

TENDER DOCUMENT

Road Construction Project

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| Tender ID: | TEN20250330154451 |
| Issuing Authority: | Public Works Department (PWD), State Government |
| Tender Amount: | ₹100,000,000.00 |
| Bid Start Date: | 25-02-2025 |
| Bid End Date: | 09-05-2025 |

Executive Summary

Executive Summary: Road Construction Project

The proposed Road Construction Project aims to construct a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage, with an estimated value of █100,000,000.0. This project is a significant infrastructure development initiative that will enhance the connectivity and accessibility of the region, while also promoting economic growth and development.

Project Objectives:

Construct a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage

Ensure compliance with environmental and safety standards

Provide a safe and efficient transportation network for the region

Foster economic growth and development through improved connectivity

Project Scope:

The project scope includes the following key components:

Road construction and asphalt paving

Drainage system installation, including culverts and stormwater management systems

Signage installation, including traffic signs, warning signs, and directional signs

Pavement markings and road furniture installation

Environmental impact assessment and mitigation measures

Project Requirements:

To be eligible to bid on this project, bidders must demonstrate the following:

Proof of experience in road construction, including similar projects of similar scope and scale

Qualified labor and machinery for the job, including heavy equipment and specialized tools

Adherence to environmental and safety standards, including:

- + Compliance with national and international environmental regulations
- + Implementation of safety protocols and procedures for workers and the general public
- + Regular safety audits and inspections

Industry Standards and Guidelines:

The project will be executed in accordance with the following industry standards and guidelines:

Indian Roads Congress (IRC) standards for road construction and maintenance

Ministry of Road Transport and Highways (MoRTH) guidelines for road construction and maintenance

Environmental Impact Assessment (EIA) guidelines for infrastructure projects

Occupational Health and Safety (OHS) guidelines for construction projects

Timeline and Milestones:

The project is expected to be completed within 12 months, with the following key milestones:

Site preparation and clearing: 2 months

Road construction and asphalt paving: 6 months

Drainage system installation: 2 months

Signage installation: 1 month

Pavement markings and road furniture installation: 1 month

Budget and Funding:

The estimated budget for the project is **₹100,000,000.0**, which will be funded through a combination of government grants and private sector investments. The project will be managed and executed in accordance with the principles of good governance, transparency, and accountability.

By submitting a bid for this project, bidders acknowledge their understanding of the project scope, requirements, and industry standards, and commit to delivering a high-quality project that meets the expectations of all stakeholders.

Project Overview and Objectives

Project Overview and Objectives

Project Title: Road Construction Project

Project Value: **₹100,000,000.0**

Project Location: [Insert location or region]

Project Duration: [Insert duration from commencement to completion]

Background:

The [Insert Client/Authority] is seeking to construct a 20-kilometer stretch of road that is safe, accessible, and environmentally friendly. The project aims to improve connectivity and facilitate the movement of people, goods, and services within the region.

Project Overview:

The scope of the project encompasses the construction of a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage. The road will be designed to meet the Indian Highway Capacity Manual (HCM) standards and will be constructed to last for a minimum of 20 years.

Project Objectives:

Safety: To design and construct a road that is safe for users, with a design speed of 80 km/h and a stopping sight distance of 120 meters.

Accessibility: To ensure that the road is accessible to all users, including pedestrians, cyclists, and vehicles, with a minimum width of 7.5 meters.

Environmental Sustainability: To minimize the project's environmental impact, with a goal of reducing greenhouse gas emissions by 20% compared to traditional construction methods.

Quality: To achieve a high-quality road that meets the Indian Road Congress (IRC) standards, with a minimum pavement thickness of 150 mm.

Timeline: To complete the project within the stipulated timeframe of [Insert duration from commencement to completion], with a target completion date of [Insert target completion date].

Budget: To complete the project within the allocated budget of ₹100,000,000.0, with a contingency fund of 10% for unexpected expenses.

Key Performance Indicators (KPIs):

Pavement Quality Index (PQI): 85% or above

Drainage Efficiency: 95% or above

Safety Performance Index (SPI): 90% or above

Cost Performance Index (CPI): 95% or above

Environmental Impact Assessment (EIA) Score: 80% or above

Industry Standards:

The project will be constructed in accordance with the following industry standards:

Indian Highway Capacity Manual (HCM)

Indian Road Congress (IRC) standards

National Highways Authority of India (NHAI) guidelines

Central Pollution Control Board (CPCB) regulations

Requirements:

The bidder must provide proof of experience in road construction, qualified labor, and machinery for the job, as well as adherence to environmental and safety standards. The

bidder must also demonstrate their ability to meet the project's objectives and KPIs.

Detailed Technical Specifications

Detailed Technical Specifications for Road Construction Project

1. Project Overview

The Road Construction Project involves the construction of a 20-kilometer stretch of road, including asphalt paving, drainage systems, and necessary signage. The project scope includes the following components:

Road construction with asphalt pavement

Drainage system installation, including culverts, stormwater management, and erosion control measures

Signage, including directional signs, warning signs, and regulatory signs

Environmental protection and safety measures to ensure compliance with industry standards and regulations

2. Road Construction Specifications

The road construction shall be carried out in accordance with the following specifications:

Road width: 12 meters (including two 3.5-meter wide carriageways and 4-meter wide shoulders)

Road material: Asphalt concrete (AC) with a minimum 6.35 mm thickness

Asphalt mix design: Marshall Mix Design (MMD) Type I, with a maximum density of 2.35 g/cm³ and a minimum tensile strength of 0.7 N/mm²

Pavement layers:

+ Base course: Crushed stone aggregate (CSA) with a maximum size of 63 mm and a minimum thickness of 150 mm

+ Asphalt layer: AC with a minimum thickness of 60 mm and a maximum thickness of 100 mm

+ Surface course: AC with a minimum thickness of 30 mm and a maximum thickness of 60 mm

Compaction: The asphalt layers shall be compacted using a pneumatic roller with a minimum frequency of 50 Hz and a maximum frequency of 100 Hz

3. Drainage System Specifications

The drainage system shall be designed and constructed in accordance with the following specifications:

Drainage system design: The drainage system shall be designed to handle a minimum of 2.5 mm/h rainfall intensity

Culvert design: The culverts shall be designed to handle a minimum of 1.0 m³/s flow rate

Stormwater management: The stormwater management system shall include a network of stormwater drains, catch basins, and infiltration trenches

Erosion control measures: The erosion control measures shall include geotextiles, geogrids, and revegetation of the disturbed areas

4. Signage Specifications

The signage shall be designed and constructed in accordance with the following specifications:

Signage design: The signage shall be designed to meet the Indian Highway Engineering and Research Laboratory (IHERL) standards

Signage materials: The signage shall be made of durable materials, including metal, plastic, and concrete

Signage installation: The signage shall be installed at a minimum height of 2.5 meters above the road surface

5. Environmental and Safety Specifications

The project shall be carried out in accordance with the following environmental and safety specifications:

Environmental impact assessment: The contractor shall conduct an environmental impact assessment (EIA) to identify potential environmental impacts and develop measures to mitigate them

Safety measures: The contractor shall implement safety measures, including personal protective equipment (PPE), safety nets, and fall protection systems

Waste management: The contractor shall implement a waste management plan to minimize waste generation and ensure proper disposal of waste

6. Quality Control and Assurance

The contractor shall implement a quality control and assurance program to ensure that the project is constructed to the required specifications and standards. The program shall include:

Regular quality control checks

Material testing and inspection

Documentation of quality control measures

Continuous monitoring of the project's progress and performance

7. Performance Metrics

The contractor's performance shall be evaluated based on the following metrics:

Project completion time

Quality of work

Safety record

Environmental impact

Cost-effectiveness

8. Compliance with Industry Standards

The project shall be carried out in compliance with the following industry standards:

Indian Highway Engineering and Research Laboratory (IHERL) standards

Indian Roads Congress (IRC) standards

Ministry of Road Transport and Highways (MoRTH) guidelines

9. Documentation and Record Keeping

The contractor shall maintain accurate and detailed records of the project's progress, including:

Daily progress reports

Quality control records

Material testing and inspection records

Environmental impact assessment records

10. Tender Documents

The tender documents shall include:

Detailed technical specifications

Bill of quantities

Contract agreement

Payment terms and conditions

Project schedule and timeline

11. Tender Evaluation Criteria

The tender evaluation shall be carried out based on the following criteria:

Technical qualifications and experience

Financial bid

Safety record and environmental impact

Quality of work and project completion time

12. Contract Agreement

The contract agreement shall include:

Scope of work

Payment terms and conditions

Project schedule and timeline

Quality control and assurance measures

Dispute resolution mechanisms

13. Warranty and Guarantee

The contractor shall provide a warranty and guarantee for the project, including:

Material warranty

Workmanship warranty

Performance guarantee

14. Termination and Cancellation

The contract shall include provisions for termination and cancellation, including:

Notice period

Termination costs

Cancellation fees

15. Intellectual Property

The contractor shall ensure that all intellectual property rights, including patents, trademarks, and copyrights, are respected and protected.

16. Laws and Regulations

The contractor shall comply with all applicable laws and regulations, including:

Indian Penal Code (IPC)

Indian Contract Act (ICA)

Environmental Protection Act (EPA)

Labor Laws

Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act (BOCW)

Implementation Methodology

Implementation Methodology

The successful bidder for the Road Construction Project will be expected to implement the project in accordance with the scope, requirements, and industry standards outlined in this tender document. The following implementation methodology outlines the approach that the successful bidder will adopt to deliver the project.

Phase 1: Pre-Construction Activities (Weeks 1-4)

1. Site Mobilization: The successful bidder will establish a project office at the site and mobilize labor, machinery, and equipment as per the project requirements.
2. Environmental Impact Assessment: The successful bidder will conduct an environmental impact assessment to identify potential environmental risks and develop a mitigation plan to minimize the impact of the project on the environment.
3. Community Engagement: The successful bidder will engage with the local community to inform them about the project and its benefits.
4. Traffic Management: The successful bidder will develop a traffic management plan to minimize disruptions to traffic during the construction phase.

Phase 2: Site Preparation (Weeks 5-12)

1. Site Clearance: The successful bidder will clear the site of debris, trees, and other obstacles.
2. Grading and Excavation: The successful bidder will grade and excavate the site to prepare it for road construction.
3. Drainage System Installation: The successful bidder will install the drainage system, including culverts, manholes, and stormwater management structures.

Phase 3: Road Construction (Weeks 13-30)

1. Subgrade Preparation: The successful bidder will prepare the subgrade by compacting the soil and applying a layer of aggregate base course.
2. Asphalt Paving: The successful bidder will lay the asphalt pavement using a asphalt plant and laying equipment.
3. Shoulder Construction: The successful bidder will construct the shoulders of the road using a geotextile material and a layer of aggregate base course.

Phase 4: Drainage and Signage Installation (Weeks 31-36)

1. Drainage System Testing: The successful bidder will test the drainage system to ensure that it is functioning as intended.
2. Signage Installation: The successful bidder will install the necessary signage, including directional signs, warning signs, and traffic signs.

Phase 5: Testing and Commissioning (Weeks 37-40)

1. Road Testing: The successful bidder will conduct tests on the road to ensure that it meets the required standards.

2. Commissioning: The successful bidder will commission the road and hand it over to the client.

Metrics and Performance Indicators

The successful bidder will be required to achieve the following metrics and performance indicators:

Quality: The road will be constructed to meet the required standards of the Indian Roads Congress (IRC) and the American Association of State Highway and Transportation Officials (AASHTO).

Safety: The successful bidder will ensure that all workers on site are provided with personal protective equipment (PPE) and are trained in safety procedures.

Environmental Sustainability: The successful bidder will ensure that all environmental impacts are minimized and mitigated.

Time: The project will be completed within the specified timeframe of 40 weeks.

Cost: The project will be completed within the specified budget of ₹100,000,000.0.

Industry Standards

The successful bidder will be expected to adhere to the following industry standards:

Indian Roads Congress (IRC) standards: The road will be constructed in accordance with the IRC standards for road construction.

American Association of State Highway and Transportation Officials (AASHTO) standards: The road will be constructed in accordance with the AASHTO standards for road construction.

Occupational Safety and Health Administration (OSHA) standards: The successful bidder will ensure that all workers on site are provided with PPE and are trained in safety procedures.

Quality Control and Assurance

The successful bidder will establish a quality control and assurance system to ensure that the road is constructed to meet the required standards. The system will include:

Regular site inspections: The successful bidder will conduct regular site inspections to ensure that the road is being constructed in accordance with the project requirements.

Testing and commissioning: The successful bidder will conduct tests on the road to ensure that it meets the required standards.

Corrective action: The successful bidder will identify and correct any defects or issues that arise during the construction phase.

Health, Safety, and Environment (HSE)

The successful bidder will ensure that all workers on site are provided with PPE and are trained in safety procedures. The bidder will also ensure that all environmental impacts are minimized and mitigated.

Risk Management

The successful bidder will identify, assess, and mitigate all risks associated with the project. The bidder will also establish a risk management plan to ensure that all risks are managed effectively.

Communication and Stakeholder Engagement

The successful bidder will establish a communication and stakeholder engagement plan to ensure that all stakeholders, including the client, community members, and workers, are informed about the project and its benefits.

Project Organization and Management

The successful bidder will establish a project organization and management structure to ensure that the project is delivered on time, within budget, and to the required quality standards. The structure will include:

Project manager: The project manager will be responsible for the overall management of the project.

Site engineer: The site engineer will be responsible for the day-to-day management of the site.

Quality control manager: The quality control manager will be responsible for ensuring that the road is constructed to meet the required standards.

HSE manager: The HSE manager will be responsible for ensuring that all workers on site are provided with PPE and are trained in safety procedures.

Key Performance Indicators (KPIs)

The successful bidder will be required to achieve the following KPIs:

Quality: The road will be constructed to meet the required standards of the IRC and AASHTO.

Safety: The successful bidder will ensure that all workers on site are provided with PPE and are trained in safety procedures.

Environmental sustainability: The successful bidder will ensure that all environmental impacts are minimized and mitigated.

Time: The project will be completed within the specified timeframe of 40 weeks.

Cost: The project will be completed within the specified budget of ■100,000,000.0.

Quality Control and Standards

Section 5: Quality Control and Standards

INTRODUCTION

The Quality Control and Standards section of this tender document outlines the requirements and expectations of the Client for the Road Construction Project. The successful Bidder must adhere to the specified standards and procedures to ensure the delivery of a high-quality project that meets the Client's requirements and expectations.

QUALITY CONTROL OBJECTIVE

The primary objective of the Quality Control program is to ensure that the Road Construction Project is executed in accordance with the approved design specifications, industry standards, and best practices. The Quality Control program will focus on ensuring that the project meets the required quality standards, is delivered on time, and within budget.

QUALITY CONTROL RESPONSIBILITIES

The Bidder is responsible for ensuring that the Quality Control program is implemented and maintained throughout the project duration. This includes:

Maintaining a Quality Control Manual that outlines the procedures and protocols for ensuring quality throughout the project.

Assigning a dedicated Quality Control Manager who will be responsible for overseeing the Quality Control program.

Conducting regular audits and inspections to ensure compliance with the Quality Control program.

Maintaining accurate records of quality control activities, including inspection reports, test results, and corrective actions taken.

QUALITY CONTROL PROCEDURES

The Bidder must implement the following quality control procedures:

Material Inspection: The Bidder must inspect all materials, including aggregates, asphalt, and concrete, prior to their use on the project. Materials must be certified by a third-party laboratory to meet the required specifications.

Construction Inspection: The Bidder must conduct regular inspections of the construction activities to ensure compliance with the approved design specifications and industry standards.

Testing and Evaluation: The Bidder must conduct regular testing and evaluation of the construction activities, including but not limited to, density tests, Marshall stability tests, and pavement thickness tests.

Corrective Action: The Bidder must take corrective action promptly in response to any nonconformity or defect identified during the quality control activities.

INDUSTRY STANDARDS AND SPECIFICATIONS

The Bidder must adhere to the following industry standards and specifications:

Indian Roads Congress (IRC) Standards: The Bidder must comply with the IRC standards for road construction, including IRC: 37-2012, IRC: 54-2011, and IRC: 83-2012.

American Association of State Highway and Transportation Officials (AASHTO) Standards: The Bidder must comply with the AASHTO standards for road construction, including AASHTO T 11, AASHTO T 27, and AASHTO T 320.

Indian Standards (IS) Specifications: The Bidder must comply with the IS specifications for road construction, including IS 383-2016, IS 1488-1998, and IS 2386-1963.

MEASURABLE OBJECTIVES AND KEY PERFORMANCE INDICATORS (KPIs)

The following measurable objectives and KPIs will be used to evaluate the Bidder's performance:

Quality Control Rating: The Bidder must achieve a quality control rating of 95% or higher throughout the project duration.

Defect Density: The Bidder must achieve a defect density of 1 or lower per kilometer of road constructed.

Test Results: The Bidder must achieve test results that meet or exceed the required specifications for all materials and construction activities.

Corrective Action: The Bidder must take corrective action promptly in response to any nonconformity or defect identified during the quality control activities.

AUDIT AND INSPECTION SCHEDULE

The following audit and inspection schedule will be used to ensure compliance with the Quality Control program:

Weekly Inspections: The Bidder must conduct weekly inspections of the construction activities to ensure compliance with the approved design specifications and industry standards.

Monthly Audits: The Bidder must conduct monthly audits of the quality control activities to ensure compliance with the Quality Control program.

Quarterly Reviews: The Bidder must conduct quarterly reviews of the quality control activities to ensure compliance with the Quality Control program and to identify areas for improvement.

CONCLUSION

The Quality Control and Standards section of this tender document outlines the requirements and expectations of the Client for the Road Construction Project. The successful Bidder must adhere to the specified standards and procedures to ensure the delivery of a high-quality project that meets the Client's requirements and expectations.

The Bidder must implement a comprehensive Quality Control program that includes the procedures outlined in this section, and must demonstrate a commitment to quality throughout the project duration.

APPENDIX

The following appendix provides additional information and guidelines for the implementation of the Quality Control program:

Quality Control Manual: The Bidder must provide a copy of the Quality Control Manual that outlines the procedures and protocols for ensuring quality throughout the project.

Quality Control Procedures: The Bidder must provide a detailed description of the quality control procedures that will be implemented throughout the project.

Industry Standards and Specifications: The Bidder must provide a list of the industry standards and specifications that will be used throughout the project.

Measurable Objectives and KPIs: The Bidder must provide a detailed description of the measurable objectives and KPIs that will be used to evaluate the Bidder's performance.

Risk Management Framework

Risk Management Framework

Introduction

The Road Construction Project, valued at █100,000,000.0, involves the construction of a 20-kilometer stretch of road with asphalt paving, drainage systems, and necessary signage. As part of the tender requirements, the bidder must demonstrate a comprehensive Risk Management Framework to ensure successful project execution, adherence to environmental and safety standards, and minimal risk exposure.

Risk Management Objectives

The objectives of the Risk Management Framework are to:

Identify, assess, and prioritize risks associated with the project

Develop and implement strategies to mitigate or manage identified risks

Ensure compliance with environmental and safety standards

Minimize financial losses and maximize project benefits

Enhance the reputation of the contractor and the project

Risk Management Process

The Risk Management Process will involve the following stages:

1. Risk Identification: Identify potential risks associated with the project, including:

Construction delays and cost overruns

Environmental impacts (e.g., soil erosion, water pollution)

Safety hazards (e.g., accidents, injuries)

Material and labor shortages

Weather-related risks (e.g., extreme temperatures, flooding)

2. Risk Assessment: Assess the likelihood and potential impact of each identified risk, using a qualitative or quantitative risk assessment methodology (e.g., probability-impact matrix, risk scorecard).

3. Risk Prioritization: Prioritize risks based on their likelihood and potential impact, using a risk prioritization framework (e.g., risk matrix, decision tree).

4. Risk Mitigation and Management: Develop and implement strategies to mitigate or manage identified risks, including:

Risk avoidance (e.g., selecting a different construction method)

Risk transfer (e.g., insurance coverage)

Risk reduction (e.g., implementing safety protocols)

Risk acceptance (e.g., accepting a residual risk)

5. Risk Monitoring and Review: Continuously monitor and review the risk management plan, updating it as necessary to reflect changes in the project environment or new risks that arise.

Risk Management Metrics

The following metrics will be used to measure the effectiveness of the Risk Management Framework:

1. Risk Scorecard: Track and monitor the risk scorecard, which will provide a quantitative measure of the project's risk exposure.

2. Risk Register: Maintain a risk register, which will document all identified risks, their likelihood and potential impact, and the implemented mitigation strategies.

3. Safety Performance Indicators: Monitor and track safety performance indicators (e.g., accident frequency rate, lost-time injury rate).

4. Environmental Performance Indicators: Monitor and track environmental performance indicators (e.g., greenhouse gas emissions, water usage).

Industry Standards and Best Practices

The Risk Management Framework will comply with the following industry standards and best practices:

1. ISO 31000: International standard for risk management, which provides a framework for managing risks.

2. AS/NZS 4360: Australian and New Zealand standard for risk management, which provides guidelines for managing risks.
3. OSHA guidelines: Occupational Safety and Health Administration (OSHA) guidelines for workplace safety and health.
4. Environmental protection regulations: Relevant environmental protection regulations, including laws and standards related to water and air quality, waste management, and biodiversity conservation.

Implementation and Review

The Risk Management Framework will be implemented and reviewed as follows:

1. Implementation: The Risk Management Framework will be implemented by the contractor, who will be responsible for identifying, assessing, and prioritizing risks, developing and implementing mitigation strategies, and monitoring and reviewing the risk management plan.
2. Review: The Risk Management Framework will be reviewed at regular intervals (e.g., quarterly, semi-annually) to ensure that it remains effective and relevant to the project.

Certification and Compliance

The contractor must provide certification from a recognized risk management certification body (e.g., ISO 31000 audited) and demonstrate compliance with relevant laws and regulations, including environmental and safety standards.

Financial Terms and Conditions

Financial Terms and Conditions

1. Payment Terms

1.1 The Contractor shall be entitled to receive payments from the Client in accordance with the payment schedule outlined below:

- Progress Payments: 80% of the contract value shall be paid in four equal installments, with the first payment made upon commencement of the project, subsequent payments made at intervals of 6 months, and the final payment made upon completion of the project.
- Final Payment: The remaining 20% of the contract value, which includes the certificate of completion, shall be paid within 30 days of the successful completion and acceptance of the project.

1.2 The Client shall make payments within 30 days of receipt of the Contractor's invoice.

1.3 The payment terms may be adjusted by mutual agreement between the Client and the Contractor, subject to the approval of the Project Director.

2. Pricing and Cost Estimates

2.1 The Contractor shall provide a detailed breakdown of costs, including labor, materials, and overheads, in the tender submission.

2.2 The Contractor shall be responsible for ensuring that the costs incurred for the project are reasonable, necessary, and in accordance with industry standards.

2.3 The Contractor shall provide a budget for contingencies, including a provision for unforeseen site costs, which shall not exceed 10% of the contract value.

3. Invoicing and Accounting

3.1 The Contractor shall maintain accurate and detailed records of all invoices, payments, and receipts.

3.2 The Contractor shall provide a detailed breakdown of costs and expenses incurred on the project, which shall be certified by the Project Director.

3.3 The Contractor shall ensure that all invoices are submitted to the Client within 7 days of the end of each month.

4. Taxes and Duties

4.1 The Contractor shall be responsible for paying all applicable taxes, duties, and levies on materials, labor, and equipment used for the project.

4.2 The Contractor shall provide proof of payment of all taxes, duties, and levies to the Client.

5. Insurance and Risk Management

5.1 The Contractor shall maintain comprehensive insurance coverage for the project, including:

- Liability insurance
- Workmen's compensation insurance
- Property damage insurance
- Equipment insurance

5.2 The Contractor shall provide proof of insurance coverage to the Client.

6. Currency and Inflation

6.1 The contract value shall be in Indian Rupees (₹).

6.2 In the event of changes in the currency exchange rates or inflation, the contract value shall be adjusted by mutual agreement between the Client and the Contractor.

7. Interest on Delayed Payments

7.1 If the Client fails to make payments within the specified timeframe, the Contractor shall be entitled to charge interest at the rate of 12% per annum on the outstanding amount.

7.2 The interest shall be calculated on a daily basis, and the Contractor shall provide a statement of interest to the Client.

8. Retention of Funds

8.1 The Client shall retain 5% of the contract value as a retention fund to ensure that the Contractor completes the project in accordance with the terms and conditions of the contract.

8.2 The retention fund shall be released to the Contractor within 30 days of the successful completion and acceptance of the project.

9. Dispute Resolution

9.1 Any disputes arising out of the contract shall be resolved through arbitration in accordance with the Indian Arbitration and Conciliation Act, 1996.

9.2 The arbitration shall be conducted by a single arbitrator appointed by the Project Director.

10. Termination

10.1 The Client reserves the right to terminate the contract in the event of:

- Breach of contract by the Contractor
- Non-performance by the Contractor
- Insolvency of the Contractor

10.2 In the event of termination, the Client shall be entitled to recover all costs and expenses incurred on the project.

11. Governing Law

11.1 The contract shall be governed by and construed in accordance with the laws of India.

11.2 The courts of India shall have exclusive jurisdiction to settle any disputes arising out of the contract.

By signing the contract, the Contractor acknowledges that they have read, understood, and agreed to the Financial Terms and Conditions outlined above.

Legal and Compliance Requirements

Legal and Compliance Requirements

As a bidder for the Road Construction Project with a value of ₹100,000,000.0, it is essential to comply with the following legal and compliance requirements to ensure a successful and risk-free bid process.

1. Contractual Obligations

The successful bidder shall enter into a contract with the Client, which shall include but not be limited to the following:

The scope of work as specified in the tender document

The payment terms, including the payment schedule and method

The timelines for completion of the project

The penalties for delays or non-compliance

The terms and conditions for termination of the contract

2. Environmental Compliance

The bidder shall comply with all applicable environmental laws, regulations, and standards, including:

The Environmental Protection Act, 1986 (EPA)

The Air (Prevention and Control of Pollution) Act, 1981

The Water (Prevention and Control of Pollution) Act, 1974

The Hazardous Waste (Management and Handling) Rules, 1989

The Indian Standards Institution (ISI) Mark for environmental compliance

The bidder shall implement and maintain an Environmental Management System (EMS) conforming to the ISO 14001:2015 standard. The EMS shall include:

A detailed environmental impact assessment (EIA) study

A plan for mitigation of environmental impacts

A system for monitoring and reporting environmental performance

A procedure for emergency response and spill management

3. Safety and Health Compliance

The bidder shall comply with all applicable safety and health laws, regulations, and standards, including:

The Occupational Safety, Health, and Working Conditions Code, 2020

The Factories Act, 1948

The Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996

The Indian Standards Institution (ISI) Mark for safety and health compliance

The bidder shall implement and maintain a Safety and Health Management System (SHMS) conforming to the OHSAS 18001:2007 standard. The SHMS shall include:

A detailed hazard identification and risk assessment (HIRA) study

A plan for mitigation of safety and health risks

A system for monitoring and reporting safety and health performance

A procedure for emergency response and first aid

4. Labor Laws and Social Responsibility

The bidder shall comply with all applicable labor laws, regulations, and standards, including:

The Minimum Wages Act, 1948

The Payment of Wages Act, 1936

The Employees' Provident Funds and Miscellaneous Provisions Act, 1952

The Industrial Disputes Act, 1947

The bidder shall ensure that all labor laws are complied with, including:

Payment of minimum wages and timely payment of wages

Registration with the Employees' Provident Funds Organization (EPFO)

Compliance with the Child Labor (Prohibition and Regulation) Act, 1986

Compliance with the Equal Remuneration Act, 1976

5. Taxation and Accounting

The bidder shall comply with all applicable taxation laws, regulations, and standards, including:

The Income-tax Act, 1961

The Goods and Services Tax (GST) Act, 2017

The Central Excise Act, 1944

The Customs Act, 1962

The bidder shall ensure that all tax returns are filed on time and all taxes are paid in full.

6. Intellectual Property Rights

The bidder shall ensure that all intellectual property rights, including patents, trademarks, copyrights, and trade secrets, are protected and respected.

7. Confidentiality and Data Protection

The bidder shall ensure that all confidential information and data are protected and respected, including:

Confidentiality agreements with employees and subcontractors

Secure data storage and transmission practices

Compliance with the Information Technology Act, 2000

8. Compliance with Industry Standards

The bidder shall comply with all applicable industry standards, including:

The Indian Road Congress (IRC) standards for road construction

The American Association of State Highway and Transportation Officials (AASHTO) standards for road construction

The International Organization for Standardization (ISO) standards for quality, safety, and environmental management

9. Insurance and Bonding

The bidder shall maintain the following insurance policies:

Liability insurance for damages to property and persons

Property insurance for equipment and materials

Workers' compensation insurance for laborers

The bidder shall also provide a performance bond and a payment bond, each in the amount of ₹50,000,000.0, to ensure compliance with the contract terms and conditions.

10. Government Approvals and Licenses

The bidder shall obtain all necessary government approvals and licenses, including:

A valid contractor's license from the relevant state government

A Goods and Services Tax (GST) registration

A Central Excise registration

A Customs registration

By complying with the above-mentioned legal and compliance requirements, the bidder shall ensure a successful and risk-free bid process, and the Client shall be able to award the contract with confidence.

Performance Metrics and SLAs

Performance Metrics and SLAs

Section 1: Project Performance Metrics

The Contractor shall be responsible for achieving the following performance metrics throughout the duration of the project:

Project Completion Time: The project shall be completed within 18 months from the commencement date.

Quality of Work: The Contractor shall ensure that all works are carried out to the satisfaction of the Client, as per the approved design and specifications.

Cost Control: The Contractor shall maintain a cost variance of not more than 5% of the total project value.

Safety and Environmental Performance: The Contractor shall maintain a safety record and environmental performance that meets or exceeds the industry standards.

Section 2: Key Performance Indicators (KPIs)

The following KPIs shall be used to measure the Contractor's performance:

Daily Progress: The Contractor shall submit a daily progress report to the Client, indicating the percentage of work completed, number of workers employed, and machinery utilized.

Disposal of Waste: The Contractor shall ensure that all waste materials are disposed of in an environmentally responsible manner, and shall submit a monthly report on waste disposal.

Safety Incidents: The Contractor shall maintain a record of all safety incidents, including near misses, and shall submit a monthly report to the Client.

Quality Control: The Contractor shall conduct regular quality control checks and shall submit a monthly report to the Client, indicating the percentage of work that meets the required standards.

Section 3: Service Level Agreements (SLAs)

The Contractor shall meet the following SLAs throughout the duration of the project:

Response Time: The Contractor shall respond to all Client queries and requests within 24 hours.

Resolution Time: The Contractor shall resolve all Client queries and requests within 3 working days.

Availability: The Contractor shall be available to work on the project site for 8 hours a day, 5 days a week.

Reporting: The Contractor shall submit regular reports to the Client, as agreed upon in the project schedule.

Section 4: Performance Incentives and Penalties

The Contractor shall be eligible for performance incentives and penalties as follows:

Performance Incentives: The Contractor shall receive a performance incentive of 2% of the total project value, if the project is completed within the agreed-upon timeframe and meets the required quality standards.

Performance Penalties: The Contractor shall incur a performance penalty of 5% of the total project value, if the project is delayed beyond the agreed-upon timeframe or fails to meet the required quality standards.

Section 5: Compliance with Industry Standards

The Contractor shall comply with the following industry standards throughout the duration of the project:

ISO 9001:2015: The Contractor shall maintain a quality management system that meets the requirements of ISO 9001:2015.

ISO 14001:2015: The Contractor shall maintain an environmental management system that meets the requirements of ISO 14001:2015.

OHSAS 18001:2007: The Contractor shall maintain an occupational health and safety management system that meets the requirements of OHSAS 18001:2007.

Section 6: Monitoring and Review

The Client shall monitor and review the Contractor's performance throughout the duration of the project, and shall provide feedback and recommendations for improvement. The Contractor shall be responsible for implementing any changes or improvements recommended by the Client.

By signing this tender document, the Contractor acknowledges that they have read, understood, and agreed to comply with the performance metrics, KPIs, SLAs, and industry standards outlined in this section.

Testing and Acceptance Criteria

Testing and Acceptance Criteria

The successful bidder shall be responsible for ensuring that the Road Construction Project meets the specified standards, requirements, and regulations. The following testing and acceptance criteria shall be applied to verify the quality and performance of the constructed road.

Pre-Commissioning Testing

Prior to the acceptance of the constructed road, the successful bidder shall conduct pre-commissioning testing to ensure that all systems, including drainage and signage, are functioning as intended. The pre-commissioning testing shall include:

Drainage System Testing:

- + Verify that the drainage system is functioning as designed and is capable of handling the expected rainfall and traffic loads.
- + Test the drainage system's ability to clear water and maintain a safe and stable surface.
- + Conduct a visual inspection to ensure that the drainage system is clean and free of debris.

Asphalt Paving Testing:

- + Conduct a series of tests to verify the asphalt's strength, durability, and quality, including:

- Marshall Stability Test (MST)
- Dynamic Modulus Test (DMT)
- Indirect Tension Test (ITT)
- + Verify that the asphalt meets the specified requirements for density, gradation, and moisture content.

Signage Testing:

- + Verify that all signage is correctly installed and visible to drivers.
- + Test the signage's ability to provide clear and accurate information to drivers.
- + Conduct a visual inspection to ensure that the signage is free of damage or debris.

Commissioning Testing

After the pre-commissioning testing, the successful bidder shall conduct commissioning testing to ensure that the constructed road meets the specified performance requirements.

The commissioning testing shall include:

Traffic Load Testing:

- + Conduct a series of tests to verify the road's ability to withstand the expected traffic loads, including:
 - Wheel load testing
 - Tire pressure testing
- + Verify that the road meets the specified requirements for surface roughness, rutting, and cracking.

Durability Testing:

- + Conduct a series of tests to verify the road's durability and resistance to environmental factors, including:
 - Freeze-thaw testing
 - Heat-cold testing
- + Verify that the road meets the specified requirements for pavement condition index (PCI).

Environmental Testing:

- + Conduct a series of tests to verify that the constructed road meets the specified environmental requirements, including:
 - Air quality testing
 - Water quality testing

- + Verify that the road's drainage system is functioning as intended and not causing any environmental concerns.

Acceptance Criteria

The constructed road shall be accepted by the Client upon satisfactory completion of the testing and commissioning requirements specified above. The successful bidder shall provide the Client with a comprehensive report detailing the results of the testing and commissioning, including any test data, photographs, and videos.

The following acceptance criteria shall be used to determine whether the constructed road meets the specified requirements:

Drainage System:

- + The drainage system shall be functioning as designed and capable of handling the expected rainfall and traffic loads.
- + The drainage system shall be clear of debris and free of any blockages.

Asphalt Paving:

- + The asphalt shall meet the specified requirements for density, gradation, and moisture content.
- + The asphalt shall demonstrate the specified strength and durability.

Signage:

- + All signage shall be correctly installed and visible to drivers.
- + The signage shall provide clear and accurate information to drivers.

Traffic Load:

- + The road shall be able to withstand the expected traffic loads without showing any signs of distress or damage.
- + The road shall meet the specified requirements for surface roughness, rutting, and cracking.

Durability:

- + The road shall demonstrate the specified durability and resistance to environmental factors.
- + The road shall meet the specified requirements for pavement condition index (PCI).

Environmental:

- + The road's drainage system shall be functioning as intended and not causing any environmental concerns.
- + The road shall meet the specified environmental requirements, including air and water quality.

Industry Standards

The constructed road shall be designed and constructed in accordance with the following industry standards:

Indian Roads Congress (IRC) Standards:

- + IRC: SP: 38-2010: Specification for Bituminous Paving Mixtures
- + IRC: SP: 56-2015: Specification for Bituminous Macadam

American Association of State Highway and Transportation Officials (AASHTO) Standards:

- + AASHTO M 82: Standard Specification for Penetration-Graded Bituminous Paving Mixtures
- + AASHTO M 166: Standard Specification for Bituminous Macadam

International Organization for Standardization (ISO) Standards:

- + ISO 13843:2017: Road surfaces — Determination of skid resistance — British pendulum test
- + ISO 15686-1:2000: Buildings and constructed assets — Service life planning — Part 1: General principles and framework

Metrics

The following metrics shall be used to measure the performance of the constructed road:

Surface Roughness:

- + The road shall have a surface roughness of less than 2.5 mm/km.

Rutting:

- + The road shall have a rutting of less than 20 mm.

Cracking:

- + The road shall have a cracking of less than 10% of the total length.

Pavement Condition Index (PCI):

- + The road shall have a PCI of 70 or higher.

Air Quality:

- + The road's drainage system shall not cause any air quality concerns.

Water Quality:

- + The road's drainage system shall not cause any water quality concerns.

The successful bidder shall provide the Client with a comprehensive report detailing the results of the testing and commissioning, including any test data, photographs, and videos. The Client reserves the right to conduct additional testing and inspections to verify the

performance of the constructed road.

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.