



Texas Department of Transportation

DESIGN-BUILD SPECIFICATIONS Item 32

November 2021

Item 32

Performance Warranty



[This Item 32 is used when TxDOT requires a five-year Performance Warranty as provided in Section 2.1.4 of the Design-Build Agreement (DBA). A five-year Performance Warranty cannot be used with a Capital Maintenance Agreement (CMA). Where a five-year Performance Warranty is used, DBA Exhibit 4 describes associated amendments to the General Conditions. When using a five-year Performance Warranty, the DBA also includes a one-year general Warranty (materials and workmanship) for all Elements of the Work per Section 3.8 of the General Conditions (as amended by DBA Exhibit 4).]

32.1 General Requirements

32.1.1 General Warranty Obligation

Throughout the Warranty Term, Design-Build (DB) Contractor shall:

- Conduct Warranty inspections at the specified frequency within the Warranty Limits, providing TxDOT the opportunity to attend;
- Keep a record of all Warranty Defects either notified by TxDOT or identified from inspections and the status of repair;
- Respond within the specified periods to TxDOT notification of a Warranty Defect and request for a Warranty Action Plan;
- Perform Warranty Action for all Warranty Defects within the specified repair periods and in accordance with the Contract Documents and the approved Warranty Action Plan;
- Minimize delay and inconvenience to Users when performing Warranty Action;
- Minimize the risk of damage, disturbance, or destruction of third-party property during the performance of Warranty Action;
- Report to TxDOT on the status of Warranty Action; and
- Perform all other obligations identified in this Item 32 and the Contract Documents related to the Warranty.

32.1.1 Warranty Limits

The Warranty Limits are provided in Exhibit 4, Appendix 2 to the DBA, based upon the TxDOT Schematic Design. DB Contractor shall prepare and submit updated Warranty Limits for TxDOT's approval no later than 60 days before Final Acceptance. Warranty Limits shall be consistent with the principles and extents shown in Exhibit 4, Appendix 2 to the DBA and consistent with DB Contractor's Final Design. As a condition to Final Acceptance, DB Contractor shall ensure that the Warranty Limits are correctly and clearly identified including the use of pavement markers approved by TxDOT where Warranty Limits are not otherwise clearly delineated. DB Contractor shall ensure that all markers are correctly positioned and visible as part of the Warranty annual inspection.

32.2 Authorized Representative

Throughout the Warranty Term, DB Contractor shall nominate an individual as the Authorized Representative who is an employee of the DB Contractor and has the authority to respond to all contractual matters that may arise throughout the Warranty Term on behalf of the DB Contractor. The Authorized Representative's responsibilities shall include:

- Response to TxDOT communications and requests for Warranty Action;
- Ensuring that the Warranty Bond is in place;
- Ensuring appropriately qualified personnel from the DB Contractor are in attendance at Warranty Inspections;
- Where required by TxDOT, preparing a Warranty Action Plan for TxDOT's approval;
- Ensuring Warranty Action is performed in accordance with the approved Warranty Action Plan and the Contract Documents;
- Arranging for the prompt performance of Warranty Action within the prescribed repair periods;

- Preparation and timely submittal of required Warranty reports; and
- Maintenance of necessary insurances during the performance of Warranty Action.

DB Contractor shall provide no less than 60 days' notice of its intention to replace the Authorized Representative.

32.3 **Performance Warranty Requirements**

32.3.1 **Warranty Performance Sections**

The basis of all inspections and reporting of Warranty Defects shall be Warranty Performance Sections which shall be a maximum 0.1 miles in length. DB Contractor shall prepare drawings identifying the Warranty Performance Sections and shall submit and update these plans for TxDOT approval with the Warranty Limits drawings. DB Contractor shall use the applicable TxDOT reference marker system to define Warranty Performance Sections.

32.3.2 **Warranty Performance and Measurement Table**

The Performance Warranty applies to the Performance Warranty Elements identified in Attachment 32-1 (Warranty Performance and Measurement Table).

The Warranty Performance and Measurement Table shows, for each Performance Warranty Element:

- A performance objective that each Performance Warranty Element is required to meet or exceed;
- The maximum permitted repair period for the completion of Warranty Action by DB Contractor;
- Inspection and measurement methods that DB Contractor shall use to determine compliance;
- Measurement records with specified performance thresholds defining when Warranty Action shall occur; and
- Minimum requirements for Warranty Action as further described in Section 32.5.

For each measurement record, the condition of the Performance Warranty Element shall meet or exceed the specified requirement, otherwise a Warranty Defect exists and DB Contractor shall perform Warranty Action. The repair period for the completion of Warranty Action shall commence upon the date and time DB Contractor was notified of the Warranty Defect or became aware through Warranty Inspections, whichever came first.

DB Contractor shall conduct permanent repair of a Warranty Defect within the repair period to restore the condition of a Performance Warranty Element such that: (a) the repair is consistent with the minimum corrective Warranty Action; (b) the repair meets the standard required for new construction; (c) the repair addresses the root cause of the Warranty Defect; and (d) upon completion of the repair the specified performance thresholds in the applicable measurement record are achieved.

32.4 **Warranty Defect Recording, Investigation and Mitigation**

32.4.1 **Records of Warranty Defects and Status**

DB Contractor shall identify, and record Warranty Defects through Warranty Inspections described in Section 32.6, and upon notice by TxDOT. DB Contractor shall accurately record the status of Warranty Defects from all sources within an electronic record in a TxDOT approved format available at all times for inspection by TxDOT. Where multiple instances of Warranty Defects exist in a Warranty Element (for example, simultaneous failure to achieve a ride quality requirement in multiple locations), a separate Warranty Defect shall be recorded for each instance where the Performance Objective or Measurement Record requirements for the applicable Warranty Element are not achieved. For example, if a ride quality Warranty Defect exists in three 0.1-mile Warranty Performance Sections, this shall be recorded as three separate Warranty Defects.

The record shall include details of the affected Performance Warranty Element, the nature of the Warranty Defect, the status of Warranty Investigative Inspections, the proposed timing and details of Warranty Action including hazard mitigation where necessary and the status of Warranty Action. A record of a Warranty Defect identifying the status shall be maintained by DB Contractor upon notice by TxDOT regardless of whether the existence of a Warranty Defect is accepted by DB Contractor.

32.4.2 **Warranty Defect Notice and Investigative Inspection**

TxDOT may provide notice to DB Contractor of one or more Warranty Defects at any time before the end of the Warranty Term. Transmittal by TxDOT to DB Contractor of a Specialist Inspection in accordance with Section 32.6.4 showing the existence of a Warranty Defect shall constitute notice under this Section 32.4.2. DB Contractor shall respond to TxDOT within 7 days following TxDOT's notice with an invitation to TxDOT to jointly inspect the Warranty Defect(s) identified in TxDOT's notification (a "Warranty Investigative Inspection") in accordance with Section 32.6.3.

Following the Warranty Investigative Inspection, DB Contractor may confirm in writing its objection to the Warranty Defect notification and its intention to seek Dispute Resolution in accordance with the Contract Documents. Any such objection shall be issued no later than 28 days following the Warranty Investigative Inspection and shall include observations and evidence from the inspection. The attendance by DB Contractor and TxDOT at the Investigative Warranty Inspection and DB Contractor's subsequent written objection shall be a condition precedent to DB Contractor's initiation of Dispute Resolution procedures under the Contract Documents. Failure to issue an objection within 28 days following the Warranty Investigative Inspection shall be deemed DB Contractor's acceptance of the existence of Warranty Defect(s) notified by TxDOT and DB Contractor's acknowledgement of the Warranty Action Plan obligations set forth in Section 32.5.1.

32.4.3 **Warranty Defect Requiring Hazard Mitigation**

TxDOT will determine in its sole discretion whether a Warranty Defect requires hazard mitigation, taking into consideration whether the Warranty Defect:

- Represents an immediate or imminent health or safety hazard to Users or workers;
- Risks immediate or imminent structural failure or deterioration;
- Provides an immediate or imminent risk of damage to a third party's property; or
- Provides an immediate or imminent risk of damage to the environment.

Upon notification by TxDOT that hazard mitigation is required, DB Contractor shall immediately implement hazard mitigation of a Warranty Defect within 24 hours of TxDOT notice and shall continue hazard mitigation until the hazard no longer exists, followed by permanent repair within the time period specified on the Warranty Performance and Measurement Table. Alternatively, DB Contractor may request that TxDOT perform hazard mitigation on DB Contractor's behalf.

If DB Contractor fails to complete hazard mitigation within 24 hours following TxDOT notification, or if DB Contractor requests that TxDOT perform hazard mitigation on its behalf, TxDOT shall be entitled to perform such hazard mitigation using its own resources and the cost of any such action performed by TxDOT shall become a debt due from DB Contractor to TxDOT.

TxDOT may, at its sole discretion, perform with its own forces or have performed by a third party the hazard mitigation of a Warranty Defect without notification to DB Contractor. TxDOT's performance of hazard mitigation, whether or not notified to DB Contractor, shall not excuse DB Contractor from its obligation to perform Warranty Action to affect a permanent repair of any Warranty Defect.

32.4.4 **Maintenance Activities by Others**

To the extent such activities are not DB Contractor's responsibility under the Warranty described in this Item 32 and Section 3.8 of the General Conditions, TxDOT or other applicable Governmental Entity will perform the following:

- Mowing, litter control, sweeping, debris removal, and vegetation control for the Performance Warranty Elements;
- Repair of incident damage to the Performance Warranty Elements;
- Hazard mitigation activities for the Performance Warranty Elements that TxDOT elects to perform itself or that DB Contractor requests that TxDOT performs on its behalf in accordance with Section 32.4.3); and
- Routine maintenance, renewal and replacement activities for all elements other than the Performance Warranty Elements.

Performance of the above maintenance activities by TxDOT or other Governmental Entity (or lack thereof) shall not relieve DB Contractor of its Warranty obligations.

32.5 **Warranty Action Requirements**

32.5.1 **Warranty Action Plan**

Within 28 days after the Warranty Investigative Inspection described in Section 32.4.2, DB Contractor shall submit the Warranty Action Plan for TxDOT review and approval. The Warranty Action Plan shall include the timing, scope, and nature of Warranty Action that DB Contractor proposes. The Warranty Action Plan shall comply with or exceed the minimum corrective Warranty Action applicable to the Warranty Defect as shown on the Warranty Performance and Measurement Table and shall demonstrate that the Warranty Action addresses the root cause of the Warranty Defect, so that upon completion of the Warranty Action there will be no risk of a recurrence of the Warranty Defect. As part of the Warranty Action Plan, DB Contractor shall submit details of how its organization will be established and maintained to effectively manage all elements of the Warranty Action in compliance with the requirements for the Project Management Plan (Section 4.2 of the General Conditions) and the Quality Management Plan (Section 4.3 of the General Conditions).

DB Contractor shall perform the Warranty Action in accordance with the requirements of this Item 32 and the approved Warranty Action Plan. DB Contractor's responsibility to correct Nonconforming Work is set forth in Section 5.3 of the General Conditions and shall be applicable to all Warranty Action.

All Warranty Action shall follow the design and construction requirements within the Contract Documents applicable to the original design, installation or construction, unless changes to design and construction requirements are needed to address the root cause of the Warranty Defect. Where a change in design requirements is needed, the Warranty Action Plan shall include all necessary design Submittals, such as a pavement design revised by DB Contractor and signed and sealed by a Licensed Professional Engineer (PE) consistent with Section 16.4.1.4 of the Design-Build Specifications, with design changes to address the root cause of the Warranty Defect.

32.5.2 **Evidence for Completion of Warranty Action**

Within 28 days after completion of Warranty Action, DB Contractor shall prepare and submit to TxDOT proof documents and conduct joint inspections as approved by TxDOT to verify that each Warranty Defect has been satisfactorily repaired. DB Contractor shall demonstrate that: (a) the repair is consistent with the minimum corrective Warranty Action; (b) the repair meets the standard required for new construction; (c) the repair addresses the root cause of the Warranty Defect; and (d) the specified performance thresholds in the applicable measurement record are achieved. DB Contractor shall submit evidence to TxDOT to verify that the permanent repair of each Warranty Defect meets the above requirements. Such evidence shall include, where applicable, Specialist Inspections performed in accordance with Section 32.6.4.

When a Performance Warranty Element is renewed or replaced through Warranty Action, and upon the first installation of the renewed or replaced Element into the Project, DB Contractor shall not have the benefit of any repair period and the Warranty Action shall not be considered complete until the performance threshold for each affected Performance Warranty Element is met or exceeded for each measurement record in the Warranty Performance and Measurement Table.

32.5.3 **Warranty Action to be Completed within Warranty Term**

The existence of a repair period for Warranty Action is the maximum period permitted for repair and shall not excuse DB Contractor from completing the repair of all Warranty Defects within the Warranty Term. DB Contractor shall perform Warranty Action so that every Warranty Defect, including any Warranty Defect first identified within the final 6 months of the Warranty Term, has been permanently repaired before the end of the Warranty Term. Prior to the end of the Warranty Term, DB Contractor shall submit to TxDOT a complete set of Record Drawings and supporting calculations and details that accurately show all Warranty Actions and any other changes to the Project during the Warranty Term.

32.5.4 **Requirements for Pavement Warranty Action**

If DB Contractor proposes a permanent repair of a pavement Warranty Defect that includes diamond grinding of the pavement surface, DB Contractor shall submit a Warranty Action Plan that provides information regarding equipment and work methods equivalent in detail to that provided in TxDOT Standard Specification Item 585 (Ride Quality for Pavement Surfaces). The maximum cumulative depth of grinding of any pavement

surface shall be ¼" and DB Contractor shall, at TxDOT's sole discretion, provide evidence that this requirement has been achieved by coring of the pavement. Diamond grinding shall not be permitted as a repair method for Warranty Defects in flexible pavement.

For any new pavement construction within the Warranty Limits (including new pavement construction performed as a permanent repair of a Warranty Defect), the requirements of Section 16.5.2 shall apply. For any locations repaired through Warranty Action, including tie-ins to adjacent construction, that fail to meet or exceed the smoothness requirements of Section 16.5.2, DB Contractor shall perform further Warranty Action acceptable to TxDOT at DB Contractor's sole expense.

32.5.5 **Damage to other Elements caused by Warranty Action**

Whenever a Warranty Action disturbs, alters, removes or changes any Element other than a Performance Warranty Element, DB Contractor shall restore the affected Element to a condition no less favorable than its original condition before it was subject to Warranty Action. If the Warranty Action requires removal of or causes damage to adjacent Elements such as pavement markings, guardrail or signs, DB Contractor shall reinstate such Elements to as-new condition as part of the Warranty Action.

32.5.6 **Project Management Requirements for Warranty Action**

Whenever Warranty Action is undertaken that requires design work or construction work, DB Contractor shall, unless otherwise approved by TxDOT, follow all the requirements of Section 4.2 of the General Conditions in connection with Project Management.

32.5.7 **Quality Requirements for Warranty Action**

Whenever Warranty Action is undertaken that requires design work or construction work, DB Contractor shall, unless otherwise approved by TxDOT, follow all the requirements of Section 4.3 of the General Conditions in connection with quality management. DB Contractor shall cause all construction work and materials in connection with Warranty Action to be inspected at the frequencies required in compliance with Section 4.3 of the General Conditions and the TxDOT Quality Assurance Program for CDA/Design-Build Projects (QAP). Depending upon the nature of the Warranty Action, TxDOT may waive any or all of the following requirements at its sole discretion:

- Submittal of design in stages of development in accordance with Attachment 4-1 of the General Conditions;
- Employment of one or more independent organization(s) complying with the requirements for the Independent Quality Firm (IQF) and Professional Services Quality Assurance Firm (PSQAF) in accordance with Section 4.3 of the General Conditions;
- Employment of professional services personnel and staffing including the assignment of a Professional Services Quality Control Manager (PSQCM), Engineer of Record, and a Professional Services Quality Assurance Manager (PSQAM) in accordance with Attachment 4-1 of the General Conditions; or
- Employment of construction services personnel and staffing including the assignment of a Construction Quality Control Manager (CQCM) in accordance with Attachment 4-1 of the General Conditions.

32.5.8 **Traffic Control for Warranty Action**

During the performance of Warranty Action, DB Contractor shall implement the requirements of Item 26.

Where Warranty Action is necessary, DB Contractor shall coordinate its Traffic Management Plan with the traffic management to be performed by TxDOT, Governmental Entities, [or] Utilities [or the Systems Integrator] having maintenance jurisdiction within the Warranty Limits or on adjacent facilities, to minimize disruption to Users. DB Contractor shall coordinate directly with such entities.

The Lane Closure process shall follow the requirements of Exhibit 15 to the DBA. TxDOT reserves the right to implement Lane Rental Charges for Warranty Action in accordance with the requirements of Section 8.7.2 of the General Conditions.

32.6 **Warranty Inspections**

32.6.1 **Warranty Annual Inspections**

Warranty annual inspections are required to identify and categorize newly identified Warranty Defects and plan Warranty Actions and shall be undertaken within 30 days prior to each anniversary of the Warranty Term.

DB Contractor shall offer to TxDOT no fewer than three dates for a Warranty annual inspection during normal business hours within the 28 days prior to each anniversary of Final Acceptance. DB Contractor shall provide transportation and safe access for up to two TxDOT personnel.

At a minimum, the Warranty annual inspections will consist of a road speed traverse of all mainlanes (separately in each travel direction), frontage roads, cross streets, direct connectors and ramps as applicable within the Warranty Limits in a manner that permits visual inspection of all Performance Warranty Elements from the inspection vehicle. TxDOT may, in its sole discretion, include more detailed hands-on inspection of selected Performance Warranty Elements taking into consideration:

- Deterioration trends such as an increase in pattern and frequency of previously identified Warranty Defects;
- Warranty Defects that have been identified in a previous Warranty Inspection or the latest Specialist Inspection analysis report that need to be monitored because there is a risk of their deterioration;
- Extreme weather events or Incidents have occurred and TxDOT has notified DB Contractor that these may have affected Warranty Elements; or
- Reports or complaints have been received from a third party.

Where a more detailed visual or hands-on inspection is required by TxDOT, DB Contractor shall ensure that personnel attending have the necessary experience and qualifications appropriate for the type of inspection being performed.

32.6.2 **Warranty Verification Inspections**

Warranty verification inspections are required to confirm the adequacy of any completed Warranty Action on previously identified Warranty Defects and shall be undertaken as needed no later than 28 days after DB Contractor considers the Warranty Action to be complete. For Warranty Action to pavement, DB Contractor shall undertake pavement surveys in accordance with Section 32.6.4 to verify that permanent repairs of Warranty Defects meet specified ride quality and other pavement requirements.

32.6.3 **Warranty Investigative Inspections**

Warranty Investigative Inspections are required to establish the basis of any differences of opinion between TxDOT and DB Contractor regarding the existence, nature and extent of Warranty Defects.

DB Contractor shall offer to TxDOT no fewer than three dates for a Warranty Investigative Inspection during normal business hours within the 28 days following TxDOT's notice. Failure by DB Contractor to offer or attend a Warranty Investigative Inspection shall be deemed DB Contractor's acceptance of the existence of the Warranty Defect(s) notified by TxDOT.

Upon agreement by the Parties of a date for the Warranty Investigative Inspection, DB Contractor shall provide safe access to no fewer than two TxDOT employees for such inspection, which shall be attended by DB Contractor personnel with qualifications and experience appropriate to the nature of the Warranty Defect.

32.6.4 **Specialist Inspections**

TxDOT will undertake:

- Annual survey of pavement condition for every travel lane of the entire Project, including main lanes, ramps greater than 0.5 mile in length, cross streets and frontage roads, undertaken using automated condition survey equipment to measure all necessary criteria including: ruts, ride quality and pavement surface distresses according to the "Inspection and Measurement Method" set forth in the Warranty Performance and Measurement Table;

- Inspections of drainage Elements, including headwalls, wingwalls, junctions, manholes, energy dissipaters pipes and non-bridge class culverts in accordance with Good Industry Practice, Chapter 13 of the TxDOT *Hydraulic Design Manual*, and *AASHTO Culvert and Storm Drain System Inspection Guide*; and
- Routine inspections, to the extent required, for all structures within the Warranty Limits in compliance with the latest FHWA / National Bridge Inspection Standards (NBIS) and TxDOT requirements.

TxDOT will make the results of these Specialist Inspections available to DB Contractor together with an analysis showing the number and type of Warranty Defects within each Warranty Performance Section for each line item in the Warranty Performance and Measurement Table. No later than 14 days after receipt of the Specialist Inspection data and analysis, DB Contractor shall:

- Identify all Warranty Defects within each Warranty Performance Section established by the Specialist Inspection analysis report and Warranty annual inspection and enter these Warranty Defects in the electronic record described in Section 32.4.1;
- Use the results of Specialist Inspection analysis report to prioritize Warranty Action; and
- Identify any results of the Specialist Inspections that require further investigation and schedule the necessary Warranty Investigative Inspections in accordance with Section 32.4.2.

32.6.5

Final Warranty Inspection and Warranty Punch List

No later than 60 days prior to expiration of the Warranty Term, DB Contractor shall arrange a final Warranty Inspection to be conducted jointly with TxDOT following the procedures for the Warranty annual inspections in Section 32.6.1. TxDOT and DB Contractor shall produce a punch list of any Elements requiring Warranty Action. TxDOT and DB Contractor shall also jointly review completed Warranty Action including repairs, corrections and replacements pursuant to the Warranty. TxDOT may also conduct such other investigation as may be necessary to evaluate whether the conditions to Final Warranty Acceptance have been met.

TxDOT will issue a certificate of final acceptance at expiration of the Warranty Term provided that all of the following conditions have been satisfied:

- TxDOT has determined that the Warranty Action, including punch list items and repairs, corrections or replacements pursuant to a Warranty, meets the standards set forth in this Item 32, including applicable detailed performance criteria set forth in the Warranty Performance and Measurement Table;
- TxDOT has received (i) evidence satisfactory to TxDOT that all Persons eligible to file a claim against the Warranty Bond have been fully paid and (ii) unconditional releases of Liens and stop notices from all Subcontractors who filed preliminary notice of a claim against the Warranty Bond; and
- The statutory period for Subcontractors to file a claim against the Warranty Bond has expired and no such claims have been filed.

32.7

Warranty Records

For all Warranty Records, DB Contractor shall establish an Electronic Content Management System (ECMS) and shall follow the document storage and retrieval requirements set forth in Section 4.2.1.2 of the General Conditions. DB Contractor's document management system shall be compatible with TxDOT's current ECMS.

DB Contractor shall cause all Warranty Records to be stored in a manner that allows retrieval of such data and records by reference to the applicable TxDOT reference marker system and Warranty Performance Section.

Warranty Records shall be kept throughout the Warranty Term and shall be provided to TxDOT in accordance with Section 5.13.4 of the General Conditions.

32.8

Reporting Requirements

DB Contractor shall submit an annual report to TxDOT within 30 days after each anniversary of Final Acceptance. This annual report shall include the following elements:

- Records of all Warranty Defects and their status;
- Warranty Actions completed; and
- Warranty Actions planned.

32.9

Submittals

All Submittals described in this Item 32 shall be in accordance with the schedule and for the purpose (approval, review and comment, for information) set forth in Table 32-1.

Acceptable electronic formats include Microsoft Word, Microsoft Excel, or Adobe Acrobat files, unless otherwise indicated.

Table 32-1: Submittals to TxDOT

Submittals	Submittal Schedule	TxDOT Action	Reference Section
Warranty Limits Drawings	At least 60 days before Final Acceptance	Approval	32.1.2
Warranty Performance Sections Drawings	At least 60 days before Final Acceptance	Approval	32.3.1
Warranty Action Plan	Within 28 days after Warranty Investigative Inspection	Approval	32.5.1
Evidence of completion of Warranty Action	Within 28 days after completion of Warranty Action	Review and comment	32.5.2
Record Drawings and supporting calculations and details	Before end of Warranty Term	For information	32.5.3
Annual Report	Within 30 days after each anniversary of Final Acceptance	Review and comment	32.8
<i>[Include any additional Submittals]</i>	<i>[Due date]</i>	<i>[Approval / Review and comment / For information]</i>	<i>[xx.xx.xx]</i>