP are contained in Section 11.

The Contractor will be advised of the schedule for pavement surveys. The results will be made available to the District, Central Office, and Contractor within 14 days after completion of the survey. If the Contractor disputes the survey findings, written notification of the dispute shall be provided within 30 days of receiving the survey results. Any such dispute must be based on appraisals of data supplied or additional information performed by a licensed professional engineer.

The final condition survey will occur by July 15, 20xx. Remedial work, if required, shall be completed by October 1, 20xx. Written acceptance by the Department will be given following completion of any remedial work.

If any pavement condition survey indicates remedial action is required, the Contractor shall submit a remedial action plan. After the Department approves the remedial action, the Contractor shall perform the remedial work according to the following minimum standards:

Map Cracks (Structural Failure)

Remove and replace distressed PCCP. The removal area to be 100 percent of the distressed area to a depth not to exceed the PCCP and the full lane width.

Longitudinal Cracks

Repaired by routing and sealing in accordance with 507.

Transverse Crack

Repaired by routing and sealing in accordance with 507.

Potholes, and Other Disintegrated Areas

Remove and replace the distressed area(s). The removal area to be 100 percent of the distressed area to a depth not to exceed the PCCP and the full lane width.

Scaling

Diamond Grind/Profiling in accordance with 507 and retexture.

Low Friction

Average Friction Number less than 35: Diamond Grind/Profiling in accordance with 507 and retexture.

Three consecutive Friction Numbers less than 25: Remove and replace the PCCP full lane width within the limits of the consecutive numbers less than 25.

Joint Sealant Failure

Clean, saw, and reseal as required with joint seals or sealant full lane width.

Warranty requirements for all remediation work will be limited to the life of the original contract warranty.

If any of the threshold levels are met or exceeded and the Contractor does not agree to the pavement distress survey results or, the Department does not agree with the proposed remedial action, the Conflict Resolution Team will provide a recommendation within 30 days.

Remedial action shall be performed on all segments of the project where the threshold levels are met or exceeded. If areas of warranted pavement which are not within the measured area are suspected of meeting or exceeding a threshold level, the Department will conduct a distress survey to see if a threshold level has been met or exceeded.

Remedial action shall be taken by October 1 of the same calendar year as the survey that indicated the threshold level is met or exceeded. If, anytime during the warranty period, 30 percent or more of the project segments require, or have received remedial action, then the entire project shall receive a remedial action as determined by the Contractor and the Department. If an impasse develops, the Conflict Resolution Team will make a final recommendation.

If remedial action work or elective/preventive action work performed by the Contractor necessitates a corrective

action to the pavement markings, adjacent lane(s) or roadway shoulders, then such corrective action to the pavement markings, adjacent lane(s) and shoulders will be the responsibility of the Contractor.

The threshold values for each evaluation section are as follows:

The pavement threshold values for the warranted distresses are:

Pavement Performance Indicators	Evaluation Section	Threshold Values	Notes
Friction Number	Three Consecutive Sites	< 25	
	Entire Contract per lane	< 35 Average of all tests	
International Roughness Index (IRI)	100 m (325 ft)	1.4 m/km (90 in./mi.)	
Joint Sealant Condition	150 m (500 ft) Beginning at each Reference Marker	1.3 m (4.0 ft)	Each Occurrence
		4.0 m (12 ft)	Cumulative total
Longitudinal Cracking	100 m (325 ft)	0.0 m (0.0 ft)	Severity 2 or greater
Scaling	150 m (500 ft) Beginning at each Reference Marker	2 m ² (20 ft ²)	Each Occurrence
		20 m ² (80 ft ²)	Cumulative total
Transverse Cracking	100 m (325 ft)	0.0 m (0.0 ft)	Severity 1 or greater

The Contractor will not be held responsible for distresses that are caused by factors beyond the control of the Contractor. The Contractor shall provide proof that the warranted pavement in question is of proper thickness (not thinner than 13 mm (0.5 in.) from plan thickness) and the concrete strength determined from cores and one of the following are true: the subgrade density is less than 90 percent of maximum dry density, and the actual number of Class 5 or greater trucks are 50 percent above the projected

ten year number of Class 5 or greater trucks. The ten year projected number of Class 5 or greater trucks for this project is XX,X00,000.

6. **ELECTIVE/PREVENTIVE ACTION.** Elective/preventive action shall be the Contractor's option with the concurrence of the Department. For elective/preventive actions, closure periods are not charged.

7. **DEPARTMENT MAINTENANCE.** The Department will perform routine maintenance during the warranty period such as snow plowing, applying de-icing chemicals, repairs to safety appurtenances, pavement markings, mowing and sign maintenance. During the warranty period, the Department will perform no routine pavement surface maintenance activities.

8. **METHOD OF MEASUREMENT.** Warranted PCCP will be measured by the square meter (square yard) of the thickness specified on the quantity placed in accordance with 109.01(b) of the standard specifications.

9. **BASIS OF PAYMENT.** The accepted quantities of this work will be paid for at the contract unit price per square meter (square yard) for PCCP, Warranted, for the thickness specified, completed in place. Payment will be full compensation for furnishing, preparing, hauling, mixing and placing all materials, including D-1 Contraction Joints, and finishing and curing of the Warranted PCCP. The Warranty Bond, warranty work, Concrete Mix Designs, Quality Control Plan and all testing, record keeping, sampling and traffic control for remedial or elective/preventative action work are included in the contract unit price.

Payment will be made under:

Pay Item	Pay Unit
PCCP, Warranted	m ² (syd)

10. **Quality Control Plan for Warranted PCCP.** This section covers the preparation of a QCP by a Contractor. The QCP shall be provided, maintained, and followed to assure all materials furnished and placed for acceptance are in accordance with the contract requirements.

10.1 **Standards.** AASHTO, ASTM, ITM, and other referenced standards will be identified.

10.2 General Requirements.

10.2.1 The QCP shall be contract specific and state how the Contractor proposes to control the materials, equipment, and production methods on the project.

10.2.2 The QCP shall contain the name, qualifications, telephone number, duties, and employer of all quality control personnel necessary to implement the QCP. The minimum number of quality control functions shall be as follows:

10.2.2(a) QCP Manager -- the person who is responsible for the overall administration of the QCP.

10.2.2(b) QCP Site Manager -- the person who is responsible for the execution of the QCP and liaison with the Engineer.

10.2.2(c) Quality Control Technician -- the person who is responsible for conducting quality control tests and inspection to implement the QCP. The Quality Control Technician shall be an American Concrete Institute certified concrete field-testing technician, grade 1. There may be more than one quality control technician

10.2.3 One quality control person may perform the duties of any of the other functions listed in 10.2.2(a), 10.2.2(b), or 10.2.2(c).

10.3 QCP Requirements. The QCP shall contain, but not be limited to, the proposed methods of sampling, testing, calibration, construction control, monitoring, and anticipated frequencies.

10.4 Paving Operations. Placement operations shall not begin before the QCP has been accepted.

- 10.5 The QCP shall be signed and dated by the Contractor's representative at the time it is submitted to the Engineer.
- 10.6 The Department will review the QCP contents for compliance with the requirements as stated herein.
- 10.7 The QCP shall be maintained to reflect the current status of the operations, and revisions shall be provided in writing prior to initiating the change. The change shall not be implemented until the revision has been received and accepted by the Department.
- 10.8 **Laboratory** -- the location of the laboratory for production quality control testing shall be specified. The Engineer shall be permitted access to the laboratory to witness quality control activities, and review quality control results.
- 10.8.1 The laboratory testing equipment shall meet the requirements of the test methods identified for the QCP's mix design methodology and required sampling and testing procedures. The equipment shall be in accordance with AASHTO requirements as applicable.
- 10.8.2 The Contractor shall list the laboratory equipment proposed for quality control testing and the respective procedures for calibration. The AASHTO Cement Concrete Reference Laboratory (CCRL) requirements for laboratory accreditation shall be used as guidelines. The Contractor shall maintain a record of all equipment calibration results at the laboratory
- 10.9 **Materials** -- a list of all materials proposed to be used in the PCCP Including specific properties of each. The Contractor shall also supply sufficient documentation to demonstrate that all materials meet standard quality requirements for the application. The Contractor shall be responsible to certify to the Department that all products used during PCCP production meet the quality requirements as originally specified in the QCP.

- 10.10 Concrete Plant** -- the Concrete Plant shall be approved in accordance with ITM 405, Portland Cement Concrete Plant Inspection.
- 10.11 Materials Sampling and Testing** -- the proposed sampling procedures and size of samples necessary for testing, and controlling as a minimum the air content, unit weight, flexural strength, dowel bar placement, and pavement thickness shall be specified. The test methods and minimum frequencies of the quality control tests shall also be included.
- 10.12 Quality Control Charts** -- a statement that control charts shall be maintained at the laboratory. The charts shall include as a minimum air content, flexural strength, pavement thickness, and other quality control properties as identified in the QCP. All quality control results shall be recorded and included on the control charts within 24 h of testing.
- 10.13 PCCP Variability** -- a list of the quality control parameters that shall be used to control the PCC and the test tolerances to be used during production shall be stated. The acceptable tolerances for single test and multiple test results, as well as corrective action to be taken if the results fall outside acceptable tolerances, shall be included.
- 10.14 Independent Assurance Program** -- acknowledgment of the Independent Assurance Program and the proposed methods to ensure compliance with the program. The requirements for the Independent Assurance Program shall apply to Contractor's personnel conducting quality control testing.
- 10.15 Process Control of Pavement.**
- 10.15.1 Pavement Thickness** -- the procedure for measuring and recording the thickness of the concrete pavement.
- 10.15.2 Surface Profile** -- the procedure for measuring the surface profile and

correcting profile non-compliance of the concrete pavement.

10.15.3 Surface Smoothness -- the procedure for measuring the smoothness and correcting smoothness non-compliance of the concrete pavement. The certification of the profilograph in accordance with ITM 901 shall be included.

10.16 Concrete Paving Operations -- the procedures for placement of the concrete shall include as a minimum the following.

10.16.1 Concrete Hauling -- the equipment and methods for delivery to the paver. The description or plan drawing of the traffic patterns in the vicinity of the plant and for delivery of the concrete mix to the site of work shall be stated. Information concerning temporary adjustments to traffic flow shall be included.

10.16.2 Workability -- when using transit mixers the procedures for adding water to the PCC and the required mixing time to increase workability.

10.16.3 Paving Plan -- the general sequence of construction, the widths and methods of placement for all areas, and the planned date for paving to begin and to be completed on each phase of the project.

10.16.4 Cold Weather Paving -- the procedures to be utilized when ambient temperature is below 2° C (35° F). Procedures shall address protection of subgrade, treatment of concrete components, and protection of the PCCP. ACI 306 may be used for additional guidance.

10.16.5 Night Paving -- the procedures to be utilized for artificial lighting when natural light is insufficient. The procedures shall include the number and

type of units with respect to the paving operations.

- 10.16.6 **Paving** -- the techniques used to place concrete throughout the project with specific details pertaining to difficult locations, such as joining existing pavement, gaps, headers, crossovers, approaches, or tapers.
- 10.16.7 **Equipment** -- identification of the equipment used in the paving operations on each phase of the project.
- 10.16.8 **Alignment and Profile** -- the methods of controlling the alignment and profile.
- 10.16.9 **Placement and Consolidation** -- methods of depositing plastic concrete from the hauling equipment to the grade. The proposed methods of spreading and consolidating shall be included.
- 10.16.10 **Joints** -- the type of seal or sealant to be used and the manufacturers recommended installation procedure for each type of joint construction. The measures to be taken to prevent the flow of cementitious material into previously placed and sawn joints, when placing adjacent concrete pavement shall be included.
- 10.16.11 **D-1 Contraction** -- the procedure for identifying the project conditions so that the joints are continuous from edge of pavement to edge of pavement. Methods of installation, alignment, timing of sawing, and protection shall be included.
- 10.16.12 **Longitudinal** -- the method of construction, which shall include details of how the reinforcing steel is to be placed and when the joints are to be saw cut, at identified planned locations.

10.16.13 Transverse Construction -- the method of construction, which shall include details of the type of header and reinforcing used, when paving operations are suspended.

10.16.14 Longitudinal Construction -- the method of construction and proposed spacing if other than shown on the plans.

10.16.15 Finishing, Texturing, and Curing -- the methods for finishing, texturing, and curing the PCCP. The equipment to be used shall be identified.

10.17 Documentation -- a statement that all material certification, production test reports, quality control charts, test equipment certifications and calibrations, and any other material and/or design or production related records shall be maintained for a period to include the terms of the warranty. The records, either electronic or paper, shall be maintained in a readily accessible location for access by the Department at any time. Upon completion of the placement, and the opening of the warranted PCCP to traffic, a copy of all records shall be provided to the Department.

11. MEASUREMENT, EVALUATION AND REPORTING OF PAVEMENT DISTRESS FOR WARRANTED PCCP PAVEMENTS. The Department will perform routine evaluations of the warranted pavement during the warranty period and will evaluate and report the conditions annually to the Contractor. During the warranty period, the Contractor has the right, with Department concurrence, to independently review the condition of the warranted pavements for their use and information.

11.1 Measurement -- The Department will be using the Friction and the Highway Performance Monitoring System (HPMS) programs to evaluate the warranted pavement distress indicators.

a) The Research Division oversees the friction Testing Program. Warranted pavement friction program will be in accordance with Section 5.3 of the program, dated December 2003 or later.

b) The Program Development Division oversees the Highway Performance Monitoring System program.

11.2 Evaluation -- The Department will evaluate the condition of the pavements on the Interstate system annually and bi-annually for non-Interstate routes for the identified pavement performance indicators. During the warranty period, exclusive of the last year, the evaluations will be conducted on driving lane throughout the length of the project except for friction testing which will be conducted on the driving and passing lane or middle lane or No. 2 lane for multi-lane facilities. The final year evaluations will be conducted on every lane in both directions throughout the length of the project for all pavement performance indicators.

11.2.1 Friction --Friction testing on the warranted pavement contract section will be by the use of a Locked Wheel Trailer as defined by ASTM E274 and a smooth tire in accordance with ASTM E524. Friction tests will be conducted in both directions at each reference post and at the halfway point between the reference posts in both the driving and the passing lane. A minimum of 11 tests will be conducted each direction. If the number of tests is less than 11, then additional tests will be taken at the quarter point between the reference post and the halfway point. The number of locations will depend on the length of the project. The friction values of each site per lane per direction will be determined. The smooth tire friction number typically ranges from 10 to 60 with the higher the number the better the friction resistance of the surface.

11.2.2 International Roughness Index (IRI) -- As part of the Pavement Management System (PMS), the roughness of warranted pavement will be determined. The results of this measurement will be used to monitor deterioration of the warranted contract

section. A van equipped with profile measurement sensors will be used that meets the criteria of the current Highway Performance Monitoring System (HPMS) manual, Appendix 'J', for a Class II device. Calibration of the device and procedures for calculating IRI from the profile shall meet the requirements in the HPMS manual.

The profile of both wheel paths of the right driving lane of four lane roads, the middle lane for 6 lane roads, and the outside middle lane of 8 lane roads in both directions shall be measured and the IRI calculated for each segments along the length of the project. Known landmarks such as bridge joints, reference posts and other control points shall noted to establish references for yearly repeatable tests.

The average IRI of the two wheel path measurements over each segment shall be determined. An example of the results of the measurement and calculations are:

CONTRACT: R 12345		Route: I-543		Test Date	May, 2002
REF POST	BEG LOG	END LOG	IRI LEFT m/km (in./mi)	IRI RIGHT m/km (in./mi)	IRI AVG m/km (in./mi)
37 West	93.50	93.60	0.72 (46)	0.99 (63)	0.85 (54)
	93.60	93.70	0.72 (46)	1.04 (66)	0.88 (56)
	93.70	93.80	0.78 (50)	1.05 (64)	0.90 (57)
	93.80	93.90	2.28 (145)	3.07 (195)	2.68 (170)
(Note: Metric Conversion IRI 1 m/km = IRI 63.36 in./mile)					

Evaluation segments containing bridges, bridge approaches, or other non-warranted sections will be eliminated from consideration. In addition, transitions sections of 10 m (30 ft) from these sections and at construction joints at the beginning and end of the project will be excluded from the section calculation.

11.2.3 Longitudinal Cracking - The Department will rate longitudinal cracks annually at the time

of routine condition survey for the warranted pavements. The procedure is to examine the sections in the travel direction at each reference post and visually rate the severity and extent of the longitudinal cracks. The Department's consultant according to the criteria included in the "Pavement Condition Data Collection Manual" dated October 1997 conducts the rating.

The definition for longitudinal cracking from this manual is:

The condition of the joint in the longitudinal direction due to construction or reflected underlying joints. (Mainly shoulder and lane line joints). Severity is rated by average condition of the worst joint. A joint with no crack is rated as zero (0). Progressive deterioration involves multiple incidental cracks roughly parallel to joints at higher severity levels.

The longitudinal crack may occur at any location in the travel lane and includes shoulder-lane joints, lane joints, paver joints, wheel path or mid-lane cracks in the longitudinal direction.

The distress rating for Longitudinal Joints is:

SEVERITY RATING	
NONE	0 = No observed defect
LIGHT	1 = The crack is 6 mm (0.25 in.) or less wide or the crack is closed by an appropriate functioning sealant
MODERATE	2 = Low spalling, open 6 mm (0.25 in.) wide but less than 13 mm (0.5 in.), greater or a raveled crack. May have small tight random parallel cracks little spalls and raveling
HEAVY	3 = Large open crack greater than 13 mm (0.5 in.) with severe spalls, or random cracks
EXTENT RATING	
LENGTH	Length in meters (feet) of each crack visible in the video in the driving and passing lane for the sample section, with an itemized list of the length of each clearly visible crack. (NOTE: Very fine tight cracks observed in the field may not be visible on video.

The distress is examined and the SEVERITY and EXTENT is rated 0, 1, 2 or 3 based on the above criteria.

11.2.4 Transverse Cracking -- The Department will rate transverse cracks annually at the time of routine condition survey for the warranted pavements. The procedure is to examine the sections in the travel direction at each reference post and visually rate the severity and extent of the transverse cracks. The Department evaluates the cracking is in accordance with the criteria included in the "Pavement Condition Data Collection Manual" dated October 1997 conducts the rating.

The definition for transverse cracking from this manual is:

Transverse cracks are cracks developing at right angles to the centerline. These cracks may be reflection of underlying cracks and joints or cracks due to thermal stress. Transverse cracks include the development of finer parallel and incidental cracks along or around the primary crack at higher levels of distress.

The width of the crack will be used to determine the extent of the cracking and will be reported in lengths.

The distress rating for Transverse Cracks is:

SEVERITY RATING	
NONE	0 = No observed defect
LIGHT	1 = The crack is 6 mm (0.25 in.) or less wide or the crack is closed by an appropriate functioning sealant
MODERATE	2 = Wider open 6 mm (0.25 in.) or greater or a raveled crack. May have small tight random parallel cracks little spalls and raveling
HEAVY	3 = Large open crack with severe spalls, or random cracks open and spalled
EXTENT RATING	
LENGTH	Length in meters (feet) of each crack visible in the video in the driving and passing lane for the sample section, with an itemized list of the length of each clearly visible crack. (NOTE: Very fine tight cracks observed in the field may not be visible on video.)

The distress is examined and the SEVERITY 0, 1, 2, or 3 based on the above criteria rating will be recorded for each section per direction.

11.2.6 General Pavement Distresses -- The Department will monitor pavement warranty performance for acceptance. Roughness and rutting are measured the entire length of the warranty contract section, but only in the specific lanes. Longitudinal cracking and friction are not sampled continuously in the sections. If any values exceed the thresholds are found, more detailed testing and inspection may be conducted to determine the extent and limits of the deficiency. Any area outside the tested lanes or sample sections observed to show deficiencies may also be tested and used to determine the pavement warranty acceptability and to verify the uniformity of the quality of the project.

Roughness measurements are used to monitor the performance of the pavement in lieu of distress surveys. Pavement distresses such as the various types of cracking, corrugations, or distortions are not measured or rated directly, except they may effect the ride measurement and may need correction to provide satisfactory warranty values. The ride measurement does not indicate why the ride may be unsatisfactory. Detailed inspection and testing to examine individual distress mechanisms will be required to determine what remediation will provide the quality required to provide the expected service life of the pavement.

11.3 Reporting --

11.3.1 Friction Testing Evaluation -- The Research Division will prepare a summary report of the results of the testing and submit the results to the Chief, Contracts and Construction Division.

11.3.2 IRI, Cracking Joint Sealant, and Scaling Testing Evaluation - The Program Development Division will prepare a

summary report of the results of the testing and submit the results to the Chief, Contracts and Construction Division.

11.3.3 Performance Pavement Distress Indicators Evaluation - The Contracts and Construction Division will compile the results from the Research and Program Development Divisions, and determine the acceptability of the sections as compared to the threshold values listed in Section 5. The Contracts and Construction Division will prepare a summary and submit it to the Contractor on an annual basis in accordance with Section 4.

12. Final Warranty Acceptance - The Contracts and Construction Division will review the project in the field for any obvious general defects not addressed in the indicators and issue a Final Warranty Acceptance letter following notification by the Materials and Tests Division of receipt of the Warranted Project Quality Control Information in accordance with Section 10.17.
