

TENDER DOCUMENT

Road Construction Project

Tender ID:	TEN20250330135141
Issuing Authority:	Public Works Department (PWD), State Government
Tender Amount:	■20,000,000.00
Bid Start Date:	06-02-2025
Bid End Date:	24-05-2025

Executive Summary

- Executive Summary

The proposed Road Construction Project aims to design and build a 20-kilometer stretch of road, complete with asphalt paving, drainage systems, and necessary signage. With a total project value of ₹20,000,000.0, this initiative seeks to enhance the existing transportation infrastructure, promoting safer and more efficient travel for commuters. Our team is committed to delivering a high-quality project that meets the required standards, while ensuring adherence to environmental and safety regulations.

- Project Overview

The scope of work includes the construction of a 20-kilometer road stretch, with the following key components:

- Asphalt paving with a minimum thickness of 50 mm to ensure durability and longevity
- Drainage systems, including culverts, bridges, and stormwater management facilities, designed to withstand a 10-year storm event
- Installation of necessary signage, including traffic signs, road markings, and guideposts, conforming to the Indian Road Congress (IRC) standards
- Earthwork, including excavation, filling, and compaction, to achieve a stable and even road surface
- Compliance and Requirements

Our team is well-versed in the necessary requirements and regulations governing road construction projects in India. We will ensure that our proposal and subsequent project execution comply with the following:

- Indian Road Congress (IRC) standards and guidelines for road design and construction
- Ministry of Road Transport and Highways (MoRTH) specifications for road construction materials and techniques
- Environmental Protection Act, 1986, and the Water (Prevention and Control of Pollution) Act, 1974, to minimize the project's ecological footprint
- Occupational Safety, Health and Welfare (OSHW) regulations, to guarantee a safe working environment for our personnel and stakeholders
- Experience and Capabilities

Our company has a proven track record of successfully completing road construction projects, with a minimum of 5 years of experience in the industry. Our team comprises qualified and skilled professionals, including civil engineers, surveyors, and safety experts, who are well-versed in the latest construction techniques and technologies. We possess the necessary machinery and equipment to undertake the project, including:

- • Asphalt pavers and laydown machines
- • Excavators, bulldozers, and graders
- • Concrete mixers and pumps
- • Safety equipment, such as personal protective gear and first aid kits
- • Quality Assurance and Control

To ensure that the project meets the required standards, we will implement a rigorous quality assurance and control program, which includes:

- • Regular site inspections and monitoring
- • Testing and verification of construction materials and techniques
- • Compliance with industry standards and regulations
- • Continuous training and development of our personnel to enhance their skills and knowledge

By leveraging our experience, expertise, and capabilities, we are confident that we can deliver a high-quality Road Construction Project that meets the required standards, while ensuring the safety of our personnel, stakeholders, and the environment.

Project Overview and Objectives

- • Project Overview and Objectives

The Road Construction Project aims to design and build a 20-kilometer stretch of road that meets the highest standards of quality, safety, and environmental sustainability. With a total project value of ₹20,000,000.0, this initiative seeks to provide a safe and efficient transportation infrastructure that supports the local community's growth and development. The project's scope encompasses the construction of a durable asphalt pavement, a reliable drainage system, and the installation of necessary signage to ensure a smooth and safe travel experience for all road users.

The primary objectives of the Road Construction Project are:

- • To design and construct a 20kilometer road stretch that meets the Indian Road Congress (IRC) standards and guidelines for road construction
- • To ensure the road is built with highquality materials and construction techniques, resulting in a minimum lifespan of 15 years
- • To implement a reliable drainage system that can handle a minimum of 100 mm/hour rainfall intensity, as per the IRC guidelines
- • To provide necessary signage and road markings that comply with the Ministry of Road Transport and Highways (MoRTH) standards

- • To minimize the project's environmental impact by adhering to environmental regulations and implementing sustainable construction practices

The project's key performance indicators (KPIs) will be measured against the following metrics:

- • Construction completion rate: 2 kilometers per month
- • Asphalt paving quality: minimum Marshall stability of 1,200 kg and flow of 24 mm
- • Drainage system efficiency: ability to handle 100 mm/hour rainfall intensity without waterlogging or flooding
- • Signage and road marking compliance: 100% adherence to MoRTH standards
- • Environmental and safety compliance: zero major environmental incidents and zero losttime injuries throughout the project duration

The successful bidder will be required to demonstrate their experience and capabilities in road construction, with a proven track record of delivering similar projects on time, within budget, and to the required quality standards. The bidder must also provide evidence of their commitment to environmental and safety standards, including adherence to the Pollution Control Board regulations and the Occupational Safety and Health (OSH) guidelines. By achieving these objectives, the Road Construction Project aims to provide a safe, efficient, and sustainable transportation infrastructure that benefits the local community and supports the region's economic growth and development.

Detailed Technical Specifications

- • Detailed Technical Specifications

The Road Construction Project aims to construct a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage. The following technical specifications outline the requirements for the project, ensuring that the work is completed to the highest standards of quality, safety, and environmental sustainability.

- • Road Design and Geometry

The road shall be designed and constructed in accordance with the Indian Roads Congress (IRC) standards and guidelines. The road geometry shall include:

- • Carriageway width: 7.5 meters
- • Shoulder width: 2.5 meters
- • Road slope: 2% longitudinal gradient
- • Camber: 2% crossfall
- • Radius of curvature: minimum 200 meters for horizontal curves
- • Gradient: maximum 6% for longitudinal gradient

- • Asphalt Paving

The asphalt paving shall be designed and constructed in accordance with the Ministry of Road Transport and Highways (MoRTH) specifications. The asphalt pavement shall consist of:

- • Wearing course: 40 mm thick, with a surface dressing of 20 mm thick
- • Binder course: 60 mm thick
- • Base course: 150 mm thick
- • Subbase course: 200 mm thick
- • The asphalt mix shall be designed to meet the requirements of MoRTH, with a minimum Marshall stability of 800 kg and a flow of 24 mm.
- • Drainage Systems

The drainage system shall be designed and constructed to ensure that the road is safe and free from waterlogging. The system shall include:

- • Crossdrainage structures: culverts, bridges, or box culverts, as required
- • Longitudinal drainage: camber and crossfall to ensure water runs off the road surface
- • Side drains: 300 mm deep and 300 mm wide, with a minimum gradient of 1%
- • The drainage system shall be designed to handle a storm intensity of 50 mm/hour.
- • Signage and Markings

The signage and markings shall be designed and constructed in accordance with the MoRTH specifications. The signage shall include:

- • Directional signs: 1.2 meters wide and 1.8 meters high
- • Warning signs: 0.9 meters wide and 1.2 meters high
- • Guide signs: 1.2 meters wide and 1.8 meters high
- • The markings shall include:

+ Center line markings: 100 mm wide and 200 mm long

+ Edge line markings: 100 mm wide and 200 mm long

+ Lane markings: 150 mm wide and 300 mm long

- • Environmental and Safety Standards

The contractor shall ensure that all work is carried out in accordance with environmental and safety standards, including:

- • Compliance with the Environment (Protection) Act, 1986
- • Compliance with the Occupational Safety, Health and Working Conditions Code, 2020

- • Implementation of a waste management plan to minimize waste and prevent pollution
- • Implementation of a safety management plan to prevent accidents and ensure the safety of workers and road users
- • Material Specifications

The contractor shall ensure that all materials used in the construction of the road meet the following specifications:

- • Aggregates: shall meet the requirements of IS 383
- • Bitumen: shall meet the requirements of IS 73
- • Cement: shall meet the requirements of IS 12269
- • Steel: shall meet the requirements of IS 2062
- • Testing and Quality Control

The contractor shall ensure that all work is subject to testing and quality control, including:

- • Material testing: to ensure compliance with specifications
- • Construction testing: to ensure compliance with design and construction requirements
- • Regular inspections: to ensure that the work is being carried out in accordance with the specifications and standards.
- • Equipment and Machinery

The contractor shall ensure that all equipment and machinery used in the construction of the road are in good working condition and meet the following requirements:

- • Pavers: shall be capable of laying a minimum of 200 tons per hour
- • Rollers: shall be capable of compacting a minimum of 200 tons per hour
- • Crushers: shall be capable of producing a minimum of 100 tons per hour
- • The contractor shall also ensure that all equipment and machinery are regularly maintained and serviced to prevent breakdowns and ensure efficient operation.

By adhering to these detailed technical specifications, the contractor shall ensure that the Road Construction Project is completed to the highest standards of quality, safety, and environmental sustainability, and that the road is safe and durable for road users.

Implementation Methodology

- • Implementation Methodology

The implementation methodology for the Road Construction Project will be a multi-phased approach, ensuring that all aspects of the project are thoroughly planned, executed, and

monitored to meet the required standards. Our approach will be based on industry best practices, taking into account the specific requirements of the project and the need to minimize environmental impact and ensure worker safety.

- • PreConstruction Phase

Before commencing construction, we will undertake the following activities:

- • Conduct a thorough site survey to identify potential hazards and opportunities for environmental conservation
- • Develop a detailed project schedule, including milestones and timelines for each stage of the project
- • Establish a quality management system, including regular inspections and testing to ensure compliance with industry standards
- • Develop a traffic management plan to minimize disruptions to existing traffic flow
- • Identify and procure necessary materials and equipment, including asphalt, aggregate, and heavy machinery
- • Establish a site office and mobilize personnel, including engineers, technicians, and laborers
- • Construction Phase

The construction phase will be divided into several key stages, including:

- • Clearing and Grading: removal of vegetation, debris, and obstructions, followed by grading of the road bed to the required specifications
- • Drainage System Installation: construction of culverts, drainage channels, and other drainage infrastructure to ensure proper water management
- • Asphalt Paving: laying of asphalt pavement, including base course, binder course, and surface course, to the required thickness and specifications
- • Signage and Markings: installation of road signs, markings, and other traffic control devices to ensure safe and efficient traffic flow
- • Quality Control: regular inspections and testing to ensure compliance with industry standards and project specifications
- • Environmental and Safety Management

We are committed to minimizing the environmental impact of the project and ensuring the safety of our workers and the general public. Our environmental and safety management plan will include:

- • Environmental Impact Assessment: identification of potential environmental risks and development of strategies to mitigate them

- • Waste Management: implementation of a waste management plan to minimize waste generation and ensure proper disposal
- • Noise and Air Quality Management: implementation of measures to minimize noise pollution and air quality impacts
- • Worker Safety: implementation of a comprehensive safety management plan, including regular training, personal protective equipment, and emergency response planning
- • Community Engagement: regular communication with local communities and stakeholders to ensure that their concerns are addressed and that they are informed about project progress
- • Quality Assurance and Control

We will implement a robust quality assurance and control system to ensure that the project meets the required standards. This will include:

- • Regular Inspections: regular inspections by our quality control team to ensure compliance with project specifications and industry standards
- • Testing and Certification: regular testing and certification of materials and construction work to ensure compliance with project specifications
- • Defect Rectification: prompt rectification of any defects or nonconformities identified during the construction phase
- • Documentation: maintenance of accurate and complete records of construction activities, including inspections, testing, and certification
- • Project Monitoring and Control

We will establish a project monitoring and control system to track progress, identify potential issues, and take corrective action as necessary. This will include:

- • Regular Progress Meetings: regular meetings with the client and other stakeholders to review project progress and discuss any issues or concerns
- • Key Performance Indicators (KPIs): establishment of KPIs to measure project performance, including metrics such as schedule, budget, quality, and safety
- • Corrective Action: prompt implementation of corrective action to address any issues or concerns identified during the project

By following this implementation methodology, we are confident that we can deliver a high-quality road construction project that meets the required standards and minimizes environmental impact and safety risks. Our approach is based on industry best practices and takes into account the specific requirements of the project, ensuring that we deliver a successful project that meets the needs of all stakeholders.

Quality Control and Standards

- • Quality Control and Standards

The Quality Control and Standards section outlines the requirements and expectations for the Road Construction Project. The successful bidder must demonstrate a commitment to delivering high-quality work that meets or exceeds the specified standards, while ensuring the safety of the public, workers, and the environment. The quality control measures outlined in this section are designed to ensure that the constructed road meets the required specifications, is durable, and provides a safe and comfortable driving experience for users.

- • Quality Management System

The bidder must have a documented Quality Management System (QMS) that is certified to ISO 9001:2015 or equivalent. The QMS must include procedures for quality planning, quality control, quality assurance, and continuous improvement. The bidder must also have a designated Quality Manager who will be responsible for implementing and maintaining the QMS throughout the project duration. The QMS must cover all aspects of the project, including:

- • Material sourcing and procurement
- • Construction methods and techniques
- • Testing and inspection procedures
- • Defect reporting and rectification
- • Document control and recordkeeping
- • Quality Control Measures

The bidder must implement the following quality control measures to ensure that the constructed road meets the required standards:

- • Material testing: Conduct regular testing of materials, including asphalt, aggregate, and concrete, to ensure compliance with the specified requirements.
- • Construction monitoring: Monitor construction activities, including paving, drainage, and signage installation, to ensure that they are carried out in accordance with the project specifications and industry best practices.
- • Inspection and testing: Conduct regular inspections and testing of the constructed road to ensure that it meets the required standards, including:

- + Surface roughness: less than 1.5 mm/m
- + Skid resistance: greater than 45
- + Drainage: functioning as designed
- + Signage: correctly installed and visible

- • Defect reporting and rectification: Establish a system for reporting and rectifying defects, including a procedure for identifying, documenting, and repairing defects within a specified timeframe (e.g., 7 days).
- • Environmental and Safety Standards

The bidder must comply with all relevant environmental and safety standards, including:

- • Environmental regulations: Comply with all applicable environmental regulations, including those related to air and water pollution, noise, and waste management.
- • Safety regulations: Comply with all applicable safety regulations, including those related to occupational health and safety, traffic management, and emergency response planning.
- • Industry standards: Comply with industry standards for environmental and safety management, including:

+ ISO 14001:2015 (Environmental Management System)

+ OHSAS 18001:2007 (Occupational Health and Safety Management System)

+ AS 4801:2001 (Occupational Health and Safety Management System)

- • Metrics and Key Performance Indicators (KPIs)

The bidder must establish and track key performance indicators (KPIs) to measure the quality of the constructed road and the effectiveness of the quality control measures. The KPIs must include:

- • Defect rate: less than 5% of the total constructed area
- • Complaint rate: less than 1% of the total constructed area
- • Safety incident rate: less than 1 incident per 100,000 manhours worked
- • Environmental incident rate: less than 1 incident per 100,000 manhours worked
- • Documentation and Record Keeping

The bidder must maintain accurate and comprehensive records of all quality control activities, including:

- • Quality control plans: Develop and implement a quality control plan that outlines the procedures and protocols for quality control.
- • Inspection and testing records: Maintain records of all inspections and testing, including results and any defects or issues identified.
- • Defect reporting and rectification records: Maintain records of all defects reported and rectified, including the date, location, and description of the defect, and the date and details of the rectification work.
- • Progress reports: Submit regular progress reports to the client, including updates on quality control activities, defects, and any issues or concerns.

By implementing these quality control measures and standards, the successful bidder will ensure that the constructed road meets the required specifications, is durable, and provides a safe and comfortable driving experience for users, while minimizing the environmental and social impacts of the project.

Risk Management Framework

- Risk Management Framework

The Risk Management Framework is a crucial component of our approach to delivering the Road Construction Project, valued at \$20,000,000.0. Our framework is designed to identify, assess, mitigate, and monitor potential risks that may impact the project's timeline, budget, and quality. We recognize that effective risk management is essential to ensuring the successful completion of the project, and we are committed to implementing a proactive and systematic approach to managing risks.

- Risk Identification

Our risk identification process involves a thorough review of the project's scope, including the construction of a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage. We have identified the following potential risks associated with the project:

- Delays in obtaining necessary permits and approvals
- Unforeseen site conditions, such as poor soil quality or unexpected groundwater levels
- Inclement weather conditions, such as heavy rainfall or extreme temperatures
- Shortages of materials or labor
- Equipment breakdowns or failures
- Environmental hazards, such as pollution or damage to nearby ecosystems
- Safety risks, such as accidents or injuries to workers or the public
- Risk Assessment

We will conduct a comprehensive risk assessment to evaluate the likelihood and potential impact of each identified risk. This assessment will be based on industry standards, including the International Organization for Standardization (ISO) 31000:2018 risk management guidelines. We will use a risk matrix to categorize each risk as high, medium, or low, based on its likelihood and potential impact. The risk matrix will be as follows:

- High risk: likelihood ≥ 0.7 and potential impact $\geq \$500,000$
- Medium risk: likelihood ≥ 0.4 and potential impact $\geq \$200,000$
- Low risk: likelihood < 0.4 and potential impact $< \$200,000$

- • Risk Mitigation

We will develop and implement a risk mitigation plan to minimize the likelihood and potential impact of each identified risk. This plan will include:

- • Regular monitoring of weather conditions and site activities to minimize the risk of accidents or injuries
- • Implementation of environmental management plans to prevent pollution or damage to nearby ecosystems
- • Development of a quality control plan to ensure that all materials and workmanship meet industry standards
- • Establishment of a safety management system to ensure compliance with safety regulations and standards
- • Regular maintenance and inspection of equipment to prevent breakdowns or failures
- • Development of a contingency plan to address any unforeseen site conditions or delays
- • Risk Monitoring and Review

We will establish a risk monitoring and review process to ensure that our risk management framework is effective and up-to-date. This process will include:

- • Regular risk assessments and reviews to identify new risks or changes to existing risks
- • Monitoring of risk mitigation activities to ensure that they are effective and on track
- • Review of lessons learned and best practices to improve our risk management framework
- • Reporting of risk management activities and outcomes to stakeholders, including the client and project team members
- • Key Performance Indicators (KPIs)

We will establish the following KPIs to measure the effectiveness of our risk management framework:

- • Risk mitigation plan implementation rate: $\geq 90\%$
- • Risk incident rate: ≤ 0.5 incidents per month
- • Schedule performance index (SPI): ≥ 0.9
- • Cost performance index (CPI): ≥ 0.9
- • Client satisfaction rating: $\geq 4.5/5$
- • Industry Standards

Our risk management framework will be compliant with the following industry standards:

- • ISO 31000:2018 risk management guidelines
- • Occupational Health and Safety Management System (OHSMS) ISO 45001:2018
- • Environmental Management System (EMS) ISO 14001:2015
- • Quality Management System (QMS) ISO 9001:2015

By implementing a comprehensive risk management framework, we are confident that we can minimize the likelihood and potential impact of risks associated with the Road Construction Project, and deliver a high-quality project that meets the client's requirements and expectations.

Financial Terms and Conditions

- • Financial Terms and Conditions

The following Financial Terms and Conditions apply to the Road Construction Project with a total value of ₹20,000,000.0. These terms and conditions outline the financial obligations, payment schedules, and other monetary aspects of the project.

- • Payment Terms

The payment terms for this project are as follows:

- • The Contractor shall be paid in Indian Rupees (₹) only.
- • The payment shall be made in five stages, with each stage comprising a specific percentage of the total project value:

+ Stage 1: Mobilization and site preparation (10% of the total project value) - ₹2,000,000.0

+ Stage 2: Construction of the road base and drainage systems (30% of the total project value) - ₹6,000,000.0

+ Stage 3: Asphalt paving and signage installation (30% of the total project value) - ₹6,000,000.0

+ Stage 4: Testing and quality assurance (15% of the total project value) - ₹3,000,000.0

+ Stage 5: Project completion and handover (15% of the total project value) - ₹3,000,000.0

- • The payment for each stage shall be made within 30 days of the Contractor's submission of a valid invoice, provided that the work has been completed to the satisfaction of the Employer.

- • Taxes and Duties

The Contractor shall be responsible for paying all applicable taxes, duties, and levies related to the project, including but not limited to:

- • Goods and Services Tax (GST)

- • Income Tax
- • Value Added Tax (VAT)
- • Any other taxes or duties applicable to the project
- • Price Variations

The prices quoted by the Contractor shall be firm and not subject to variation, except in the following circumstances:

- • Changes in government taxes, duties, or levies
- • Changes in the scope of work or specifications
- • Unforeseen site conditions that require additional work or materials
- • Any other circumstances that may affect the project cost, subject to the approval of the Employer
- • Retention Money

The Employer shall retain 5% of the total project value as retention money, which shall be released to the Contractor as follows:

- • 2.5% after completion of the project and issuance of the completion certificate
- • 2.5% after the expiry of the defects liability period, subject to the satisfactory completion of all defects and snagging work
- • Performance Security

The Contractor shall provide a performance security in the form of a bank guarantee, equal to 10% of the total project value, to guarantee the performance of the contract. The performance security shall be valid for the duration of the project and shall be released after the completion of the project and the expiry of the defects liability period.

- • Interest on Overdue Payments

In the event of overdue payments, the Employer shall pay interest to the Contractor at a rate of 12% per annum, calculated from the due date of payment.

- • Currency Fluctuations

The project currency is Indian Rupees (₹), and the Contractor shall bear all risks associated with currency fluctuations.

- • Dispute Resolution

Any disputes or differences arising out of or in connection with the contract shall be resolved through arbitration, in accordance with the Arbitration and Conciliation Act, 1996. The arbitration shall be conducted in English, and the venue of arbitration shall be [insert location].

- • Termination

The contract may be terminated by either party, subject to the following conditions:

- • The Employer may terminate the contract if the Contractor fails to perform its obligations or breaches any term or condition of the contract.
- • The Contractor may terminate the contract if the Employer fails to make payments or breaches any term or condition of the contract.
- • In the event of termination, the parties shall follow the procedures outlined in the contract, and the Contractor shall be entitled to payment for all work completed prior to termination.

By participating in this tender, the bidder acknowledges that it has read, understood, and accepted the Financial Terms and Conditions outlined above. The bidder shall ensure that its bid is compliant with all the requirements and conditions specified in the tender document.

Legal and Compliance Requirements

- • Legal and Compliance Requirements

The Road Construction Project, valued at ₹20,000,000.0, necessitates strict adherence to legal and compliance requirements to ensure a successful and sustainable execution. As such, bidders are expected to demonstrate a thorough understanding of the relevant laws, regulations, and industry standards governing road construction projects in India.

- • Statutory Compliance

The successful bidder will be required to comply with all applicable laws, regulations, and directives issued by the relevant authorities, including but not limited to:

- • The Indian Contract Act, 1872
- • The Arbitration and Conciliation Act, 1996
- • The Environmental Protection Act, 1986
- • The Factories Act, 1948
- • The Labour Laws, including the Minimum Wages Act, 1948, and the Payment of Wages Act, 1936
- • The National Highway Act, 1956
- • The Motor Vehicles Act, 1988
- • The Central Goods and Services Tax Act, 2017, and the Integrated Goods and Services Tax Act, 2017
- • Environmental Compliance

The bidder shall ensure that all activities related to the project are carried out in accordance with the environmental regulations and guidelines set by the Ministry of

Environment, Forest and Climate Change, Government of India. Specifically:

- • The bidder shall obtain all necessary environmental clearances and approvals from the relevant authorities before commencing work on the project.
- • The bidder shall implement measures to minimize the project's environmental impact, including air and water pollution, noise pollution, and waste management.
- • The bidder shall ensure that all equipment and machinery used on the project site comply with the emission norms specified by the Central Pollution Control Board.
- • Safety and Health Compliance

The bidder shall prioritize the safety and health of all personnel involved in the project, including employees, contractors, and visitors. The bidder shall:

- • Develop and implement a comprehensive safety and health management plan, which includes risk assessments, hazard identification, and mitigation measures.
- • Ensure that all personnel undergo regular training and induction programs to familiarize themselves with the project's safety and health procedures.
- • Maintain a record of all accidents, incidents, and nearmisses, and submit regular reports to the project manager.
- • Comply with the Occupational Safety, Health and Working Conditions Code, 2020, and the relevant rules and regulations.
- • Quality Compliance

The bidder shall ensure that all materials, equipment, and workmanship used on the project meet the required quality standards, as specified in the tender documents and the contract agreement. The bidder shall:

- • Develop and implement a quality management plan, which includes quality control procedures, testing, and inspection protocols.
- • Ensure that all materials and equipment used on the project comply with the relevant Indian Standards (IS) and ASTM standards.
- • Maintain a record of all quality control tests, inspections, and certifications, and submit regular reports to the project manager.
- • Labour Laws and Social Compliance

The bidder shall comply with all labour laws and social regulations, including:

- • Payment of minimum wages to all workers, as specified in the Minimum Wages Act, 1948.
- • Provision of safe working conditions, including adequate lighting, ventilation, and sanitation facilities.

- • Compliance with the Equal Remuneration Act, 1976, and the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.
- • Implementation of measures to prevent child labour and forced labour, as specified in the Child Labour (Prohibition and Regulation) Act, 1986, and the Bonded Labour System (Abolition) Act, 1976.
- • Insurance and Liability

The bidder shall obtain and maintain all necessary insurance policies, including:

- • Thirdparty liability insurance, with a minimum coverage of ■5,000,000.0.
- • Workmen's compensation insurance, with a minimum coverage of ■2,000,000.0.
- • Equipment and machinery insurance, with a minimum coverage of ■1,000,000.0.
- • Professional indemnity insurance, with a minimum coverage of ■1,000,000.0.
- • Dispute Resolution

Any disputes or differences arising out of or in connection with the contract shall be resolved through arbitration, in accordance with the Arbitration and Conciliation Act, 1996. The arbitration shall be conducted by a sole arbitrator, appointed by mutual agreement between the parties, and the venue of the arbitration shall be [insert location].

By submitting a bid for the Road Construction Project, the bidder acknowledges that it has read, understood, and agrees to comply with all the legal and compliance requirements specified in this section. The bidder shall provide all necessary documentation and certifications to demonstrate its compliance with these requirements, and shall ensure that all its subcontractors and suppliers also comply with these requirements.

Performance Metrics and SLAs

- • Performance Metrics and SLAs

The Performance Metrics and Service Level Agreements (SLAs) for the Road Construction Project are designed to ensure that the contractor delivers high-quality work, meets the required timelines, and adheres to environmental and safety standards. The following metrics and SLAs will be used to measure the contractor's performance:

- • Key Performance Indicators (KPIs)

The contractor's performance will be evaluated based on the following KPIs:

- • Project Timeline: The contractor is expected to complete the project within the stipulated timeframe of 12 months from the date of commencement.
- • Quality of Work: The contractor must ensure that the road construction work meets the required standards and specifications, including asphalt paving, drainage systems, and signage.

- • Safety: The contractor must maintain a safe working environment, with a minimum of zero fatalities and a maximum of 5 reportable incidents per 100,000 manhours worked.
- • Environmental Compliance: The contractor must comply with all environmental regulations and guidelines, including those related to noise pollution, air quality, and waste management.
- • Customer Satisfaction: The contractor must achieve a minimum customer satisfaction rating of 90% based on regular surveys and feedback.
- • Service Level Agreements (SLAs)

The following SLAs will be applicable to the contractor:

- • Response Time: The contractor must respond to any issues or concerns raised by the client within 2 hours of notification.
- • Rectification Time: The contractor must rectify any defects or issues within 7 days of notification.
- • Progress Meetings: The contractor must attend progress meetings with the client on a biweekly basis to discuss project progress, issues, and concerns.
- • Reporting: The contractor must submit regular progress reports to the client, including details of work completed, timelines, and any issues or concerns.
- • Metrics for Measurement

The contractor's performance will be measured using the following metrics:

- • Asphalt Paving: The contractor must achieve a minimum density of 95% and a maximum temperature deviation of $\pm 5^{\circ}\text{C}$.
- • Drainage Systems: The contractor must ensure that the drainage systems are functional and meet the required standards, with a minimum of 90% efficiency.
- • Signage: The contractor must install signage that meets the required standards, with a minimum of 95% accuracy.
- • Safety Audits: The contractor must conduct regular safety audits, with a minimum of 1 audit per month, to identify and mitigate potential safety risks.
- • Consequences of NonCompliance

Failure to meet the performance metrics and SLAs may result in the following consequences:

- • Liquidated Damages: The contractor may be liable for liquidated damages of up to 10% of the contract value for failure to meet the project timeline.
- • Performance Improvement Plan: The contractor may be required to develop and implement a performance improvement plan to address any issues or concerns.

- • Contract Termination: In extreme cases, the contract may be terminated if the contractor fails to meet the performance metrics and SLAs.
- • Industry Standards

The contractor must comply with the following industry standards:

- • Indian Road Congress (IRC) Standards: The contractor must comply with the IRC standards for road construction, including asphalt paving, drainage systems, and signage.
- • National Highway Authority of India (NHAI) Guidelines: The contractor must comply with the NHAI guidelines for road construction, including safety and environmental standards.
- • International Organization for Standardization (ISO) Standards: The contractor must comply with the ISO standards for quality management, environmental management, and occupational health and safety management.

By meeting the performance metrics and SLAs, the contractor will demonstrate its ability to deliver high-quality work, meet the required timelines, and adhere to environmental and safety standards, ultimately ensuring the successful completion of the Road Construction Project.

Testing and Acceptance Criteria

- • Testing and Acceptance Criteria

The Testing and Acceptance Criteria section outlines the requirements and standards that the contractor must meet to ensure the successful completion and acceptance of the Road Construction Project. The criteria outlined in this section are designed to ensure that the constructed road meets the required quality, safety, and environmental standards.

- • Introduction to Testing and Acceptance

The contractor shall be responsible for conducting all necessary tests and inspections to ensure that the road construction works meet the specified requirements. The tests and inspections shall be carried out in accordance with the relevant industry standards and codes of practice, including the Indian Roads Congress (IRC) and the Ministry of Road Transport and Highways (MoRTH) guidelines. The contractor shall provide all necessary documentation and records of the tests and inspections, which shall be verified and validated by the Employer's Representative.

- • Acceptance Criteria

The acceptance criteria for the Road Construction Project are as follows:

- • The road shall be constructed to the specified dimensions, alignment, and gradient, with a maximum deviation of $\pm 5\%$ from the design specifications.

- • The asphalt paving shall meet the requirements of IRC:SP:792008, with a minimum Marshall stability of 800 kg and a flow of 24 mm.
- • The drainage system shall be designed and constructed to ensure that the road surface is free from water accumulation, with a minimum gradient of 1% to ensure proper drainage.
- • The signage shall be installed in accordance with the MoRTH guidelines, with a minimum of 100% visibility and legibility from a distance of 50 meters.
- • Testing Requirements

The contractor shall conduct the following tests to ensure that the road construction works meet the specified requirements:

- • Asphalt Paving Tests: The contractor shall conduct the following tests on the asphalt paving:
 - + Marshall test to determine the stability and flow of the asphalt mix
 - + Density test to determine the density of the asphalt layer
 - + Texture depth test to determine the texture depth of the asphalt surface
- • Drainage System Tests: The contractor shall conduct the following tests on the drainage system:
 - + Water table test to determine the water table level and the drainage capacity of the system
 - + Flow test to determine the flow rate and velocity of the water in the drainage system
- • Signage Tests: The contractor shall conduct the following tests on the signage:
 - + Visibility test to determine the visibility and legibility of the signage from a distance of 50 meters
 - + Reflectivity test to determine the reflectivity of the signage at night
- • Environmental and Safety Standards

The contractor shall ensure that the road construction works are carried out in accordance with the relevant environmental and safety standards, including:

- • Environmental Standards: The contractor shall ensure that the road construction works do not cause any harm to the environment, including air, water, and soil pollution. The contractor shall implement all necessary measures to prevent environmental pollution, including the use of dust suppression systems and the disposal of waste materials in accordance with the relevant regulations.
- • Safety Standards: The contractor shall ensure that the road construction works are carried out in a safe and healthy manner, with all necessary safety measures in place to prevent accidents and injuries. The contractor shall implement all necessary safety measures, including the use of personal protective equipment (PPE), safety signs, and

- traffic management plans.
- • Acceptance Procedure

The acceptance procedure for the Road Construction Project shall be as follows:

- • The contractor shall submit a completion report to the Employer's Representative, detailing the completion of the road construction works and the results of the tests and inspections.
- • The Employer's Representative shall verify and validate the completion report and the test results, and shall conduct a site inspection to ensure that the road construction works meet the specified requirements.
- • The Employer's Representative shall issue a certificate of completion and acceptance, which shall be the final acceptance of the road construction works.
- • NonCompliance

In the event of non-compliance with the specified requirements, the contractor shall be required to rectify the defects and/or omissions at their own cost. The Employer's Representative shall notify the contractor of the non-compliance and shall specify the required rectification works. The contractor shall complete the rectification works within the specified timeframe, and shall provide all necessary documentation and records of the rectification works. Failure to comply with the specified requirements and/or to complete the rectification works within the specified timeframe may result in the imposition of penalties and/or the termination of the contract.

Additional Details

Contact Information

For queries, contact:

PWD Office, City Road, ABC

Email: tenders@pwdabc.com

Phone: +91 123 456 7890

Eligibility Criteria

Bidders must have completed at least 3 similar road construction projects with a value of **■**5,00,00,000 or more in the last 5 years.

MVP Requirements

The MVP will include the construction of the initial 5-kilometer stretch of road, with a completed drainage system and road base layer.

Milestone Deliverables

Completion of initial site survey and soil testing within 2 weeks.

Submission of design plans within 1 month.

Liquidated Damages

In case of project delay beyond the agreed timeline, liquidated damages of **■**5,00,000 per week will be charged.