Pradhan Mantri Gram Sadak Yojana

Guidelines for Field Inspections by PIU Head

(Stage-Passing and Routine Inspections)

under

First Tier of Quality Monitoring

July 2025

National Rural Infrastructure Development Agency

Ministry of Rural Development, Government of India

Contents

1. Terminology

Stage: - A stage serves as a benchmark for the progress of any work. Roads are divided into four key stages, while bridges are divided into five key stages as outlined below:

Stage of Progress	Road Activities	Bridge Activities
Stage-I	Information Boards	Information Boards
	Field Lab	Field Lab
	Preparatory Works	Earthwork and Preparatory Works
	Earthwork (Embankment, slope, etc.)	Design and Alignment
	CD Works (Pipe/Slab/Box Culvert, Causeways)	
	Protection Works	
	Subgrade (Conventional/Stabilised)	
Stage-II	Subbase (Granular, Gravel, Lime/ Cement treated, etc.)	Formwork and Shuttering
		Foundation
Stage-III	Base Course: 1st Layer (WBM G-II / WBM G-III / WMM)	Abutments
	Base Course: 2nd Layer (WBM G-II / WBM G-III / WMM)	Piers
	Base Course: 3rd Layer (WBM G-II / WBM G-III / WMM)	Returns/Wing walls
	Stabilised Base (FDR/CTB/Lime treated, etc)	Bearings
	Crack Relief Layer + 2nd Tack Coat	
Stage-IV	Prime / Tack Coat	RCC Superstructure
	Bituminous Base (BM/DBM) Layer	Steel Superstructure
	Surface Course (OGPC/MSS/BC/SDBC/SD/CC)	Expansion Joint
	Shoulder	Railings
	Longitudinal Drain	Wearing Coat
	Road Furniture and Markings	Load Test
Stage-V	- (not applicable for road works)	Protection work
		Pitching on Approaches
		Aprons
		Approaches
		Bridge furniture

Note – The stages should be inspected sequentially as outlined in the above table (*mapped accordingly in the Quality-1st app*). However, in case of bridge works, the 5th stage can be inspected, at any time, after reporting completion of the stage-I of bridge.

A particular stage, of a section, will only become available for inspection once all applicable activities within that stage are completed, and recorded in the PMIS system of OMMAS.

Stage-passing: - The stage-passing procedure requires the PIU Head to visit the site after completion of each stage of work, perform the necessary tests as mapped in the 1st tier inspection mobile app, verify the record and adequacy of tests conducted by contractor's engineer, AEs and JEs. The PIU Head should record his satisfaction or dissatisfaction, in PIU Head's "Quality First" app, regarding the quality of each activity of work completed, in the section, at the time of stage passing.

Stage-passing Certificate: For each completed stage of a section, based on inspection and satisfactory grading reported by the PIU Head, a stage-passing certificate will be generated in Online Management Monitoring and Accounting System (OMMAS), which will be available for preview in the 1st tier mobile app and can be downloaded from OMMAS. This certificate includes all details of the inspected stage, tests conducted at various chainages, and respective gradings awarded by PIU Head.

Section: - A portion of the road length that the PIU Head demarcates through a planning visit to the road site in consultation with the concerned contractor and PIU officials or any other stake holder, for inspection at all stages of construction. A single road may consist of multiple sections of same or different lengths. The section concept does not apply to bridge works.

Section Length – The length of the road section, planned by the PIU should be between 01 km and 5 km. The maximum length of a section should not be more than 5 km, while the minimum length of the sections will be of 01 km. The length of all sections, except the last section will be in whole number and shall not be in decimals. However, the length of last section can be in decimals, depending upon the awarded length of road. If length of awarded road itself is less than 01km, section length will be equal to road length.

PMIS Chainage-wise Entry Module: - This module is an upgraded version of the previous kilometre-wise reporting system in PMIS. The PIU Head is required to update the progress entry for each defined activity within the respective stage of the section. Based on the progress entry, the trigger about requirement of stage-passing will be auto generated in both the PIU head's OMMAS login and "Quality First" app.

Activity and Type: Activities in the 1st tier module refer to major construction tasks within each stage of work. For example, CD works, and protection works are activities under Stage-I execution of roads. 'Type' refers to sub-categories within each activity—such as pipe, box, and slab culverts, which are distinct types under the 'CD work' activity.

Abbreviations:

ATR: Action Taken Report

CQC: Chief Quality Co-ordinator

NQM: National Quality Monitor

SRRDA: State Rural Roads Development Agency

SQC: State Quality Co-ordinator

SQM: State Quality Monitor

PIU Head: PIU head responsible for Quality & Quantity of work done and passing/ payment of bills

PMIS: Project Management Information System

S: Satisfactory, **SRI:** Satisfactory Required Improvement, **U:** Unsatisfactory

QF App: Quality First Mobile Application for 1st Tier Inspection

2. Introduction:

The Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched in the year 2000 with the objective of providing connectivity to rural habitations through good quality, all-weather roads. The programme introduced a paradigm shift in the rural road sector by adopting a network-based planning approach, emphasizing the construction of rural roads as engineered structures with design parameters tailored to traffic intensity and soil strength, and reinforced by a three-tier quality monitoring system.

PMGSY is a significant central investment in rural roads, initially focused on connecting unlinked habitations and later expanded to consolidate and upgrade rural infrastructure through PMGSY-II and III. It incorporates region-specific initiatives like PM JANMAN, special components for Left Wing Extremism (LWE) areas, and connectivity to border villages under the Vibrant Villages Programme (VVP). With PMGSY-IV, the programme enters a new phase emphasizing targeted road development to promote comprehensive and inclusive rural connectivity nationwide.

Since its inception in 2000, PMGSY has set high standards in construction of Rural Roads, which has set a national benchmark for quality. Central to this success is the robust and delicately balanced three-tier quality monitoring system prescribed under the programme. While the States / UTs are responsible for execution of projects on ground, NRIDA, from time-to-time issues guidelines on system and procedures to be adopted, for improving the quality of built infrastructure. The PIU, who is the first tier of the three-tier system, is the repository of quality and has the primary responsibility of ensuring the quality of works. Therefore, with a view to further strengthen the effectiveness of first tier of quality monitoring, the Stage-Passing concept has now been mandated, for the PIU.

Though the PIUs conduct inspection of PMGSY projects as a part of their routine duty, however, there were no standard format for reporting the quality, prescribed for PIU heads and the inspections of PIU heads were also not monitored through OMMAS. Under the proposed framework for 1st-tier inspection, PIU inspections are to be conducted using the 'Quality First' app. Based on the activities related to road or bridge works checked by the PIU at a specific stage, a standard reporting format is auto-generated in OMMAS. The activities to be checked for road works are enclosed as **Annexure-I,** and that of bridge works are enclosed as **Annexure-II.** The PIU head shall also upload the abstract of quality grading of work, through use of mobile application- "**Quality First**" and bringing the PIU inspections also in OMMAS. These inspections of PIU head shall be made available in public domain, as is being done presently for inspections of State and National Quality Monitors.

Under this concept, the PIU Head (*who is responsible for Quality & Quantity of work done and passing/ payment of bills*), who normally is an officer of level of Executive Engineer, is mandated to visit eligible worksites (as per PMIS progress), conduct defined quality tests using mobile application- "**Quality First**", developed for the 1st tier inspections. The PIU shall certify that the quality of each activity executed in the section conforms to the prescribed standards, based on field observations and quality control tests conducted by her/him. If the quality of work, of that stage is found satisfactory (S), PIU will be able to generate a stage-passing certificate **(Road-Annexure-III and Bridge- Annexure-IV)** from his login in OMMAS, which shall be linked to the authorization for the payment to the contractor, for the quantities in the specific section of the work, which has been stage-passed by the PIU. Thereafter, the progress of next stage of construction shall be allowed. If the quality of work is not found satisfactory by the PIU head, the

contractor shall replace the defective material or improve the workmanship (as the case may be) and the PIU head shall re-inspect the work for generating the stage passing certificate, post rectification of defects. The detailed inspection reports, along with geo-tagged photographs, will be accessible to the PIU Head, SQC, CQC and other senior officials of SRRDA & NRIDA/ MORD, at their respective OMMAS logins. Also, an abstract of each inspection of PIU head along with the geo-referenced photographs of works shall be available in public domain. Given the pivotal role of the PIU Head in the overall quality ecosystem, reinforcing their responsibility through this structured, technology-driven mechanism is expected to further improve the quality standards of PMGSY projects, across all levels of implementation.

To support this concept, a dedicated inspection module has been developed, comprising both a mobile application and a web interface. The mobile app "**Quality First**" enables the PIU head to carry out pre-mapped tests for each eligible activity in a section and record their satisfaction before allowing stage progression. In addition to certifying the completion of each stage, the PIU head can also conduct routine inspection during construction of each stage, all of which are digitally recorded. Routine inspections can be conducted any time, at any stage of the work.

The PIU Head is responsible for conducting stage-passing inspections for all four stages of road works and five stages of bridge works, as mapped in OMMAS, along with routine inspections at appropriate intervals. As per the PMGSY Operations Manual, senior officials such as the Superintending Engineer (SE) / Addl. Chief Engineer and Chief Engineer (CE) of the jurisdiction also form the part of 1st tier of quality monitoring and therefore their routine inspections will also be captured in this 1st tier module.

3. Objective

The Stage-Passing concept has been introduced to reinforce the basic role of quality monitoring by the PIU and 1st tier officials, under the PMGSY framework.

Over the time, it was observed that the PIU Heads had begun to shift their core responsibility of quality assurance to the second and third tiers of Quality Monitoring. The new approach of Stage Passing seeks to re-align the core responsibility of quality assurance to the PIU Head, typically the Executive Engineer (EE), who is the custodian of field-level quality assurance, across all stages of works. The implementation of stage-passing system in quality management, reflects a transition from reactive responses to proactive quality management system by PIU.

Under this concept, the following key objectives are being envisaged:

- **Institutionalize Stage-wise Accountability**: The PIU Head is now mandated to conduct field inspections at the completion of each major stage of construction, in addition to any random visits. Certification of each stage, based on defined quality control tests, is formalized through a digital Stage-Passing Certificate generated in OMMAS, through PIU Head login, thereby establishing clear checkpoints before the work progresses further. Also, structured inspections by AEs and JEs, at each stage of construction, are expected to identify project issues, if any, and ensure timely compliance of the issues, before stage-passing by PIU head.
- **Link Inspection Frequency to Physical Progress**: Integration of stage passing with physical progress data entry in the PMIS module of OMMAS ensures that PIU Head are notified about the requirement to inspect works at the start and completion of each stage of progress. This eliminates the existing unstructured and inconsistent inspection pattern of PIU Head and

ensures systematic and progress-aligned quality checks. This module will be further linked with the payments to the contractor, at each stage of construction.

- **Leverage Digital Tools for Real-Time Oversight**: All quality grading and test results conducted by PIU Head along with geo-referenced and time stamped photographs are entered directly into the OMMAS system, through a mobile application. Detailed inspection reports of PIU Head will be available to senior officials, through their logins, in OMMAS.
- **Enhance Transparency and Public Accountability**: Quality grading abstract of PIU inspection and its supporting geo-referenced photographs will be available in the public domain on OMMAS. This ensures that field-level quality monitoring by PIU Head is not just internal but open to public scrutiny, reinforcing transparency in the PMGSY works.
- **Reinforce the Primacy of the First Tier**: The Stage-Passing Concept re-establishes the PIU's central role in quality control, ensuring that the first tier becomes the repository of the quality framework prescribed under PMGSY. This approach is expected to reduce the number of Action Taken Reports (ATRs) significantly, arising from inspections of NQMs.

Through this structured, transparent, and technology-driven mechanism, the Stage-Passing Concept aims to institutionalize a culture of ownership, disciplined monitoring and accountability of ensuring quality in PMGSY works. Thus, ensuring that quality is embedded stage-wise by 1st tier and it is not the responsibility of 2nd and 3rd tier monitors, as their role is to provide guidance to PIUs for improving the quality of works and to see that the quality monitoring system in the district (PIU) is effective.

4. Inspection Workflow for Newly Commenced Works by PIU Head

For newly awarded works, the following inspection workflow shall be adopted. The inspection workflow under Stage-Passing Concept differs slightly for roads and bridges. Road works are divided into horizontal sections, each typically not exceeding 5 km in length. The progress for road projects is recorded section wise in the PMIS progress module, specifically developed for stage passing. Bridge works are treated as single entity, without horizontal sectional division and their progress is entered activity-wise.

Roads

After award of contract, the PIU Head should conduct a planning meeting with the contractor and field staff to determine the expected sequence and pace of progress. Based on the discussions and work programme submitted by the contractor, the road can be divided into appropriate number of sections (≤5 km), which should be mapped in OMMAS, through PIU Head login.

For the purpose of stage passing, road construction is divided into four stages of progress, covering majorly the subgrade and other stage-I works, sub-base, base, and surface course for sequential inspection.

As construction proceeds:

- Section-wise progress is recorded in the PMIS-Section module developed for stage passing, after completion of each activity, in the corresponding section.
- Routine inspection may be conducted by PIU head (EE) during the construction of different activities.

- Upon reported completion of a stage in any mapped section, PMIS automatically triggers an alert at the login of PIU head, in OMMAS & "Quality First" app, for requirement of stage passing.
- The PIU Head must initiate a stage-passing inspection within 30 days of this alert generation.

During the inspection for stage passing:

- PIU head will review the quality control register (QCR) and authenticate the data entry made till the date of inspection.
- At least one test pit is to be attempted in the section chosen for inspection by PIU head and all pre-defined quality control tests are to be performed, and observations are recorded in the 1st tier mobile app.- "Quality First". Geo-reference photographs showing the quality of work, testing carried out by PIU head, photographs of cross drainage structure, information boards, signages etc. shall be captured by the PIU. The PIU head is also required to capture and upload his two selfies (*geo-referenced and time stamped photographs of PIU head*) in app along with other test photographs. The first selfie of PIU head should be along with the main information board (MIB), before the start of his inspection and second selfie should be after completing his field inspection.
- If the section meets quality standards and all tests and observations are reported satisfactory, then, a Stage-Passing certificate can be generated in OMMAS, through PIU head login, which will be available for preview in the app, enabling:
    - Payment to contractor shall be linked to satisfactory reporting of all activity within that stage and after generation of stage-passing certificate.
    - Permission to execute the work to the next stage of construction.
- If the work does not meet requisite quality standards, the PIU Head will record the deficiencies in his report and in the Quality Control Register part-II and also communicate to the contractor. The contractor shall rectify the non-conformities under supervision of JE/AE, after which the PIU Head shall re-inspect the stage of work, in the section, for stage passing.

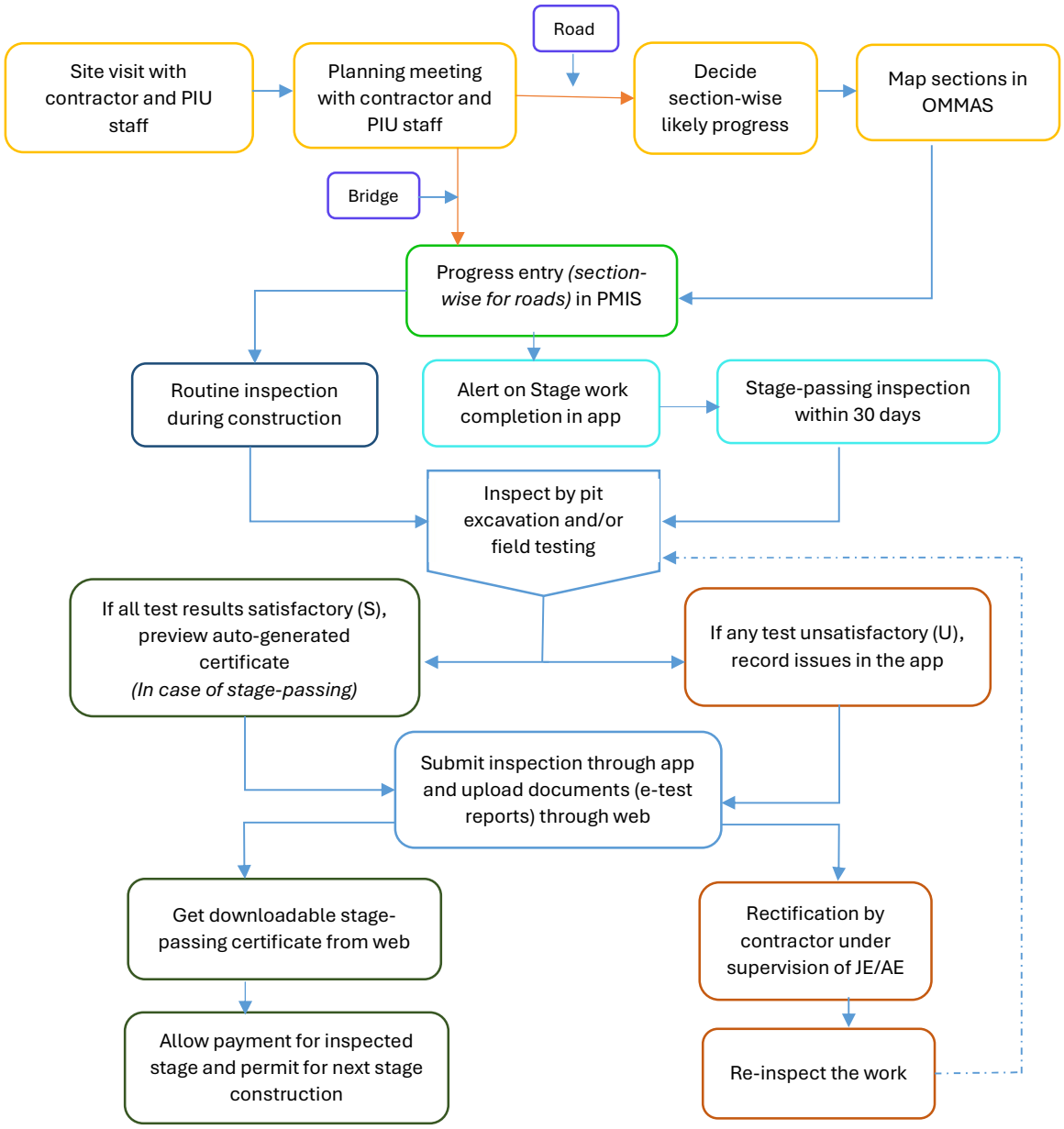
After stage-passing Inspection:

- All inspection data, along with photographs needs to be submitted through "Quality First" app and corresponding quality control test results (e-test reports) are to be submitted in OMMAS, through PIU head login. The stage-passing certificate, for satisfactory graded sections, can then be downloaded from OMMAS for further office use.
- Once submitted, the inspection reports become accessible in OMMAS to the PIU Head, as well as to senior officials at the State level and MORD/ NRIDA.

Bridges

Unlike roads, bridges under Stage-passing concept are treated as singular engineering structures and are not divided into sections for progress monitoring for obvious reasons. The inspection workflow for bridges is therefore tailored to accommodate the five distinct stages of bridge construction, which include majorly design, foundation, substructure, superstructure, and approaches and finishing (5th stage can be inspected at any time).

A visual representation of the above procedure is provided in the below flowchart.



Flowchart for Routine and Stage-Passing Inspection

Note: - Routine inspections are strongly recommended to prevent any possibility of construction issues observed during stage-passing. Stage-passing inspections are mandatory within 30 days upon receiving completion alert of the stage, in PMIS.

As shown in above flow-chart, the workflow begins for bridge works with progress entry in PMIS and then follows as stated in chart.

The PIU Head may upload scanned copies of his inspection details including any quality control test reports, through the OMMAS web portal.

5. Inspections workflow for Ongoing Works:

The inspection workflow for works that are already in progress or at advanced stage of progress is detailed below. While the overall process remains largely consistent with the procedure outlined earlier for newly initiated works, however a few distinctions for 'ongoing' projects are given below.

In the case of road works, the PIU Head must first convene a meeting with the contractor and PIU staff to identify sections where construction has already been completed or is currently underway. Based on this assessment, the PIU team shall map the identified sections in the newly developed PMIS module, along with entering the corresponding section-wise progress achieved till date.

For bridge works, the cumulative stage of progress completed so far should be entered directly into the updated PMIS module.

Based on the progress entered, the system will automatically identify the stage-passing requirements. Inspections will commence from the stage currently under execution at the site. Routine inspections may be conducted at any point during the execution of that stage. Once an activity stage is marked as completed in PMIS-OMMAS, the stage-passing inspection must be initiated for that stage. All subsequent procedures will follow the standard workflow prescribed for newly commenced works.

Stage-passing inspections for Stage-III and Stage-IV in road works, and for all stages in bridge works, shall be mandatorily conducted by the PIU Head. If the PIU Head wishes to verify the quality of previously completed stages as part of stage-passing, they may do so by selecting and submitting inspections for those stages individually, one at a time.

6. Stage passing Inspection of Recently Completed Works:

All PMGSY projects which have been reported complete in OMMAS after 31st March 2025 shall be required to be stage-passed by the PIU head, within 03 months from the date of final payment made to the contractor, for each project. In these completed road projects, stage passing can be done in one go, for all stages of progress, without creating section (for road works.)

Further, in completed road projects, stage passing for entire length shall be done only for top two structural layers of the crust i.e base course (stage-III) and surface course (stage-IV), including cement concrete pavement portion.

In case of completed bridge works, the stage passing shall be done, in one go, for overall quality of construction of bridge, based on the QC records, including the performance of bearings, protection works and approach roads.

7. Routine Inspections by Superintending Engineer (SE) and Chief Engineer (CE) and State Quality Coordinator (SQC)

As per the PMGSY Operational Manual, Superintending Engineers (SEs) / Additional Chief Engineers (Addl. CEs) and Chief Engineers (CEs) who are the part of 1st tier of quality monitoring system are also required to carry out inspections of PMGSY projects from time to time. These inspections of senior officials will contribute to the overall effectiveness of the first-tier quality monitoring mechanism.

SEs/ Addl. CEs and CEs are expected to conduct inspections with a macro-level perspective, focusing (but not limited to) the following aspects:

- Detailed Project Report (DPR)
- Variations in items from the Technical Sanction accorded.
- Contract management by the PIU Head
- Contractor performance
- Establishment of field lab and overall quality of work
- Status of online data entry of Progress and 1st tier inspections/ stage passing by PIU head.

To strengthen their role, SEs and CEs are to be mapped in the OMMAS system and dedicated login credentials will be provided to them for effective monitoring of PMGSY works. Routine inspections are to be conducted using these login credentials. Through their web and mobile app logins, SEs and CEs will have access to the progress of all works and the inspection records submitted by the PIU Head under their jurisdiction, as also the inspection history of SQMs and NQMs on those works.

Using the available information, the concerned SEs / Addl. CEs and CEs can initiate "Routine Inspections" at any stage of the work, whether ongoing or completed. Requisite quality tests should be conducted during these inspections. Upon completion, inspection details including e-test reports and any other supporting documents must be uploaded via the web portal.

The State Quality Coordinator (SQC), who is responsible for supervision of the first and second tier of quality monitoring system of the State shall also inspect few works as a part of his/her routine duty. A copy of report of SQC shall also be shared with concerned SE and CE. The inspection carried out by SQC shall also be brought in OMMAS, in public domain

8. Validations and Implications

To ensure systematic and timely inspections aligned with the physical progress recorded in PMIS, several checks and validations are incorporated into the PMIS and the Stage-Passing Module.

Sectional Length Creation – Roads Only

If PIU Head creates a longer sectional length:

- Risk of Bottlenecks and Inspection Delays:
    - longer sections may face localized construction delays in specific chainages, preventing timely inspection of the entire section.
    - OMMAS system presently do not allow creation of sub-section, within a larger section for stage passing purpose. Less inspections by PIU head in longer sections can lead to confusion and complications at later stages.
    - Hence, it is advised to finalize section lengths after careful planning and discussion with all stake holders.
- Reduced Statistical Accuracy in Quality Assessment:

- Stage-passing inspections require observations on critical items based on at least one inspection pit, per section. If only one pit is dug for a longer section, it may not adequately represent the quality of the entire stretch.
- To ensure representative sampling, the PIU Head should excavate at least one pit per kilometre, especially where materials or construction methodology vary along the stretch.

- Fewer Inspections Reduce Confidence:
  - Fewer inspection cycles across longer sections may result in lower statistical confidence in the overall quality of the road.
  - This reduces the PIU Head's assurance during stage-passing and may affect evaluations by senior officers and SQMs/NQMs.

If PIU Head chooses a smaller sectional length:

- Better Quality Representation:
  - Shorter sections allow for more accurate and representative assessment of quality.
- Increased Inspection Frequency:
  - The PIU Head would be required to conduct up to four inspections per section (one for each stage), requiring more field visits.
  - On the cost of additional effort, this approach is encouraged for improved quality control.

Suggested Approach:

- Ideally, where no major construction bottlenecks are expected, a section length of around 3 km is recommended. If bottlenecks are likely, the PIU Head should reduce section length to as low as 1 km to prevent delays in stage progression.
- The PIU Head should conduct at least three inspection pits per section, spaced approximately 1 km apart.
- Conventional, New Technology, and Cement Concrete portion may be made separate sections for ease of implementation and quality checks.

Note: In future, NQMs and SQMs may be assigned sections as defined by the PIU Head, however. The SQM will not inspect the stages, already stage-passed by PIU head.

Mapping of Sections in OMMAS

Section mapping in OMMAS is a mandatory requirement to be completed immediately after the award of work (within two months from date of award). This is a prerequisite for entering physical progress in the PMIS and uploading Quality Control Registers (QCRs). Accordingly, the PIU Head will not be able to proceed with QCR uploading or progress entry for newly commenced works unless section mapping has been completed in the updated PMIS system.

For ongoing works, section mapping and corresponding progress entry must be completed without delay. Progress should be entered on a regular basis, as system checks in OMMAS have

been implemented and payments shall be linked to the stage-passing mechanism, which is ultimately tied to timely and accurate progress entry, in OMMAS.

Note- If any portion of a planned section is held up later due to reasons beyond the control of contractor, the held-up length in the section should be specified in the Section Planning Module indicating reasons. Thereafter, PIU Head may proceed for stage-passing inspection for the remaining length in that section. The held-up length will be recorded in OMMAS and reflected in the stage-passing certificate.

Stage-Passing Time Restriction

Once progress for a stage is marked complete in PMIS, a stage-passing inspection should be conducted within 30 days, failure to do so will block progress entry for the next stage.

Since the Stage-Passing App is integrated with PMIS, timely data entry in PMIS is crucial to ensure consistency between physical work and digital records.

Restriction on Multiple Stage Progress Entries and Inspections

The system restricts multiple stage entries and inspections for the same section on the same day. A mandatory interval of 30 days is required between the progress entry of successive stages and the inspection of multiple stages within a section. For instance, if Stage-II is inspected in a particular section, the inspection for the next stage (Stage-III) in the same section can only be carried out after a mandatory interval of 30 days. However, the PIU Head shall be able to inspect different stages in other sections of the same road on the same day. This validation prevents bulk or retrospective data entry for multiple stages within a section, ensuring proper sequencing and accountability. At the same time, it allows operational flexibility by enabling inspections across multiple sections of the road in a single day.

Note: **Restrictions on time intervals and multiple stage entry and inspections do not apply during initial progress entry or inspection for works already under progress (ongoing works).**

Geotagged Photographic Validation of Stage Passing inspection

The PIU Head must capture a geotagged selfie at the site using the inspection app both before and after each inspection. This requirement ensures transparency and enables real-time monitoring by higher authorities.

Rectification Requirement for Unsatisfactory Stage

If any stage is graded as 'Unsatisfactory' by the PIU head, the corresponding non-conformities must be documented in QCR-II, and necessary rectifications must be carried out for that stage. The PIU head shall be required to re-inspection the work, post rectification. Progression to the next stage of construction will only be permitted once all tests yield satisfactory results during the re-inspection. Until the stage is re-graded as 'Satisfactory', progress entry for the subsequent stage within that section will remain restricted in the PMIS system. Rectification of deficiencies must be completed within 30 days, as each stage has been appropriately segmented, allowing sufficient time for corrective action.

9. Inspection by State Quality Monitors (SQMs):

SQMs shall inspect only those layers of road works, in a section, which are under construction or have been completed and not yet stage-passed by the PIU Head. However, the SQM shall

conduct at least three inspections in each section of road, till it is reported complete in OMMAS, by PIU head. Normally detailed SQM inspection, by attempting pits shall not be required after the work is reported complete by PIU, in OMMAS. In special cases, such as complaint cases, inquiry cases, ground verification, joint inspections etc., the SQC can assign the completed work to SQM for detailed inspection by attempting pits for assessment of quality of construction. However, the SQMs shall continue to inspect the completed works, from maintenance angle, as per existing provisions. In case of long span bridges, the SQM shall inspect the bridge at least once, in every stage of construction/ completion, before stage passing by the PIU Head.

10. Inspection by National Quality Monitors (NQMs) and Submission of Action Taken Reports (ATRs) on 3rd Tier Inspections:

The first NQM inspection will be assigned only after the PIU Head has conducted the stage-passing inspection of the 1st stage of work in a particular section of the road. Subsequent, inspections by NQM may be assigned at any stage of work. During the inspection, the NQM shall examine all layers that have been stage passed by the PIU Head, starting from the first stage up to the latest stage passed, in the selected section as on the date of inspection. This will provide a comprehensive quality overview of the section. This is in line with the existing system of third tier inspections by NQMs.

If any section at any stage of progress is graded as “Unsatisfactory” by the PIU Head, then that section will not be available for assigning to NQMs (or SQMs), for inspection, until the contractor rectifies the deficiencies, and the PIU head re-inspects and re-grades that section to “Satisfactory” work quality. Such “unsatisfactory” graded sections should not be inspected by SEs and CEs also, before it is rectified and reported as “satisfactory” in OMMAS, by PIU.

With the implementation of Stage-passing by PIU Head and rigorous routine inspections carried out by PIU Head/SE/CE, the quality gaps are expected to be significantly minimized. Consequently, there is only a remote possibility of grading the quality of works as “SRI” or “U” by NQMs, requiring ATR.

Disagreement in Quality Gradings awarded by NQM and PIU Head:

- In case the PIU Head does not agree with the NQM’s findings (quality grading) during his field visits, the PIU shall report the matter immediately to his Chief Engineer. The Chief Engineer shall examine the case at his level and if agreed with the PIUs contention, he shall refer the case to Chief Quality Coordinator (CQC), with detailed justification, through SQC, within 15 days after the NQM inspection. The facility to lodge such disagreement is also being created in OMMAS. Such cases shall be monitored by SRRDA and NRIDA and may be subjected to periodic scrutiny. A decision on such representations of PIU shall be taken on case-to-case basis, by NRIDA, based on merit.

- In case it is found that the NQM has erred in reporting the quality of work, the necessary correction in quality grading shall be done by CQC, in OMMAS. Also, necessary action against the concerned NQM shall be taken by NRIDA, based on the findings.

Handling of Action Taken Reports:

- If a National Quality Monitor (NQM) grades a section of work as “Satisfactory- Requiring Improvement” or “Unsatisfactory” that was previously marked “Satisfactory” by the PIU Head during stage-passing inspection, and the PIU concurs with the QM's assessment,

rectification must be carried out by the contractor, without delay, as per the observations of NQM and directions of PIU Head.

- Post rectification, the verification of ATR, in case of "unsatisfactory" works, the senior officials of the 1st tier, i.e of the level of SE and above shall inspect the work instead of SQMs and use the prescribed inspection format, for verifying the ATR and upload their inspection reports along with geo-tagged photographs, in OMMAS. Necessary provision, like ATR verification being presently done by SQMs, has been made in OMMAS.
- After verification of ATR by SE of the jurisdiction, the Chief Engineer shall record the action taken against the concerned PIU head for wrong reporting of quality, through the stage passing system. This punitive action shall be recorded by Chief Engineer in the ATR, as envisaged in the PMGSY Operations Manual.

- The Chief Engineer shall examine the action taken report of PIU vis-à-vis ground verification / inspection carried out by the SE, post rectification and forward the same to SQC. The SQC shall upload the ATR, recommended by the Chief Engineer, in OMMAS, linking with the corresponding ATR verification / inspection conducted by the SE / Addl. CE. The final decision on grade improvement in such cases shall be taken by CQC as per the existing system.

- In case of works graded as "Satisfactory-Requiring Improvement" by the NQMs, the PIU shall get the deficiencies rectified and upload the ATR with geo-tagged photographic evidence, through his login, in OMMAS, with in one months' time from the date of NQM inspection. The SQC shall examine the ATR and take a view on grade improvement within two months' time from date of NQM inspection. In case the PIU fails to submit the ATR, or the SQC does not take a decision within the stipulated time, the ATR will be automatically escalated to the CQC level for further action.

- The submission and processing of such ATRs of SRI graded works (excluding those related to Cement Concrete pavements) shall be regularly monitored at the CQC level. Based on the analysis of acceptance and rejection trends, the CQC may take over the review and decision-making on such cases from States exhibiting persistent non-compliance, to strengthen oversight and ensure timely and effective rectification of deficiencies.

- However, if a work is graded SRI due to deficiencies in cement concrete items, the ATR of such cases shall be processed, through the same system as in case of unsatisfactory works graded by NQMs and the decision on grade improvement shall be taken by CQC, as per existing system.

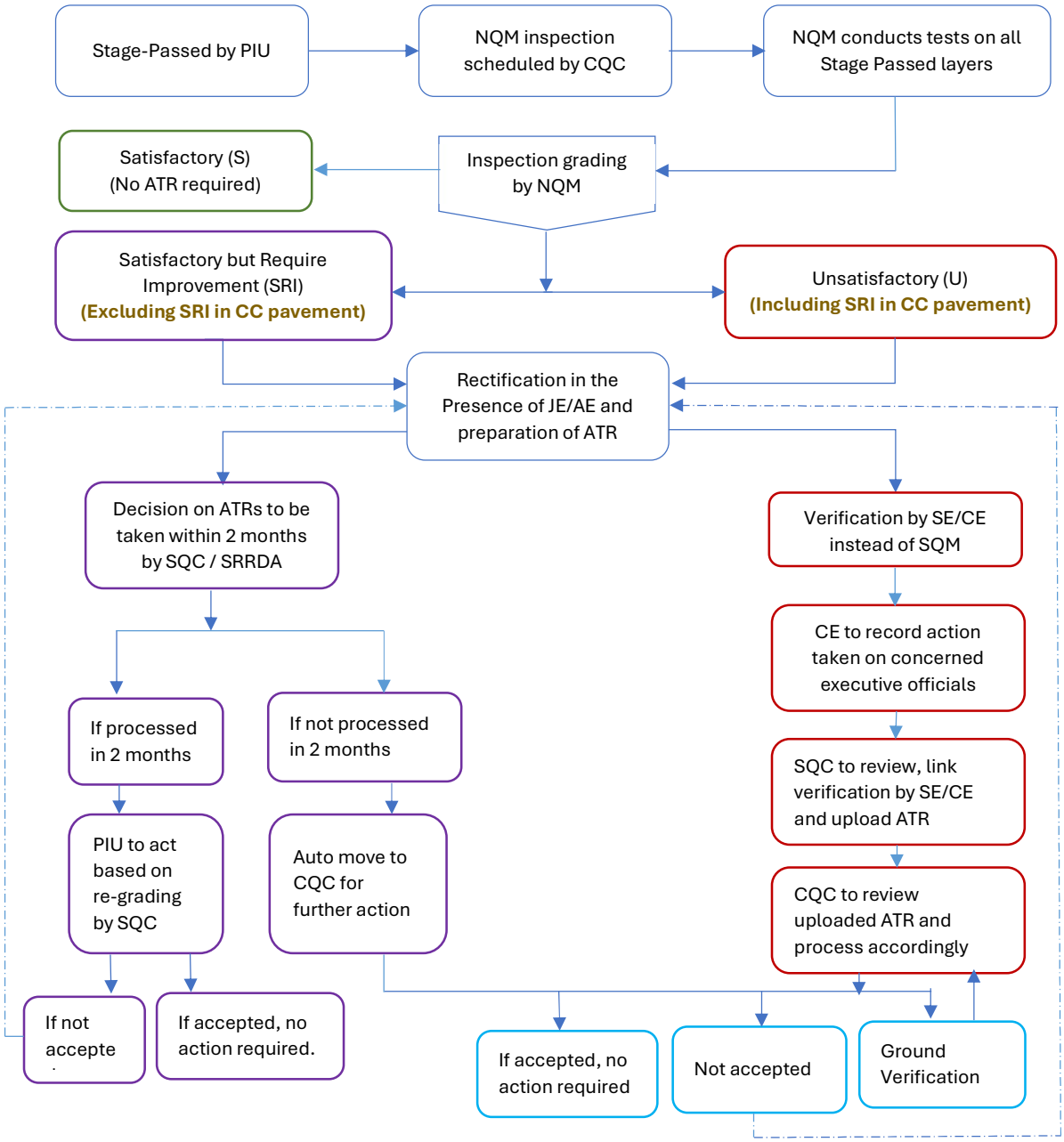
- If, during subsequent field inspections, by NQMs, it is observed that defects pointed out by earlier NQM have not been completely rectified and ATR has been accepted by SQC, the ATR will have to be submitted through the same system as that of unsatisfactory works, graded by NQMs.

Ground verification of ATRs on NQM Observations:

- In selected cases, NRIDA may depute NQMs / NRIDA officials/ STAs/ Emeritus NQMs for verification of ATR/ inquiry of complaints / VIP references etc. as per the existing practice.

- NRIDA shall identify senior officials (of the level of SE and above) working in SRRDA for execution of PMGSY projects, in different States /UTs and utilise their services as National Quality Monitors (serving officials), for inter-state inspections of PMGSY projects, promoting cross- learning and replicating good practices of various states, in their respective cadre State.

A visual representation of the above procedure for handling the ATRs is provided in the below flowchart:



11. Resolution of IT-Related Issues in the 1st Tier Inspection Module:

Module users may encounter IT-related issues while using the mobile app or web interface. To facilitate reporting and escalation of such issues, a ticketing system will be integrated into both the mobile app and web platform. The process for creating tickets is detailed in the user manual of 1st Tier Mobile App.

Upon receipt of a ticket in OMMAS, the NRIDA IT team, along with experts from C-DAC, will review and address the reported issues based on the information provided. If necessary, they may contact the user directly for further clarification.

If the issue remains unresolved, users should escalate it to their respective State Quality Coordinator (SQC), who will forward it to C-DAC via the Chief Quality Coordinator (CQC) office.

Additionally, feedback and suggestions regarding IT or technical improvements should be submitted through the same ticketing system by selecting the 'Feedback and Suggestion' option from the dropdown menu.

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Annexure-I

Road Work - 1st Tier Inspection Activities for Testing/ Making Observations

SN	Activity	Type	Test/ Observation
1	Information Boards	CIB and MIB	Informatory Boards (Citizen & Main) are fixed as per PMGSY guidelines
2	Field Lab	Quality Arrangements	Establishment of field lab
			Availability of equipment
			Test adequacy
3	Preparatory Works	Setting out	BM establishment and marking of levels
			Establishment of the centerline of the carriageway using reference pillars
			DPR with estimate
		Site Clearance and Grubbing	Cleaning, grubbing, and proper disposal
4	Earthwork (Embankment, slope, etc.)	Finished Embankment and slopes	Adequacy of formation level and proper dressing
			Side slope
			Longitudinal gradient
			Stability of cut slope in rolling/hilly terrain
			Adequacy of slope protection work in rolling/hilly terrain
5	CD Works	Pipe Culverts	Cushion over pipes
			Equipment for handling pipes
			General Workmanship Inlet and outlet gradient of pipes Clear space between rows of pipes Roadway alignment/camber
		Slab/Box Culvert and Vented Causeway	All plain and RCC components Compressive strength (IS:516) Honeycombing and finishing Workmanship
			Wearing coat Camber Tolerance levels
			Approaches Gradient, Pavement surface
			Protection works Pitching of slopes Thickness and length of aprons Head, face and cut-off walls
			CC pavement Width and thickness of pavement Surface levels Regularity and texture

SN	Activity	Type	Test/ Observation
			Joints (alignments, dimensions, cutting, and filling) Cracking of slabs
6	Protection Works	Brick Masonry for Structures	Verticality of Brickwork and horizontality of courses.
			General workmanship
			Compressive strength (IS 3495 Part-I)
		Stone and Concrete Block Masonry for Structures	The verticality of masonry work and horizontality, of course, shape and better and architectural features.
			General Workmanship (Color, aesthetic, elegance, pin headers, corner stones, plumbness, etc.)
		Concrete for structures	Workmanship
			Review of cube strength test results
		Steel Reinforcement (Un-tensioned)	Substitution of bar sizes
			Detailing of reinforcement cage
		General	Fastening of wire crates and size of boulders in aprons and pitching
			Bonding of Brick/Stone masonry
			General workmanship of protection works
7	Subgrade (Conventional/ Stabilised)	Finished Subgrade	Degree of Compaction
			Thickness
			Surface Regularity and Transverse Profile/ camber/ crossfall and superelevation
			Roadway and Carriageway width
		Finished lime/cement treated subgrade layer	Degree of Compaction
			Thickness
			Plasticity Index of the lime/cement treated mix from the layer
			Unconfined Compressive Strength (IS:4332 Part 5) when specified, sample extracted from the compacted layer.
			Roadway, Carriageway width and Camber
			Surface Regularity and Transverse Profile.
8	Subbase (Granular, Gravel, Lime/Cement treated, etc.)	Finished GSB Layer	Degree of Compaction
			Thickness
			Surface Regularity and Transverse Profile/ camber/ crossfall and superelevation
			Roadway, Carriageway width and Camber
			Gradation
		Finished lime/cement treated subbase layer	Degree of Compaction
			Thickness
			Plasticity Index of the lime/cement treated mix from the layer

SN	Activity	Type	Test/ Observation
			Unconfined Compressive Strength (IS:4332 Part 5) when specified, sample extracted from the compacted layer.
			Roadway, Carriageway width and Camber
			Surface Regularity and Transverse Profile.
9	Base Course: 1st Layer	Top of the Finished Base Course: 1st Layer (WBM G-II / WBM G-III / WMM)	Volumetric analysis/Compaction
			Thickness
			Gradation
			Roadway, Carriageway width and Camber
			Surface Regularity and Transverse Profile
10	Base Course: 2nd Layer	Top of the Finished Base Course: 2nd Layer (WBM G-II / WBM G-III / WMM)	Volumetric analysis/Compaction
			Thickness
			Gradation
			Surface Regularity and Transverse Profile
11	Base Course: 3rd Layer	Top of the Finished Base Course: 3rd Layer (WBM G-II / WBM G-III / WMM)	Volumetric analysis/Compaction
			Thickness
			Gradation
			Roadway, Carriageway width and Camber
			Surface Regularity and Transverse Profile
12	Stabilised Base (FDR/CTB/Lime treated, etc.)	FDR/CTB/Lime treated	Unconfined Compressive Strength
			Gradation *(Ongoing work)*
			Roadway, Carriageway width and Camber
			Thickness
13	Prime/Tack Coat	Prime/Tack Coat	Visual observation
14	Crack Relief Layer + 2nd Tack Coat	Aggregate + modified bitumen /	Properties test certificate and visual observation
		Geosynthetic + Tack coat	Assessment of the test certificates and Visual observation
		WBM/WMM layer	Volumetric analysis/Compaction
			Thickness
			Gradation
			Surface Regularity and Transverse Profile
15	Bituminous Base (BM/DBM) Layer	Finished Bituminous Base (BM/DBM) Layer	Density of the compacted layer
			Binder Content
			Thickness
			Roadway, Carriageway width and Camber
			Surface Regularity and Transverse Profile
16	Surface Course (OGPC/ MSS/ BC/SDBC/ SD / CC Pavement)	OGPC	Visual inspection of the finished surface
			Binder Content
			Thickness
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		Seal Coat Type-A	Surface Regularity and Transverse profile
		Seal Coat Type-B	Visual inspection of the finished surface

SN	Activity	Type	Test/ Observation
		Mix Seal Surface	Visual inspection of the finished surface
			Binder Content
			Thickness
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		SDBC/BC	Density of the compacted layer
			Binder Content
			Thickness
			Surface Regularity and Transverse Profile
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		Surface Dressing	Surface Regularity and Transverse profile
			Binder Content
			Thickness
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		Plain CC Pavement	Concrete mix design
			Trial length
			Thickness and width of pavement
			Surface levels, regularity, and texture
			Transverse Joints
			Joints alignment, dimensions, cutting, and filling of joints
			Cracking of slabs
			Paving near culverts and bridge
			Performance of 30m trial length
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		RCCP	Concrete mix design
			Trial length
			Thickness and width of pavement
			Surface levels and regularity
			Strength
			Cumulative length of cracks
			Core density of RCC and homogeneity
			Performance of 30m trial length
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		ICBP/RCBP	Concrete mix design
			Trial length
			Dimension and Paving pattern (Stretcher is recommended in MoRD book)
			Tolerance for lines, levels and grades
			Performance of 30m trial length

SN	Activity	Type	Test/ Observation
			Water absorption
			Compressive strength
			General workmanship
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		Paneled concrete pavement	Concrete mix design
			Trial length
			Thickness and width of panels
			Surface levels, regularity, and texture
			Transverse Joints
			Joints alignment, cutting, and filling of joints
			Cracking of slabs
			Compressive strength
			General workmanship
			Performance of 30m trial length
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
		Cell filled concrete	Concrete mix design
			Thickness and interval of plastic sheets
			Trial length
			Thickness and width of pavement and position of paving edges
			Surface levels, regularity, and texture
			Performance of 30m trial length
			Roadway, Carriageway width and Camber
			Superelevation and extra-widening
17	Shoulder	Earthen	Degree of Compaction
			Surface Regularity and Transverse Profile/ camber/ crossfall and superelevation
		GSB	Degree of Compaction
			Thickness
			Surface Regularity and Transverse Profile/ camber/ crossfall and superelevation
			Gradation
18	Longitudinal Drain	Earthen	Cross-section and gradients of drains
			General quality and workmanship
			Integration with outfall
		Pucca	Cross-section, shape and gradients of drains
			General quality, Surface texture and workmanship
			Integration with outfall
19	Road Furniture and Marking	Road Furniture and Marking	Logo Board
			200m/ 1 km/ Guard stones
			Mandatory and cautionary sign boards

Annexure-II

Bridge - 1st Tier Inspection Activities for Testing/ Making Observations

SN	Activity	Type	Sub. Item	Test/ Observation
1	Information Boards	CIB and MIB	i	Informatory Boards (Main and citizen) are fixed as per PMGSY guidelines
2	Field lab	Field lab	i	Establishment of field lab
			ii	Is availability and working condition of equipment satisfactory
			iii	Test adequacy
3	Earthwork and Preparatory work	Earthwork	i	Executed quantity to be measured by JE/AE and certified by PIU In Charge (EE)
		Preparatory work	i	Has BM on both the banks established and verified
			ii	Whether marking of HFL done on both banks
4	Design and Alignment	Design and Alignment	i	Whether any deviation in span configuration from original DPR (If yes, then reason along with Certification from authority needs to be provided)
			ii	Whether alignments is as per DPR (If not, confirm that bore hole along changed alignment are done
			iii	Whether variation in hydrological data found in case of deviation in span arrangement / COS at the time of execution, is measured and appropriate action taken by PIU
			iv	Whether hydraulic calculations done as per IRC norms
			v	Whether PIU has confirmed the geotech data as contains in DPR and at the time of excavation of Foundation
			vi	If rive has changed its course of flow, appropriate steps are taken to accommodate changed flow
5	Formwork and Shuttering	Formwork and Shuttering	i	Is design of formwork and shuttering appropriate and satisfactory
			ii	Is inspection done for formwork and shuttering for leaks, rigidity, cleanliness, alignment, etc.
	Foundation	Open	i	Location conformity with Design

6			ii	Review of test certificate provided by independent and supplier lab e.g. bearing capacity of soil, sub-surface test, material test, etc. done and found satisfactory
			iii	Adequacy of depth of foundation based on scour depth and bearing capacity of soil
			iv	Whether size and shape of footing as per design
			v	Is Quality of Material (Cement, Aggregates, Steel, Etc.) Satisfactory
			vi	Is Quality of Workmanship Satisfactory
			vii	Is Workability of Concrete Satisfactory
			viii	Is Testing of Concrete Cubes Satisfactory
			ix	Is Reinforcement Arrangement Satisfactory
			x	Is Concrete Compaction Arrangement Satisfactory
			xi	Is Curing Arrangement Satisfactory
			xii	Is Undermining or scouring around the footing satisfactory and within limit
			xiii	Is Settlement and tilting under tolerance limit
		Raft	i	Whether size and shape of raft as per design
			ii	Review of test certificate provided by independent and supplier lab e.g bearing capacity of soil, sub-surface test, material test, etc. done and found satisfactory
			iii	Location conformity with Design
			iv	Adequacy of depth of raft based on scour depth and bearing capacity of soil
			v	Is there uniform distribution of reinforcement across the raft maintained
			vi	Is Quality of Material (Cement, Aggregates, Steel, Etc.) Satisfactory
			vii	Is Quality of Workmanship Satisfactory
			viii	Is Workability of Concrete Satisfactory
			ix	Is Testing of Concrete Cubes Satisfactory
			x	Is Reinforcement Arrangement Satisfactory

			xi	Is Compaction Arrangement Satisfactory
			xii	Is Curing Arrangement Satisfactory
			xiii	Check for adequate reinforcement cover and express satisfaction
			xiv	Check for erosion or damage to the raft's edges and express satisfaction
			xv	Check for any signs of bending, bulging, or other deformations in Raft and express satisfaction
			xvi	Check for rusting of exposed reinforcements and express satisfaction
			xvii	Check for Surface Defects (Cracks, Honeycombing, Unevenness, etc.) and express satisfaction
			xviii	Settlement and tilting under tolerance limit
		Pile	i	Whether pile integrity test done and found results satisfactory
			ii	Verify subsoil characteristics against the geotechnical investigation report and express satisfaction.
			iii	Whether pile register maintained satisfactorily
			iv	Details of equipment and method for installation and driving of piles made available to PIU and found arrangement satisfactory
			v	Is use of pre-boring and jetting to assist the pile driving, including details of the arrangement for jetting satisfactory.
			vi	Confirm alignment of the piles as per design and express satisfaction.
			vii	Verify pile spacing and load-sharing adequacy and express satisfaction
			viii	Inspect the bond between the piles and pile cap for adequacy and express satisfaction.
			ix	Check number, methodology and details of initial and routine pile load tests for verticals, lateral and uplift load capacity of the pile and express satisfaction.

			x	Whether flushing of bore before and after placement of reinforcement done in case of bored uncased cast-in situ piles.
			xi	Whether at least 600mm extra length of pile cast beyond cut off level, to be dismantled for laitance effect
			xii	Whether concreting carried out by using tremie method satisfactorily
			xiii	Check for settlement and differential settlement and express satisfaction
			xiv	Whether tilt and shift are within permissible tolerance limits
			xv	Check the pile cap for cracks, joint gaps, and spalling and express satisfaction
			xvi	Whether result of Initial Load Test as per IS-2911 IV conducted in presence of PIU and certified satisfactory by PIU
			xvii	Whether result of Routine Load Test certified satisfactory by PIU
		Well	i	Check for design (diameter calculation, sinking depth, location, etc.) and express satisfaction
			ii	Whether well sinking register is maintained (including tilt and shift)
			iii	Check for sub surface exploration test reports and express satisfaction
			iv	Check embedment of cutting edge and the uniform seating of well in rocks strata and express satisfaction.
			v	Check arrangement including the number, capacity and location of the high-pressure pumps and other ancillaries and express satisfaction (In case of water jetting method for well sinking)
			vi	Check arrangement including full details of construction of ground anchors, fabrication of pressuring girder, type, number and capacity of jacks to be used, method of dredging and application of jack down force and all other relevant aspects and express satisfaction (In case of Jack down method for well sinking)
			vii	Check for well curb standards and express satisfaction

			viii	Check for well steining standards (Reinforcement, Thickness, etc.) and express satisfaction
			ix	Check for sand filling, Top-level of sand island and express satisfaction
			x	Check reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) and express satisfaction
			xi	Check for well cap conditions (cracks, spalling, honeycombing, etc.) and express satisfaction
			xii	Check detailed arrangements covering fabrication, floating and sinking operations of floating caisson and express satisfaction
			xiii	Whether bottom plugging carried out by using tremie method only and found satisfactory
			xiv	Whether tilt and shift and piers concentricity are within tolerance limit
7	Abutments	Gravity	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Verify the size (width of base and position of toe) is as per design and express satisfaction.
			v	Has ensured proper drainage (weepholes, size, spacing, alignment, etc.)
			vi	Has ensured graded filters are installed behind the abutments
			vii	Has ensured backfill material conforms to specifications
			viii	Is quality of material (cement, aggregates, steel, etc.) satisfactory
			ix	Is results of testing of concrete cubes satisfactory
			x	Is workability and compaction of concrete satisfactory
			xi	Are curing arrangements satisfactory
			xii	Check for structural stability related parameters (sliding, overturning, etc.) and express satisfaction
		Spill through	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Has ensured proper drainage (weepholes, size, spacing, alignment, etc.)

			v	Has ensured graded filters are installed behind the abutments
			vi	Has ensured backfill material conforms to specifications
			vii	Is quality of material (cement, aggregates, steel, etc.) satisfactory
			viii	Is results of testing of concrete cubes satisfactory
			ix	Is workability and compaction of concrete satisfactory
			x	Are curing arrangements satisfactory
			xi	Has Verified slope stability and turfing, pitching, or riprap to prevent erosion
			xii	Inspect the bridge seat and express satisfaction
			xiii	Has ensured stone pitching or gabion baskets are installed to protect spill through slopes from erosion
		Box Type	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Has ensured graded filters are installed behind the abutments
			v	Has ensured backfill material conforms to specifications
			vi	Is quality of material (cement, aggregates, steel, etc.) satisfactory
			vii	Is results of testing of concrete cubes satisfactory
			viii	Is workability and compaction of concrete satisfactory
			ix	Are curing arrangements satisfactory
			x	Has verified that the internal dimensions of hollow chambers match the design.
			xi	Check reinforcement placement, particularly for shear keys and express satisfaction.
			xii	Inspect for proper application of waterproofing membranes or coatings to the box structure and found satisfactory.
		Counter fort type	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Has ensured graded filters are installed behind the abutments

			v	Has ensured backfill material conforms to specifications
			vi	Has ensured proper drainage (weepholes, size, spacing, alignment, etc.)
			vii	Is quality of material (cement, aggregates, steel, etc.) satisfactory
			viii	Is results of testing of concrete cubes satisfactory
			ix	Is workability and compaction concrete satisfactory
			x	Are curing arrangements satisfactory
			xi	Has verified that the internal dimensions of hollow chambers match the design.
			xii	Has verified reinforcement for counterforts, ensuring proper alignment and anchorage to the stem wall and base slab.
			xiii	Has ensured that the stem wall is adequately supported by counterforts during construction.
			xiv	Check for verticality and alignment of the wall with respect to the design and express satisfaction.
			xv	Has inspected the length of the heel and toe slabs for stability against overturning.
8	Piers	Solid Circular	i	Whether Setting Out and Alignment (pier location and alignment, pier centerline coincides with the bridge centerline and foundation, etc.) are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, concentricity, etc.) are satisfactory
			iii	Whether size and shape as per design
			iv	Is quality of material (cement, aggregates, steel, etc.) satisfactory
			v	Is concrete mix design report approved by PIU
			vi	Is results of testing of concrete cubes satisfactory
			vii	Is workability and compaction concrete satisfactory
			viii	Are curing arrangements satisfactory
			ix	Scour near base of pier within limit?
			x	Is it defects (cracks, spalling, corrosion, disintegration, decay, settlement, tilting, seepage, etc.) free
		Hollow Circular	i	Whether Setting Out and Alignment (pier location and alignment, pier centerline coincides with the bridge centerline and foundation, etc.) are satisfactory and as per DPR/Design

			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, concentricity, etc.) are satisfactory
			iii	Whether size and shape as per design
			iv	Is quality of material (cement, aggregates, steel, etc.) satisfactory
			v	Is concrete mix design report approved by PIU
			vi	Is results of testing of concrete cubes satisfactory
			vii	Is workability and compaction concrete satisfactory
			viii	Are curing arrangements satisfactory
			ix	Scour near base of pier within limit?
			x	Is it defects (cracks, spalling, corrosion, disintegration, decay, settlement, tilting, seepage, etc.) free
			xi	Has verified that the hollow core is free of debris and obstructions before and after concreting.
		Wall type pier	i	Whether Setting Out and Alignment (pier location and alignment, pier centerline coincides with the bridge centerline and foundation, etc.) are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, concentricity, etc.) are satisfactory
			iii	Whether size and shape as per design
			iv	Is quality of material (cement, aggregates, steel, etc.) satisfactory
			v	Is concrete mix design report approved by PIU
			vi	Is results of testing of concrete cubes satisfactory
			vii	Is workability and compaction concrete satisfactory
			viii	Are curing arrangements satisfactory
			ix	Scour near base of pier
			x	Any defects (cracks, spalling, corrosion, disintegration, decay, settlement, tilting, seepage, etc.)
			xi	Confirm that the wall base and transitions are as per the approved design.
9	Returns/ Wing walls	Box type	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Has ensure proper drainage (weep holes size, spacing, alignment, etc.)

			v	Has verify backfill material quality and layer-wise compaction
			vi	Whether size and shape as per design
			vii	Is results of testing of concrete cubes satisfactory
			viii	Is workability and compaction concrete satisfactory
			ix	Are curing arrangements satisfactory
			x	Is it defects (cracks, spalling, corrosion, disintegration, decay, settlement, tilting, seepage, etc.) free
		Counter fort	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Has ensure proper drainage (weep holes size, spacing, alignment, etc.)
			v	Has verified backfill material quality and layer-wise compaction
			vi	Whether size and shape as per design
			vii	Is results of testing of concrete cubes satisfactory
			viii	Is workability and compaction concrete satisfactory
			ix	Are curing arrangements satisfactory
			x	Is it defects (cracks, spalling, corrosion, disintegration, decay, settlement, tilting, seepage, etc.) free
		Tied returns	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Has ensure proper drainage (weep holes size, spacing, alignment, etc.)
			v	Has verified backfill material quality and layer-wise compaction
			vi	Check that placement, size, and shape of tie rods as per design
			vii	Ensure tie rods are protected from corrosion using coatings or protective sleeves.
			viii	Is results of testing of concrete cubes satisfactory
			ix	Is workability and compaction concrete satisfactory
			x	Are curing arrangements satisfactory

			xi	Is it defects (cracks, spalling, corrosion, disintegration, decay, settlement, tilting, seepage, etc.) free
		Cantilever type	i	Whether Setting Out and Alignment are satisfactory and as per DPR/Design
			ii	Whether reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) are satisfactory
			iii	Is concrete mix design report approved by PIU
			iv	Has ensured proper drainage (weep holes size, spacing, alignment, etc.)
			v	Has verified backfill material quality and layer-wise compaction
			vi	Verified the dimensions, verticality, and alignment of the cantilever stem wall.
			vii	Verified that the cantilevered structure has adequate stability against overturning and sliding forces.
			viii	Is results of testing of concrete cubes satisfactory
			ix	Is workability and compaction concrete satisfactory
			x	Are curing arrangements satisfactory
			xi	Is it defects (cracks, spalling, corrosion, disintegration, decay, settlement, tilting, seepage, etc.) free
10	Bearings	Elastomeric	i	Whether PIU in charge has examined all manufacturer certificates with test proofs along with design and drawings of bearing being used for installation and found them satisfactory for installation
			ii	Has verified correct placement on the bearing seat without tilting or overhanging.
			iii	Has ensured proper alignment with the load line to prevent uneven stress distribution
			iv	Has verified the grade and composition of elastomer conform to specifications
			v	Has ensured that steel laminates are properly bonded to the elastomer
			vi	Has verified and checked condition of pads – Oxidation, creep, flattening, bulging, splitting, displacement and found satisfactory
			vii	Whether general cleanliness satisfactory
			viii	Has verified the alignment and level of bearing seats (pedestals) as per design drawings
			ix	Has inspected for manufacturing defects, surface finish, and quality certifications and found satisfactory.

		Pot cum PTFE	i	Whether PIU in charge has examined all manufacturer certificates with test proofs alongside design and drawings of bearing being used for installation and found them satisfactory for installation
			ii	Has verified correct placement on the bearing seat without tilting or overhanging and express satisfaction.
			iii	Has ensured proper alignment with the load line to prevent uneven stress distribution
			iv	Has inspected for manufacturing defects, surface finish, and quality certifications and found them satisfactory.
			v	Has inspected the pot (housing), elastomer disc, and piston for correct assembly and found satisfactory.
			vi	Has verified the quality and thickness of the elastomer disc and found satisfactory.
			vii	Has ensured the PTFE (Polytetrafluoroethylene) sliding surface is clean, free of scratches, and correctly bonded.
			viii	Has confirmed that the bearing is aligned to allow free sliding movement along the required direction and not any excessive movement/tilting.
			ix	Has verified the tightness of anchor bolts and any required dowels.
			x	Whether general condition – any rusting/ceasing of plates/cleanliness satisfactory
		Spherical bearing	i	Whether PIU in charge has examined all manufacturer certificates with test proofs alongside design and drawings of bearing being used for installation and found them satisfactory for installation
			ii	Has verified correct placement on the bearing seat without tilting or overhanging. and installation
			iii	Has ensured proper alignment with the load line to prevent uneven stress distribution
			iv	Has inspected for manufacturing defects, surface finish, and quality certifications.
			v	Is general condition – any rusting/ceasing of plates/cleanliness satisfactory
			vi	Is functioning – any excessive movement/tilting/jumping off guides satisfactory
			vii	Has verified spherical elements are made of high-strength steel and are free of defects.
			viii	Has ensured the spherical surface allows smooth rotation and sliding as per design.

		Cylindrical bearing	i	Whether PIU in charge has examined all manufacturer certificates with test proofs alongside design and drawings of bearing being used for installation and found them satisfactory for installation
			ii	Has verified correct placement on the bearing seat without tilting or overhanging
			iii	Has ensured proper alignment with the load line to prevent uneven stress distribution
			iv	Has inspected for manufacturing defects, surface finish, and quality certifications.
			v	Is general condition – any rusting/ceasing of plates/cleanliness satisfactory
			vi	Is functioning – any excessive movement/tilting/jumping off guides satisfactory
			vii	Has inspected cylindrical components for uniform diameter, material composition, and surface finish.
			viii	Has inspected for proper alignment with load paths to avoid eccentric loads.
		Rocker & Roller	i	Whether PIU in charge has examined all manufacturer certificates with test proofs alongside design and drawings of bearing being used for installation and found them satisfactory for installation
			ii	Has verified correct placement on the bearing seat without tilting or overhanging
			iii	Has verified that load, friction, and other suitable testing are done and found results satisfactory.
			iv	Has ensured proper alignment with the load line to prevent uneven stress distribution
			v	Has inspected for manufacturing defects, surface finish, and quality certifications.
			vi	Has verified that the curvature of the rocker matches the design to ensure proper rocking motion.
			vii	Has inspected for uniform contact between the rocker and the bearing seat.
			viii	Has checked rollers for surface finish, uniform diameter, and freedom of movement.
			ix	Has inspected the top and bottom plates for flatness and proper seating on the pedestal
			x	Has verified lubrication of rollers or rockers for smooth movement.
			xi	Has ensured even distribution of loads through the rocker or rollers to avoid localized stress.

			xii	Is general condition – any rusting/ceasing of plates/cleanliness satisfactory
			xiii	Is functioning – any excessive movement/tilting/jumping off guides satisfactory
11	RCC Superstructure	Solid slab	i	Whether quality of material (cement, aggregates, steel reinforcement) satisfactory
			ii	Whether quality of workmanship satisfactory
			iii	Check reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) and express satisfaction
			iv	Confirm placement and spacing of top and bottom reinforcement layers as per design and express satisfaction
			v	Has ensured proper compaction using vibrators to eliminate voids
			vi	Has inspected for honeycombing, cracks, or undulations in the surface.
			vii	Whether drainage spouts are provided as per design
			viii	Is it defects free (cracks, spalling, disintegration, honeycombing, corrosion of reinforcement, etc.)
			ix	Whether condition of articulation (cracks, if any) satisfactory
			x	Whether there is not any excessive deflection or loss of camber
			xi	Whether there are no cracks in end anchorage zone (for prestressed concrete members.)
			xii	Whether length and width of slab as per DPR
		T Beam slab	i	Whether quality of material (cement, aggregates, steel reinforcement) satisfactory
			ii	Whether quality of workmanship satisfactory
			iii	Check reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) and express satisfaction
			iv	Confirm placement and spacing of top and bottom reinforcement layers as per design.
			v	Has ensured proper compaction using vibrators to eliminate voids.
			vi	Has inspected for honeycombing, cracks, or undulations in the surface.
			vii	Whether drainage spouts are provided as per design

			viii	Is it defects free (cracks, spalling, disintegration, honeycombing, corrosion of reinforcement, etc.)
			ix	Whether condition of articulation (cracks, if any) satisfactory
			x	Whether there is not any excessive deflection or loss of camber
			xi	Whether there are no cracks in end anchorage zone (for prestressed concrete members.)
			xii	Whether laps in reinforcement (number, place) of beams are as per IS norms
			xiii	Whether length and width of slab as per DPR
			xiv	Has inspected for proper integration and anchorage of slab and beam reinforcements.
		Voided slab	i	Whether quality of material (cement, aggregates, steel reinforcement) satisfactory
			ii	Whether quality of workmanship satisfactory
			iii	Check reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) and express satisfaction
			iv	Confirm placement and spacing of top and bottom reinforcement layers as per design.
			v	Has ensured proper compaction using vibrators to eliminate voids.
			vi	Has inspected for honeycombing, cracks, or undulations in the surface.
			vii	Whether drainage spouts are provided as per design
			viii	Is it defects free (cracks, spalling, disintegration, honeycombing, corrosion of reinforcement, etc.)
			ix	Whether condition of articulation (cracks, if any) satisfactory
			x	Whether there is not any excessive deflection or loss of camber
			xi	Whether there are no cracks in end anchorage zone (for prestressed concrete members.)
			xii	Has inspected reinforcement around voids for proper spacing and placement
			xiii	Has verified slab thickness and void alignment as per design specifications.
			xiv	Has confirmed that void formers are securely fixed and aligned to avoid displacement.

			xv	Whether length and width of slab as per DPR
		Box girder	i	Whether quality of material (cement, aggregates, steel reinforcement) satisfactory
			ii	Whether quality of workmanship satisfactory
			iii	Check reinforcement work and arrangement (grade, dia, spacing, cover, stirrups, ties, etc.) and express satisfaction
			iv	Confirm placement and spacing of top and bottom reinforcement layers as per design.
			v	Has ensured proper compaction using vibrators to eliminate voids.
			vi	Has inspected for honeycombing, cracks, or undulations in the surface.
			vii	Whether drainage spouts are provided as per design
			viii	Is it defects free (cracks, spalling, disintegration, honeycombing, corrosion of reinforcement, etc.)
			ix	Whether the condition of articulation (cracks, if any) satisfactory
			x	Whether there is no excessive deflection or loss of camber
			xi	Whether there are no cracks in the end anchorage zone (for prestressed concrete members.)
			xii	Has checked dimensions, alignment, and stability of soffit, web, and top slab formwork and express satisfaction
			xiii	Has verified bottom slab, web, and top slab reinforcement placement as per design.
			xiv	Has inspected for proper positioning of ducts for tendons (in post-tensioned box girders).
			xv	Has checked for Tendon Ducts and Anchorages (For Post-Tensioned Box Girders)
			xvi	Has verified the internal dimensions of the box, including web and slab thickness.
			xvii	Whether length and width of slab as per DPR
12	Steel Superstructure	Plate girder / Truss frame	i	Checked and confirmed work programme for fabrication of structural steel.
			ii	Has checked results of tests of steel properties (tensile stress, yield stress, chemical analysis, NDT of welding, Testing of steel bolts, etc.)
			iii	Has checked shop drawings for fabrication of members.
			iv	Has confirmed welding procedure for shop and site welds, including edge preparation for fusion faces

			v	Has checked temporary erection of steel work or a portion thereof and field connections of main members of structure
			vi	Has verified tolerances in dimensions of components of fabricated structural steel work shown on the drawings
			vii	Has verified and confirmed correction method for rectification of any error in the shop fabrication or deformation resulting from handling and transportation which prevents proper assembling and fitting up of parts by moderate use of reaming and slight chipping or cutting.
			viii	Has done field inspection of all materials, equipment and work of erection of structural steel
			ix	Has verified specification of prime coat and methods of application of all paint coatings.
			x	Has deployed a competent engineer or foreman with adequate experience in steel erection.
			xi	Has checked condition of connections (adequacy, looseness of rivets, bolts or worn-out welds, report specially on connection of stringers to cross girders, cross girders to main girders, gussets or splices, etc.)
			xii	Has checked deflection, buckling, kinking, warping, waviness, if any
			xiii	Has verified quality certificates for steel plates and sections (grade, thickness, and strength)
			xiv	Has ensured weld sizes, types, and positions comply with design specifications
			xv	Has verified grade, size, and torque of high-strength bolts used for connections
			xvi	Has ensured all truss members meet design specifications for steel grade and dimensions. (Truss frame)
			xvii	Has inspected truss alignment, symmetry, and overall geometry as per design. (Truss frame)
			xviii	Whether is provided as per design and drawing (Truss frame)
			xix	Whether length and width of deck as per DPR
		Arch bridges	i	Has ensured compliance with design specifications for arch ribs and ties.

			ii	Has checked for correct curvature, alignment, and spacing of ribs.
			iii	Has verified proper placement of bracing and stiffening members.
			iv	Has inspected foundation anchorages for proper alignment and embedment depth.
			v	Has checked and confirmed work programme for fabrication of structural steel.
			vi	Has verified Shop Drawings for fabrication of members.
			vii	Has confirmed welding procedure for shop and site welds, including edge preparation for fusion faces
			viii	Has checked temporary erection of steel work or a portion thereof and field connections of main members of structure
			ix	Has checked tolerances in dimensions of components of fabricated structural steel work shown on the drawings
			x	Has verified and confirmed correction method for rectification of any error in the shop fabrication or deformation resulting from handling and transportation which prevents proper assembling and fitting up of parts by moderate use of reaming and slight chipping or cutting.
			xi	Has done field inspection of all materials, equipment and work of erection of structural steel
			xii	Has confirmed specification of prime coat and methods of application of all paint coatings.
			xiii	Has deployed a competent engineer or foreman with adequate experience in steel erection.
		Cable stayed	i	Has verified dimensions, alignment, and structural integrity of pylons
			ii	Has inspected cable strands for quality, corrosion resistance, and alignment.
			iii	Has verified deck alignment and camber during segment erection.
			iv	Has ensured cables are progressively tensioned as per design sequence.
			v	Has inspected anchorages for proper embedment and alignment.

			vi	Has ehecked for tests of steel properties (tensile stress, yield stress, chemical analysis, NDT of welding, Testing of steel bolts
			vii	Is fabrication and welding of members done as per design
		Suspension	i	Has verified the quality of cable wires, including tensile strength and galvanization.
			ii	Has inspected cable bands, clamps, and suspenders for proper installation.
			iii	Has checked anchorage blocks and embedment depth
			iv	Has verified alignment and tensioning of main cables
			v	Has inspected deck panels for alignment and proper suspension.
			vi	Has checked dimensions, vertical alignment, and cable saddle installation.
			vii	Has inspected cables and steel members for corrosion resistance measures
			viii	Has checked for tests of steel properties (tensile stress, yield stress, chemical analysis, NDT of welding, Testing of steel bolts
			ix	Is fabrication and welding of members done as per design
		Baily Bridge	i	All panel PINs are placed in male-female joints properly with safety PIN
			ii	Has verified Bailey bridge components (panels, transoms, and chords) for damage or wear
			iii	Has checked for alignment and spacing between panels.
			iv	Has monitored the launching process to prevent over-stressing of panels
			v	Has inspected rollers and supports for proper functioning during launching.
			vi	Has checked deck deflection under load to ensure stability.
			vii	Has checked whether any bolt or rakers and tie plates are missing or loose
			viii	Has checked that not any sway braces and/or transom clamps are missing or loose

			ix	Has checked whether all components are corrosion free
			x	Has confirmed the application of protective paint or coatings.
			xi	Has checked and confirmed that there is not any presence of cracking in the Baily bridge
			xii	Has checked and confirmed that there is not any presence of any bends in bridge members
13	Expansion Joint	Buried	i	Has ensured the joint material (e.g., asphalt or elastomer) complies with the design specifications.
			ii	Has confirmed alignment with the bridge deck and adjacent surfaces.
			iii	Whether existing gap is proper
			iv	Has verified proper sealing to prevent the increase of water and debris.
			v	Verify that there is not any hardening/cracking observed in bitumen filler
			vi	Verified that riding surface is bump free at joints
		Filler Joint with Copper Plate	i	Has ensured that the material complies with the design specifications.
			ii	Has inspected copper plates for dimensions, grade, and surface smoothness.
			iii	Has verified the absence of surface cracks, deformations, or sharp edges.
			iv	Has ensured proper embedding of the copper plate into the concrete recess.
			v	Has verified installation of corrosion protection measures like coatings or treatments.
			vi	Whether joints are sealed properly with sealing compound
			vii	Has inspected for proper alignment to allow specified movements in the joint.
			i	Has verified the quality and grade of the bituminous material as per design requirements.

		Bituminous / Asphaltic Plug Joint	ii	Has checked for uniform placement and compaction of the bituminous material without voids.
			iii	Has confirmed that the material can withstand the temperature range of the site without softening or cracking.
			iv	Has been verified that there is not any hardening/cracking observed in bitumen filler
		Compression Seal Joint	i	Has inspected the elastomeric compression seal for uniform thickness, flexibility, and absence of manufacturing defects.
			ii	Has verified that material tests meet the design criteria
			iii	Has confirmed that the seal is compressed and properly seated in the joint groove.
			iv	Assured the seal is watertight and prevents debris ingress.
			v	Has verified the seal's capacity to accommodate designed expansion and contraction movements.
		Single Strip/ Box Seal Joint	i	Has verified dimensions and quality of elastomeric seals and metal edge members.
			ii	Has confirmed proper insertion of elastomeric strips into the grooves.
			iii	Has inspected the joint for uniform movement across all sections.
			iv	Has verified that the joint is flush with the adjacent surfaces for smooth traffic flow.
			v	Has verified that material tests meets the design criteria
			vi	Whether the steel rod/ flat strips are removed after properly fitting expansion joint which was temporarily welded to the joint.
		Modular Strip / Box Seal Joint	i	Has inspected steel beams, elastomeric seals, support bars, and anchors for quality.
			ii	Has checked for proper alignment and absence of manufacturing defects.
			iii	Has verified the anchorage and proper alignment of support bars during installation.

			iv	Has confirmed that the joint accommodates the specified range of movements in all directions.
			v	Has inspected anti-corrosion coatings on steel components.
			vi	Has verified that the joint is flush with the adjacent surfaces for smooth traffic flow.
			vii	Has verified that material tests meet the design criteria
			vi	Whether the steel rod/ flat strips are removed after properly fitting expansion joint which was temporarily welded to the joint.
		Finger Joint	i	Has verified the thickness, grade, and alignment of steel fingers.
			ii	Has inspected edges for smoothness and ensure uniform spacing between fingers.
			iii	Has checked for proper installation of embedded anchor plates and bolts.
			iv	Has confirmed proper alignment with adjacent deck surfaces and uniformity of spacing.
			v	Has inspected galvanization or anti-corrosion coatings on steel components.
			vi	Has verified that material tests meets the design criteria
		Reinforced Elastomeric Joint	i	Assured the elastomeric material is reinforced as per design specifications.
			ii	Has checked for tears, cracks, or other surface damage on the elastomer
			iii	Has inspected proper anchorage of the joint to the concrete deck.
			iv	Has verified that material tests meets the design criteria
		Reinforced Coupled Elastomeric Joint Type	i	Has verified reinforcement and elastomer properties meet design specifications.
			ii	Has checked for flexibility and absence of defects like cracks or cuts in the elastomer
			iii	Has confirmed secure fixing of joint components to the deck structure.

			iv	Has coupling elements inspected for proper fit, alignment, and connection strength.
			v	Has verified that material tests meets the design criteria
14	Railing	RCC	i	Has verified the quality of cement, aggregates, reinforcement steel, and water.
			ii	Has approved the mix design report
			iii	Has ensured reinforcement bars meet the required diameter, spacing, and cover as per design specifications.
			iv	Has verified the quality of workmanship
			v	Has confirmed the height, spacing, alignment, and overall appearance as per standards.
		Steel	i	Has verified the quality of steel as per IS codes or other relevant standards.
			ii	Has checked for uniform thickness, grade, and absence of rust or damage.
			iii	Has ensured dimensions, profiles, and connections match the approved design.
			iv	Has verified proper alignment, spacing, and secure fixing of the railing to the bridge structure.
			v	Has inspected connections for proper tightening and alignment
			vi	Has ensured the railing is painted, galvanized, or coated to resist corrosion.
			vii	Has ensured there are no sharp edges or protrusions that could pose a safety hazard
		Pipe railing pitching	i	Has ensured pipes meet the required specifications (diameter, thickness, height, and material grade)
			ii	Has inspected pipes for dents, cracks, or corrosion before installation.
			iii	Has ensured the anchorage depth and fixing are as per the approved drawings.
			iv	Has checked for proper welding or bolted connections between pipe segments.

			v	Has confirmed uniform spacing and alignment of pipes.
			vi	Has inspected for anti-corrosion treatment like galvanization or painting.
		Collapsible Pitching	i	Has verified the quality of materials used for the collapsible mechanism (e.g., hinges, steel members).
			ii	Has confirmed dimensions, shapes, alignment, and collapsible mechanisms meet design standards.
			iii	Has ensured proper fixing of the collapsible railing to the bridge deck or parapet.
			iv	Has inspected anti-corrosion measures such as galvanization or protective coatings.
			v	Has tested the collapsible mechanism for smooth operation under design loads.
			vi	Has ensured safety stops or locks are functional and prevent unintended collapse
15	Wearing coat	RCC	i	Has verified the quality of cement, fine aggregates, coarse aggregates, and water for concrete as per relevant standards (IS 456 or other IRC guidelines).
			ii	Has checked that drainage spouts are installed properly
			iii	Has ensured the reinforcing steel, if required, complies with design specifications.
			iv	Has checked the design thickness of the RCC wearing coat and confirm reinforcement details.
			v	Has been confirmed that the concrete mix complies with the approved mix design.
			vi	Has verified slump, strength, and other properties test results as per quality control guidelines.
			vii	Has verified the slope and camber to ensure proper water drainage.
		Bituminous	i	Has verified the bitumen grade and aggregate properties as per IRC codes
			ii	Has checked that drainage spouts are installed properly

			iii	Has checked the thickness of the wearing coat and mix design for bituminous concrete.
			iv	Has verified the application of a tack coat (quantity and quality) for proper bonding.
			v	Has ensured that the bituminous mix is prepared as per the approved mix design.
			vi	Has verified that tests results of thickness, density, BT content and ride quality are as per IRC or MoRD specifications
			vii	Has verified the slope and camber to ensure proper water drainage.
16	Loat Test	Loat Test as per IRC SP 51	i	Whether load test conducted on completed bridge in presence of PIU and certified its functionality
17	Protection work	Retaining, Breast, Parapet wall	i	Is general quality of material as per the standards
			ii	Whether size and shape as per design
			iii	Is quality assessment of protection work by personal judgement satisfactory
18	Pitching on Approaches	Boulder Pitching on Approaches	i	Has confirmed the thickness and slope of the pitching layer as per approved drawings
			ii	Has confirmed uniform placement of the filter layer to prevent soil erosion.
			iii	Assured the slope of the embankment is properly compacted and trimmed to the required gradient.
			iv	Has conducted random checks for the size, durability and stability of boulders.
		Concrete Block Pitching in Approaches	i	Has verified the grade of concrete used for blocks as specified in the design
			ii	Has confirmed the thickness, slope, and pattern of the concrete block pitching
			iii	Has checked for proper curing and strength of precast blocks.
			iv	Has confirmed uniform placement of the filter layer to prevent soil erosion.
			v	Has conducted random strength, placement stability tests on concrete blocks.

19	Approns	Approns	i	Has verified the apron layout, dimensions, and thickness as per the approved design and drawings.
			ii	Has checked that the apron design conforms to hydrological studies, including water velocity and scour depth.
			iii	Has confirmed the slope or alignment of the apron as per the design requirements.
			iv	Has verified the quality of filter materials like sand, gravel, or geotextiles to be used beneath the apron.
			v	Has conducted random quality checks for material (boulder/concrete block) e.g. size, quality, and durability.
20	Approaches	Embankment	i	Whether Side slope and profile are satisfactory
			ii	Whether plasticity of soil is satisfactory
			iii	Whether compaction is satisfactory
		Subbase	i	Whether gradation of aggregates is satisfactory
			ii	Whether compaction is satisfactory
			iii	Whether thickness is as per DPR
		Base course	i	Whether gradation of aggregates is satisfactory
			ii	Whether volumetric analysis / compaction is satisfactory
			iii	Whether thickness is as per DPR
		Bituminous Base course	i	Whether gradation of aggregates is satisfactory
			ii	Whether compaction is satisfactory
			iii	Whether thickness is as per DPR
			iv	Whether bitumen content is as per specifications
		Bituminous surface course	i	Whether gradation of aggregates is satisfactory
			ii	Whether surface evenness is satisfactory
			iii	Whether thickness is as per DPR
			iv	Whether bitumen content is as per specifications
		CC Pavement	i	Whether thickness is as per DPR
			ii	Whether strength is as per specifications

			iii	Whether the quality of material is satisfactory
			iv	Whether quality of workmanship is satisfactory
21	Bridge furniture	Bridge furniture	i	Are boards fixed as per guidelines on site
			ii	Whether the quality of boards and furniture is satisfactory

Note:

(i) All below activities/type/tests stage-wise mapped in the "**Quality-First"** Mobile Application for use by 1st Tier Officials.

(ii) Items for inspection will be applicable as per DPR estimate and stage of work.

Annexure-III

Stage Passing Certificate - Road

Date of Stage Passing Inspection: _____

Road Name (Package No.): _____

PIU Name with District: _____

State: _____

Awarded Road Length (Km):_____ Section Chainage (km): From: ____To: ____Length:____

Held-up Length in Above Section (*If any): (In Km)* **From: _____ To: _____Length:_____**
From: _____To: _____Length:_____

Stage-Wise Inspection Details and Grading:

Stage of Progress	Test Location (km)	Stage Activity/Type/Test	Test Values/ Observations	Grading

General Remarks:

Stage Grading - S

Certification:

I, the undersigned, hereby certify that the quality of work, for the stage of progress, as indicated in the above-mentioned table, in the indicated section of road, have been completed as per the prescribed specifications and graded as satisfactory by me.

Date of Generation Stage Passing Certificate: _____

PIU In-Charge
Name: _____
Designation: _____

Capture Digital Signature

Annexure-IV

Stage Passing Certificate - Bridge

Date of Stage Passing Inspection: _____

Bridge Name (Package No): _____

Road Name on Which Bridge Located with Chainage: _____

PIU Name with District: _____

State: _____

Bridge Length (In Meters): _____

Stage-Wise Inspection Details and Grading:

Stage of Progress	Stage Activity/Type/Test	Test Values/ Observations	Grading

General Remarks:

Stage Grading - S

Certification:

I, the undersigned, hereby certify that the quality of work, for the stage of progress, as indicated in the above-mentioned table, in the indicated section of road, have been completed as per the prescribed specifications and graded as satisfactory by me.

Date of Stage Generation of Passing Certificate: _____

PIU In-Charge

Name: _____

Designation: _____

Capture Digital Signature