[PACKAGE No: PR/ML-1/Cons-01]

PROJECT MANAGEMENT AND CONSTRUCTION SUPERVISION CONSULTANT (PMCSC)
FOR
THE UP-GRADATION OF MAIN LINE 1 (ML 1) OF PAKISTAN RAILWAYS
[KARACHI TO ROHRI SECTION (480 KM) PROJECT
TERMS OF REFERENCE (TOR)

A. PROJECT BACKGROUND

1. The Government of the Islamic Republic of Pakistan ("the Borrower") has applied for a loan from the Asian Development Bank (ADB) to finance the up-gradation of Main Line 1 (ML 1) of Pakistan Railways, karachi to Rohri section (480 km), ("the Project"). The Project may be co-financed by other MDBs like World Bank, AIIB, EIB etc. (the ADB will remain the lead financer). The Borrower intends to use part of the loan proceeds from the ADB for eligible payments for the project management and construction supervision consulting services for which this Terms of Reference (TOR) is issued.

2. Implementation arrangements: The Project shall be implemented through the Project Implementation Unit (PIU), Railways Improvement Project ML-1, established under Pakistan Railways ("the Client"), which shall serve as well the Implementing Agency (IA) for the Project. The PIU shall be responsible for day-to-day project implementation and management, including procurement and contract administration, coordination of consultants and contractors, construction supervision oversight, financial management, safeguards implementation and monitoring, stakeholder engagement, project reporting, and compliance with the financing agreements and applicable government requirements. The Ministry of Railways shall act as the Executing Agency (EA) and shall be responsible for overall project oversight, strategic direction, policy guidance, coordination with federal and provincial government entities, inter-agency coordination, facilitation of approvals and clearances, monitoring of project implementation progress, and ensuring compliance with the obligations of the Government under the financing agreements.

3. Project description: The Karachi to Rohri Section, 480 kilometers, constitutes one of the most critical and heavily utilized sections of the ML-1 corridor. The section carries substantial passenger and freight traffic and connects Karachi Port and Port Qasim with the upcountry railway network. The Project scope for this section includes comprehensive railway infrastructure improvements comprising rehabilitation and renewal of existing tracks, reconstruction and strengthening of bridges and culverts, rehabilitation of embankments, improvement of drainage systems, modernization of signaling and telecommunication systems, station remodeling and rehabilitation, yard improvements, installation of modern train control and railway safety systems, elimination or upgrading of vulnerable railway crossings, and implementation of associated ancillary infrastructure works. Upon completion, the upgraded corridor is expected to support train operating speeds of up to 160 km/h, significantly improve operational safety, reduce travel time, increase line and freight carrying capacity, improve reliability of railway operations, and contribute toward regional connectivity and economic development.

4. Previous work: A comprehensive Detailed Engineering Design (DED) for the ML-1 Project has been prepared by a consortium comprising M/s China Railway Eryuan Engineering Group Co. Ltd. (CREEC), M/s National Engineering Services Pakistan (Pvt.) Ltd. (NESPAK), and M/s Pakistan Railways Advisory and Consultancy Services (PRACS). The DED design is being reviewed by the third Party International Design Review Consultant engaged by the Pakistan Railway through Asian Development Bank's Project Readiness Financing[1]. The construction contracts shall be executed based on the Employer's finalized and approved design, and the Contractors shall be responsible solely for construction, installation, testing, commissioning, and completion of the works in accordance with the approved design, specifications, and contractual requirements.

5. Safeguards: The Project shall be implemented in full compliance with ADB ESF 2024, including all applicable ESS, as well as all relevant laws, regulations, policies, and statutory requirements of the Government of Pakistan and the concerned Provincial Governments. Under the ADB ESF 2024,

[1] *Loan 6056-PAK: Preparing the Railway Improvement Project*

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the preliminary environmental and social (E&S) classification is currently assessed as "High." This classification will be confirmed following the completion of the detailed E&S studies, which are currently underway. The environmental and social instruments, management plans, and mitigation measures identified in these TOR including but not limited to the ESIA, ESMP, LARPs, Labour Management Plan, Occupational Health and Safety Plan, Community Health and Safety Plan, Stakeholder Engagement Plan, and any other plans mentioned herein, are indicative and illustrative of the types of instruments that are expected to be required for the Project. The final, exhaustive list of E&S instruments, plans, procedures, and commitments applicable to the Project shall be determined by the final approved E&S assessment and the Environmental and Social Commitment Plan (ESCP), which are currently under finalization. The PMCSC's obligations under this Contract shall extend to all E&S instruments, management plans, mitigation measures, corrective action plans (CAPs), and updates that are ultimately approved under the ESCP and the applicable Environmental and Social Standards (ESSs). The Consultant shall not be relieved of its duties in respect of any E&S instrument or requirement that is finalized after the effective date of this Contract but is necessary for full compliance with ADB ESF 2024 and the Loan Agreement. The Consultant shall also manage, monitor, and report on any revisions, updates, or corrective action plans prepared during Project implementation.

6. For further clarity, the PMCSC's scope of services shall include monitoring and reporting on the compliance with all applicable Environmental and Social Standards (ESSs) under the ADB Environmental and Social Framework (ESF) 2024, as identified through the environmental and social assessment, the Environmental and Social Commitment Plan (ESCP), and other approved environmental and social instruments. This scope includes, but is not limited to, monitoring compliance with the following ESSs, as applicable:

   - ESS1: Assessment and Management of Environmental and Social Risks and Impacts;
   - ESS2: Labor and Working Conditions;
   - ESS3: Resource Conservation and Pollution Prevention;
   - ESS4: Health, Safety, and Security;
   - ESS5: Land Acquisition and Land Use Restriction;
   - ESS6: Biodiversity Conservation and Sustainable Natural Resources Management;
   - ESS7: Indigenous Peoples;
   - ESS8: Cultural Heritage;
   - ESS9: Climate Change; and
   - ESS10: Stakeholder Engagement and Information Disclosure.

7. The inclusion of the above ESSs is intended to ensure comprehensive coverage of the PMCSC's monitoring responsibilities. The applicability and specific monitoring requirements for each ESS shall be determined based on the findings of the detailed environmental and social assessment and reflected in the ESCP and other approved environmental and social instruments. The Project must comply with applicable national and provincial requirements and the ADB ESF, and that any gaps or inconsistencies will be addressed through the agreed E&S instruments, ESCP, legal agreements, and project-specific measures accepted by ADB.

8. The PMCSC shall support the PIU in the implementation of environmental and social (E&S) requirements and shall be responsible for supervising contractors, monitoring and verifying compliance, reporting non-compliances, recommending corrective actions, and exercising the contract administration functions assigned to the Engineer. The PIU shall retain overall responsibility for E&S management and compliance. The roles and responsibilities of all parties are as follows:

   - PIU: Overall E&S management, compliance, and decision-making.
   - PMCSC: E&S supervision, monitoring, verification, reporting, and contract administration.
   - Contractors: Implementation of all contractual E&S requirements.
   - Design Consultant and E&S Assessment Consultants: Delivery of design and E&S assessment responsibilities in accordance with their respective contracts.
   - Independent External Monitors/Auditors/Specialist Panels (where applicable): Independent monitoring, auditing, and advisory functions in accordance with their respective terms of reference.

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9. The above responsibilities shall apply across all applicable E&S aspects of the Project, including land acquisition and resettlement, stakeholder engagement, grievance management, biodiversity, cultural heritage, labor, security, and incident management, occupational and community health and safety, waste management etc. as provided under this TORs.

10. Project packaging: The Project comprises the procurement packages ("the Contract(s)") indicated in the table 1 below for which the services of the Project Management and Construction Supervision Consultant (PMCSC) are required. However, within the overall scope, the contract packaging, lotting strategy, implementation schedule, and related information presented in this TOR are preliminary and have been included solely to define the anticipated scope of the Consultant's services and facilitate preparation of the proposal. These arrangements may be reviewed, revised, refined, re-sequenced, consolidated, or otherwise modified by the Employer, subject to the requirements of the financing agreement and the prior approval or no objection of the Asian Development Bank (ADB), where applicable. The Consultant shall perform the Services in accordance with the Procurement Plan, contract packaging, and other arrangements as finally approved by the Employer and ADB.

Table 1: Civil Work Packages and Signaling & Telecommunication Packages to be Managed and Supervised

Sub-Package No.	Package Type	Description of the Procurement Package	Procurement Modality	Duration (from – to)	Contract
PR/ML-1/CW-01	Works	Civil & Track Works: Upgradation of Keamari – Landhi Section (30 Km)	➢ OCB with International Advertisement ➢ ADB SBDs for Large Works, Single-Stage: Two-Envelope Bidding Procedure using FIDIC Red Book Without Prequalification, for projects with MPC and ESF	66 Months	FIDIC Conditions of Contract for Construction (Red Book), 2017
PR/ML-1/CW-02	Works	Civil & Track Works: Upgradation of Landhi – Rohri Section (450 Km)	➢ OCB with International Advertisement ➢ ADB SBDs for Large Works, Single-Stage: Two-Envelope Bidding Procedure using FIDIC Red Book Without Prequalification, for projects with MPC and ESF	72 Months	FIDIC Red Book, 2017
		Lot-1: Upgradation of Landhi – Hyderabad Section (152 Km)			
		Lot-2: Upgradation of Hyderabad – Nawabshah Section (115 Km)			
		Lot-3: Upgradation of Nawabshah – Rohri Section (183 Km)			
PR/ML-1/CW-03	Works	Reconstruction of Walton Academy	➢ OCB with International Advertisement ADB SBDs for Large Works, Single-Stage: Two-Envelope Bidding Procedure using FIDIC Red Book Without Prequalification, for projects with MPC and ESF	60 Months	FIDIC Red Book, 2017
PR/ML-1/ S&T-01	Signaling & Telecom	Signaling & Telecom (Full Corridor: Upgradation of Signaling & Telecommunication Systems (Karachi-Rohri Section, 480 Km)	➢ OCB with International Advertisement ➢ ADB SBDs of Procurement of Pant and Works (Design-Build), Single-Stage: Two-Envelope Bidding Procedure Without Prequalification, for projects with MPC and ESF	72 Months	FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book), 2017

11. The procurement of Packages [CW-01, CW-02, CW-03, S&T-01] shall be carried out in accordance with ADB Procurement Policy (2017, as amended from time to time) and Procurement Directive for ADB Borrowers (2026, as amended from time to time) and all applicable procurement

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directives, guidance notes, and standard procurement documents issued by ADB. Procurement of the works contracts shall utilize the latest applicable edition of the ADB Standard Bidding Documents (SBD) for Works incorporating the Merit Point Criteria (MPC) methodology for evaluation and selection of the Most Advantageous Bid in accordance with ADB's value for money procurement principles. The procurement process shall emphasize technical quality, life cycle considerations, implementation capacity, environmental and social compliance, operational sustainability, safety performance, and timely project delivery in addition to cost competitiveness. All procurement activities shall be undertaken through transparent, competitive, fair, and internationally acceptable procedures consistent with the financing agreement and approved Procurement Plan.

12. The PMCSC services under these Terms of Reference shall cover all works packages *[CW-01, CW-02, CW-03, S&T-01] as provided in Table -1 above*. For the purposes of these Terms of Reference, each individual works package shall constitute a separate and independent "Contract", and collectively they shall be referred to as the "Contracts". References herein to the "Conditions of Contract" shall mean the respective contractual conditions applicable to each works package and corresponding Contractor. The PMCSC shall perform its duties separately and independently for each Contract while simultaneously ensuring integrated corridor level coordination, interface management, testing and commissioning integration, possession planning, and unified project implementation across all packages.

13. The Consultant will be selected under QCBS (80:20) procedures using a Full Technical Proposal (FTP) format, in accordance with the policies of the Bank detailed in the ADB Procurement Policy *(2017,* as amended from time to time*)* and Procurement Directive for ADB Borrowers *(2026, as amended from time to time)* which can be found on ADB website *https://www.adb.org,*

B. PURPOSE OF THE ASSIGNMENT

14. The Client intends to engage an experienced Project Management and Construction Supervision Consultant ("PMCSC", "the Consultant") to provide services to the Client for smooth, technically sound and timely implementation of the Contracts in compliance with the applicable requirements of ADB. These TOR set out the objectives, scope, required resources, schedule and other details of the proposed consulting services. The Consultant's contract will be time-based.

15. The objective of the assignment is to ensure that all works under the Project are implemented in a timely, efficient, safe, technically sound, environmentally and socially compliant, and contractually effective manner in accordance with the approved Detailed Engineering Design, applicable technical standards, contractual requirements, and the financing requirements of ADB.

16. The Consultant shall fulfil the role of the Engineer in accordance with the Conditions of Contract(s) ("the Contract(s)"), to conduct project management and construction supervision works in compliance with the Contract(s) and the relevant local legislation. For clarity, to the extent that the duties of the Consultant described in this TOR directly conflict with such Consultant's duties as described under the Conditions of Contract, then the Consultant shall be required to comply with the requirements specified in the Conditions of Contract. For Civil Works Packages [CW-01, CW-02, CW-03], the Consultant shall discharge its duties and responsibilities in accordance with the FIDIC Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (Red Book), Second Edition 2017 (reprinted 2022), including all Particular Conditions and applicable contractual provisions incorporated into the respective contracts. For the Signalling and Telecommunication Package (S&T-01), the Consultant shall act in accordance with the FIDIC Conditions of Contract for Plant and Design Build (Yellow Book), 2017 Edition, including all Particular Conditions and project specific contractual provisions applicable to the package.

17. The Consultant will be required to familiarize itself with the Loan Agreement related to the Project and other ADB key documents including those which govern lending policies and practices including, but not limited to:

    a. ADB Environmental and Social Framework (2024)
    b. ADB Procurement Policy (2017, as amended from time to time);
    c. ADB Procurement Directive for ADB Borrowers (2026)
    d. ADB Loan Disbursement Handbook (2022)

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e. ADB policies and guidance relating to climate resilience, gender equality and social inclusion, occupational health and safety, stakeholder engagement, grievance redress mechanisms, and prevention of sexual exploitation, abuse and harassment (SEAH); and
f. Other related ADB policies, strategies or procedures as relevant to the Project

18. By engaging a PMCSC, it is expected that the Client will have access to international best practice in the field of project management and contract administration, construction supervision, and advice on specific technical issues including E&S requirements including health and safety and sexual exploitation, abuse and harassment (SEAH).

19. The PMCSC will assis and support the Client in complying with the Loan and Project Agreements and carrying out its responsibilities as the Employer under the Conditions of Contract.

20. The PMCSC shall promote capacity development and the introduction of international project management practices within the Client's organization.

21. It is expected that the PMCSC will represent the Client's interests in general, and be responsible for advising, assisting and action on behalf of the Client. However, overall decision making and the overall responsibility for coordination of the parties to the Project remains with the Client.

C. DURATION AND LOCATION OF THE SERVICES

22. Location: The Consultant shall establish and maintain a fully functional Main Project Office in Karachi, Sindh, or at another suitable location approved by the Client. The Main Office shall serve as the central coordination and management hub for all project implementation, contract administration, supervision, safeguards management, reporting, stakeholder coordination, and communication activities associated with the assignment. The Main Office shall remain operational throughout the entire duration of the Consultant's Contract.

23. In addition to the Main Office, the Consultant will adequately staffed and operate field offices at strategic locations along the Project corridor to ensure efficient supervision, rapid response capability, effective coordination with Contractors and stakeholders, and continuous monitoring of construction activities. The field offices will be established by the contractor under respective CW contract.

    1. Duration: The PMCSC services shall have an overall duration of approximately Seventy Two (72) months from the Effective Date of the Consultant's Agreement. The services shall generally be implemented in the following phases, although the actual durations may be adjusted by the Client depending upon the progress and implementation requirements of the Project:

        a. Inception phase: approximately six (6) months, during which the Consultant shall undertake mobilization of personnel, review of project documentation, establishment of project management systems, preparation of implementation procedures, development of supervision methodologies, safeguards planning, coordination with Contractors and stakeholders, and submission of inception related deliverables;
        b. Project management and supervision during construction phase: approximately Fourty-Two (42) months, during which the Consultant shall provide full time project management, construction supervision, contract administration, safeguards monitoring, quality assurance and quality control, testing and commissioning coordination, interface management, operational coordination, and implementation support services for all Contracts; and
        c. Defects Notification Period Phase: approximately twenty-four (24) months.

24. The Consultant shall maintain sufficient key and support staff during each phase of the assignment in accordance with the approved staffing schedule and actual project implementation requirements. The Client reserves the right to adjust the duration, sequencing, staffing inputs, and deployment schedule of the Consultant in accordance with Project requirements, implementation progress, funding availability, and contractual provisions. Considering the project requirements and priority timeline, The Consultant shall, as part of its Technical Proposal, submit a proposed implementation sequencing and indicative timeline based on its experience and understanding of similar projects. The proposed approach should reflect the best international practices and

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demonstrate how the Consultant intends to effectively manage, supervise, and coordinate the works to achieve timely and efficient project delivery.

Table 2: Indicative Contract Management & Construction Supervision Timeline

Contracts to be Supervised	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. CW-01: Keamari – Landhi																								
2. CW-02: Landhi – Rohri Section) (03-Lots)																								
3. CW-03 Reconstruction of Walton Academy																								
4. PR/ML-1/ S&T-01																								

D. GENERAL SCOPE OF SERVICES

25. For the purposes of these Terms of Reference, the terms “Contractor” and “Contract” where expressed in the singular; shall apply equally to multiple Contractors and multiple Contracts associated with the Project unless the context expressly requires otherwise. Any duties, responsibilities, obligations, powers, authorities, approvals, determinations, certifications, or functions assigned to the Consultant under these Terms of Reference shall apply independently and separately to each Contract forming part of the Project.

D.1 Review of Existing Data

26. The Consultant shall:

a. The Consultant shall undertake a comprehensive review of all available project documentation and information provided by the Client, including, but not limited to, detailed engineering design documents, feasibility studies, surveys, geotechnical and hydrological investigations, utility records, design reports, drawings, technical specifications, Bills of Quantities (BOQs), procurement and contractual documents, implementation schedules, safeguard instruments, and other relevant technical and project management records. The review shall be conducted to ensure a full understanding of the Project scope, technical requirements, contractual obligations, implementation arrangements, operational constraints, and applicable standards. Where the Consultant identifies any apparent inconsistencies, omissions, ambiguities, constructability concerns, interface conflicts, unforeseen site conditions, or discrepancies that may affect implementation of the Works, the Consultant shall promptly notify the Client and provide recommendations for resolution. Any deficiencies, omissions, or inconsistencies identified in the detailed engineering design or supporting project data shall be referred to the Client and the designated design consultant/review consultant for review and corrective action, as appropriate;

b. The Consultant shall also review any sustainable procurement measures, environmental sustainability provisions, resource efficiency requirements, low-carbon construction measures, climate adaptation features, recycled material usage requirements, energy-efficient systems, and environmentally preferable construction practices identified within the contract documents and Project requirements. In addition, the Consultant shall also review and monitor the implementation of social sustainability measures, universal accessibility requirements, gender-responsive infrastructure provisions, workforce inclusion commitments, and other gender and social inclusion measures identified in the project design. The Consultant shall ensure that such sustainability-related measures are effectively incorporated into the Contractors’ implementation methodologies, procurement processes, construction activities, material selection procedures, and overall project execution arrangements;

c. Pay particular attention to the environment and social impact assessment (ESIA) and E&S mitigation measures identified in the Environmental and Social Management Plan (ESMP),

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Labor Management Plan (LMP), or any other E&S assessments and management documents which form part of the Contractor's Contract, and ensure that these measures are implemented; and

d. Based on the review of all available data and documentation, the Consultant shall prepare and submit an Inception and Existing Data Review Report during the inception phase. The report shall summarize the Consultant's understanding of the Project, identify key implementation risks and constraints, highlight issues requiring early attention, and provide recommendations regarding effective project management, construction sequencing, contract administration, safeguard compliance, stakeholder coordination, operational arrangements, and other measures necessary for successful implementation of the Project.

D.2 Project Management Support

D.2.1 Information systems

27. The Consultant shall establish, implement, operate, and maintain an integrated Project Management Information System (PMIS) for the Project, based on an internationally recognized platform such as Oracle Aconex or any equivalent system acceptable to the Client. The PMIS shall serve as the central digital platform for project management, communication, and control throughout the Project lifecycle.

28. The PMIS shall support, as a minimum, document management, drawing control, correspondence management, transmittals, workflow automation, technical submissions, review and approval processes, contract administration, issue and action tracking, risk and claims management, comprehensive reporting, and records management. The system shall also support the monitoring and reporting of environmental and social safeguards, including the recording and tracking of decisions, actions, approvals, corrective measures, stakeholder engagement, labor management, gender equality and social inclusion commitments, accessibility measures, grievance redress, and SEA/SH risk management, through configurable workflows, registers, dashboards, and audit trails.

29. The system shall provide secure role-based access, version control, full audit trails, traceability of all actions and decisions, automated notifications, and retrieval of project records. The Consultant shall establish and administer all associated procedures including document control protocols, communication procedures, approval workflows, reporting formats, review timelines, escalation procedures, and information-sharing arrangements to ensure systematic management of all project data and contractual communications.

30. The PMIS shall include a decision and approval tracking module to record and monitor all key project decisions, technical submissions, approvals, and contractual determinations. The system shall also record and monitor decisions, actions, approvals, and corrective measures related to environmental and social safeguards, stakeholder engagement, labor management, gender equality and social inclusion commitments, accessibility measures, and SEA/SH risk management. The system shall identify responsible stakeholders, target and actual completion dates, status of actions, and pending items requiring attention. The system shall enable continuous monitoring of decision bottlenecks and support timely resolution of contractual, technical, and administrative issues affecting project implementation.

31. The PMIS shall include functionality to identify, record, assess, and monitor deviations from approved scope, design, schedule, cost, and implementation plans. All deviations shall be linked to risk registers, mitigation measures, and corrective actions, with clear assignment of responsibility and deadlines for closure. The system shall also maintain structured logs of project risks, issues, and potential claims, including status tracking and escalation mechanisms to ensure timely resolution and proactive management of project risks.

32. The PMIS shall provide integrated project performance dashboards presenting real-time status of project implementation, including physical progress, financial progress, and schedule performance. The dashboard shall include, at a minimum:

    i. Planned versus actual progress monitoring
    ii. Contract-wise and project-wide performance indicators

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iii. Earned Value Management (EVM) indicators, including Planned Value (PV), Earned Value (EV), and Actual Cost (AC)
iv. Performance indices such as Schedule Performance Index (SPI) and Cost Performance Index (CPI)
v. S-curve analysis for planned, actual, and forecast progress (physical and financial)
vi. Trend analysis of progress deviations and recovery requirements
vii. Key performance indicators (KPIs) for contract and project performance
viii. The dashboard shall enable visualization of performance trends, early identification of delays or cost overruns, and support informed decision-making by the Client and the consultant
ix. Include social, environmental and gender performance indicators.

33. The Consultant shall, upon request of the Client, provide technical assistance in the development, enhancement, and implementation of the Project Implementation Unit (PIU) operational manual, including procedures related to project management, contract administration, reporting, document control, and information management systems.

34. In addition to the Project Management Information System (PMIS), the Consultant shall establish and maintain a secure, cloud-based collaboration platform using Microsoft Teams or any equivalent system acceptable to the Client to support effective coordination among the Client, the Consultnat, Contractors, Design Consultants, and other stakeholders. The platform shall be used for real-time communication, virtual meetings, structured discussion channels, and exchange of non-contractual project information related to design coordination, construction progress, interface management, and project administration. The Consultant shall ensure that all contractual submissions, approvals, formal instructions, and official project records continue to be managed exclusively through the PMIS, while the collaboration platform is used strictly for coordination and communication purposes. The Consultant shall also establish protocols governing channel structure, access control, information security, meeting management, and communication discipline to ensure efficient, secure, and well-organized stakeholder coordination throughout the Project lifecycle.

D.2.2 Document management

35. The Consultant shall establish and maintain a structured document management and filing system as an integral part of the Project Management Information System (PMIS) described in Section D.2.1. The system shall ensure proper classification, indexing, version control, secure storage, and efficient retrieval of all Project-related documents, drawings, correspondence, and records, using standardized file naming conventions and metadata to enable clear identification and traceability.

36. The Consultant shall provide the Client with secure access to all Project documentation through the PMIS and shall ensure that records remain readily available for review, audit, and monitoring purposes.

37. Upon completion of the Project, all Project documentation, including electronic records and associated metadata, shall be systematically handed over to the Client in a structured digital format consistent with the PMIS framework.

D.2.3 Contract Management Plan Support

38. The Consultant shall prepare and maintain Contract Management Plans (CMPs) for each Contract on behalf of the Client in accordance with the requirements of ADB Procurement Policy (2017, as amended from time to time) and Procurement Directive for ADB Borrowers (2026, as amended from time to time), applicable procurement guidance notes, and the approved procurement arrangements for the Project.

39. The Contract Management Plans shall include procedures and arrangements relating to contract administration, performance monitoring, approval authorities, communication systems, claims management, variation management, payment certification, disbursement procedures, safeguard compliance monitoring, risk management, dispute avoidance mechanisms, reporting obligations, interface management, testing and commissioning procedures, and contract close out activities.

40. The Consultant shall revise and update the CMPs in accordance with comments,

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recommendations, or instructions received from ADB or the Client and shall ensure that the CMPs remain updated throughout the implementation period.

41. The Consultant shall adopt and integrate the risk register developed under the Strategic Procurement Planning (SPP) process into the Contract Management Plans and shall ensure that all identified risks are monitored, managed, mitigated, and periodically reviewed. The Consultant shall ensure that the Client remains fully informed regarding risks assigned to the Employer and the mitigation measures required to manage such risks effectively.

42. The Consultant shall establish and maintain appropriate management systems and administrative procedures necessary for effective contract administration including record keeping systems, payment processing workflows, approval procedures, contract correspondence systems, variation management procedures, claims management procedures, and disbursement tracking mechanisms. The Consultant shall also prepare process flowcharts and operational procedures for activities such as Interim Payment Certificate processing, review and approval workflows, safeguards reporting, and testing and commissioning approvals.

43. The Consultant shall establish and maintain updated registers for permits, licences, approvals, insurances, securities, guarantees, warranties, claims, disputes, variations, extension of time requests, Interim Payment Certificates (IPCs), disbursements, safeguard non-compliance issues, and other contractual matters under each Contract.

44. The Consultant shall be responsible for collecting, maintaining, organizing, and updating all relevant contractual, technical, financial, safeguards, and implementation information necessary for effective administration of the Contracts. The CMPs shall be reviewed and updated periodically throughout the duration of the Contracts to reflect changes in implementation status, contractual arrangements, risks, or Project requirements.

45. The Consultant shall review, evaluate, coordinate, and finalize the Contractors' construction methodologies, implementation sequencing, detailed work programs, resource deployment schedules, and integrated implementation plans for all work packages in consultation with the Client. The Consultant shall ensure effective integration and coordination between the three civil works packages and the Signalling and Telecommunication package in order to establish a unified, conflict free, and operationally feasible master implementation schedule.

46. The Consultant shall rigorously monitor construction sequencing, interface coordination, railway operational constraints, testing and commissioning requirements, utility relocation activities, and phased access arrangements to minimize interface conflicts, avoid delays, maintain workflow continuity, and ensure efficient utilization of railway possessions and construction windows. Through close coordination with the Client and all Contractors, the Consultant shall ensure that strategic priorities, operational safety requirements, environmental and social safeguard obligations, technical constraints, budgetary considerations, and implementation risks are properly integrated into all construction plans and execution methodologies from the outset of the Project.

47. The Consultant shall maintain and continuously update an integrated master schedule for all Contracts and shall monitor progress against approved baseline schedules using recognized project management tools and methodologies. The integrated master schedule shall support transparent progress monitoring, interface management, early identification of delays and risks, and proactive decision making by the Client.

D.2.4 Risk management

48. The Consultant shall utilize the risk register in the CMP as the Project risk register. Based on this, the Consultant shall identify key risks, develop worst-case scenarios for these risks and strategies for avoiding or mitigating the consequences.

49. During Project implementation the Consultant shall actively monitor risks and identify issues which may cause the Contractor to claim for cost or EOT or vice versa. The Consultant shall suggest preventative measures which can be used to avoid or mitigate these issues or provide necessary advice to the Client; however, the Consultant shall not be requested to provide the Client with legal advice.

50. The Consultant shall cooperate and coordinate with all parties in the case of unforeseen events, and provide leadership and coordination for implementing measures in crisis situations.

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D.2.5 Stakeholder engagement

51. Further to tasks identified concerning stakeholder engagement in sub-chapters D.5 and **Error! Reference source not found.**, the Consultant shall support the Client for the development and implementation of its Stakeholder Engagement Plan. This shall include engagement with government organizations, authorities, NGOs, civil society organizations, general information dissemination and public outreach activities if necessary.

52. The Consultant shall support meaningful engagement with affected persons, women, vulnerable and disadvantaged groups, businesses, informal users, persons with disabilities, railway users, and communities affected by construction and access restrictions. Engagement shall be based on the final SEP and shall include:

    i. regular public meetings, focus groups, and consultations;
    ii. information disclosure in accessible formats and local languages;
    iii. documentation of concerns, commitments, and follow-up actions; and
    iv. gender-responsive, culturally appropriate, and accessible engagement methods.

53. The Consultant shall participate in and document stakeholder engagement activities, including preparation of minutes of meetings if appropriate.

54. The Consultant shall support the Client in implementation of the Stakeholder Engagement Plan (SEP) and all stakeholder consultation activities required under the Project.

55. The Consultant shall support the Client in implementing three distinct grievance mechanisms:

    a) Project-level Grievance Redress Mechanism (GRM): for affected people, communities, and other stakeholders, accessible at the local level, with defined escalation procedures, protection against retaliation, and tracking of response and resolution times;
    b) Workers' Grievance Mechanism: under ESS2, accessible to all project workers (direct, contracted, and supply chain workers), with confidential reporting channels and protection against retaliation; and
    c) Confidential SEAH Reporting Channels: survivor-centered, confidential channels for SEAH allegations, with referral pathways to medical, psychosocial, and legal support services.

56. The Consultant shall not automatically become the final grievance decision-maker. The GRM shall include accessible local entry points, defined escalation procedures, tracking of response and resolution times, protection against retaliation, confidential management of sensitive cases, referral pathways, and regular analysis of grievance trends.

D.2.6 Reporting and covenant compliance

57. The Consultant shall support the Client in preparation, review, consolidation, and submission of all Project related reports required under the Loan Agreement, Project Agreement, financing arrangements, procurement requirements, safeguard obligations, and Project management systems established for the Project.

58. The Consultant shall prepare periodic technical, financial, safeguards, contractual, implementation progress, and management reports in accordance with the reporting frequencies, formats, timelines, and quality standards specified by the Client and ADB. Such reports shall include progress against implementation schedules, disbursement status, safeguard compliance status, risk management status, contract administration activities, claims and variation status, testing and commissioning progress, operational coordination activities, and compliance with loan covenants and contractual obligations.

59. The Consultant shall continuously monitor compliance with all applicable Loan Agreement covenants, Project Agreement obligations, environmental and social safeguard commitments, procurement requirements, disbursement conditions, reporting obligations, and contractual commitments and shall promptly notify the Client regarding any non-compliance issues, implementation risks, delays, or corrective actions required to maintain compliance throughout the Project duration.

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D.3 Capacity Building

60. The Consultant shall:

a. Identify, assess, and validate the capacity development needs of the Client and PIU personnel required for effective planning, implementation, and management of the Project, while retaining flexibility to refine training requirements based on detailed assessment during implementation. Based on this assessment, the Consultant shall prepare and implement a comprehensive Capacity Development and Training Plan with approval of the Client in consultation with ADB, covering at a minimum the following thematic areas: (i) project management, (ii) procurement management, (iii) railway infrastructure design and maintenance, (iv) railway operations, (v) railway infrastructure maintenance, (vi) contract administration and management, (vii) project implementation and construction supervision, and (viii) PMIS and digital project management systems.
b. The training program shall be designed to ensure measurable capacity development outcomes and shall include structured modules for each thematic area, with a minimum of ten (10) Client/PIU professionals per training category and a minimum training duration of fifteen (15) person-days per category. Out of the total training programs, at least five (5) shall be delivered as hybrid programs comprising one (1) week national training and one (1) week international exposure; where necessary, full international training programs may also be included based on technical requirements. The selection of international training destinations shall be justified by the relevance of railway systems, technologies, or institutional practices to the training objectives.
c. Each training program shall include defined syllabus, training materials, delivery methodology, implementation schedule, and an evaluation mechanism to assess knowledge transfer and skill development. The Consultant shall coordinate closely with Contractors to ensure alignment and avoid overlapping with their contractual training obligations. All costs associated with the design and implementation of the training program mentioned above, including international travel and training arrangements, shall be deemed included in the Consultant’s financial proposal and no additional payment shall be made by the Client.
d. Notwithstanding the above, the training topics, minimum number of training programs, participant numbers, duration, delivery modalities, and implementation arrangements specified in this TOR represent the minimum capacity development requirements for this assignment. During the Inception Phase, the Consultant shall review, update and finalize the Client's Project-wide Capacity Development Framework and undertake a detailed training needs assessment in consultation with the Client and ADB. The finalized plan shall complement and be fully coordinated with the training and capacity development obligations assigned under the Civil Works, Railway Systems, and other Consulting Services contracts, avoid duplication, address identified capacity gaps, and support the Project's overall institutional capacity development objectives. Any revisions to the training program shall be subject to the approval of the Client in consultation with ADB.
e. The Consultant shall undertake an assessment of the Environmental and Social (E&S) management capacity of the Client, the PIU, and relevant Pakistan Railways departments involved in Project implementation, supervision, operation, and maintenance, and, based on the findings, prepare and implement, with the approval of the Client in consultation with ADB, a risk-based Environmental and Social Capacity Development Plan. The Plan shall form an integral part of the overall Capacity Development and Training Plan and shall include, as applicable, training on the Environmental and Social Framework (ESF) and relevant Environmental and Social Standards (ESSs), implementation and supervision of contractors' Environmental and Social Management Plans (ESMPs), land acquisition and resettlement planning and livelihood restoration, stakeholder engagement, grievance redress mechanisms, labour and working conditions, emergency preparedness, waste management occupational health and safety, community health and safety, incident notification and reporting, prevention of sexual exploitation, abuse and harassment (SEAH), cultural heritage and chance finds procedures, biodiversity conservation, environmental and social monitoring, documentation, reporting, and corrective action management. and digital risk management, including cybersecurity, data privacy and protection, secure data storage, access control, and secure and confidential handling of project and E&S

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information. The Consultant shall ensure that such training is provided not only to environmental and social specialists but also to field engineers, resident engineers, supervision personnel, contract administration staff, and other relevant Client and PIU personnel responsible for Project implementation, so that environmental and social compliance is effectively integrated into day-to-day contract management and construction supervision.

f. Arrange any trainings which are required for capacity building and are not covered under the scope of the contractors or other third party in consultation with the Client. All the costs associated with arranging such trainings shall be borne by the consultant;
g. Notwithstanding the above training plan, provide the opportunity for the Client's or its PIU's officers and staff to be involved in the Consultant's working team during the contract management and supervision work to build their capacity wherever possible;
h. Provide necessary assistance to the Contractor in the implementation of its training and Assist the Client in planning and facilitating local training for its staff.
i. In addtion, the Consultant shall support the Client in the planning, coordination, monitoring, and overall management of the Project-wide Capacity Development Program covering all training obligations assigned under the Civil Works, Systems, and Consulting Services contracts. The Consultant shall establish and maintain a consolidated Training Implementation and Compliance Matrix identifying all contractual training requirements, target participants, training schedules, delivery status, responsible parties, and expected learning outcomes. The Consultant shall review and monitor Contractors' and Consultants' compliance with their contractual training obligations, witness and evaluate training delivery where appropriate, verify attendance and completion records, assess the adequacy and effectiveness of training programs, identify gaps or delays, and recommend corrective actions to ensure that all contractual capacity development obligations are fully achieved. The Consultant shall periodically report to the Client on the implementation status, compliance, effectiveness, and overall progress of the Project-wide Capacity Development Program and provide recommendations for any additional training necessary to achieve the Project's institutional capacity development objectives.

61. Skills development: In order to transfer advanced professional knowledge, the consultant shall establish an Internship and Graduate Development Program during implementation of the assignment. Under this program, the Consultant shall recruit interns from recognized Pakistani universities and higher educational institutions, including final year students, recent graduates, or young professionals from relevant disciplines such as civil engineering, railway engineering, electrical engineering, mechanical engineering, signaling and telecommunication engineering, environmental sciences, transport planning, social sciences, project management, and related fields.

62. The Internship Program shall comprise a minimum total input equivalent to thirty six (36) person months over the duration of the Consultant's Contract. All interns shall be engaged on a paid basis.

63. The Consultant is required to involve interns in daily operations and tasks relating to the Consultant's own terms of references. Consultant must assign key staff as instructors for interns. Assigned instructors must provide on-the-job mentoring and job shadowing opportunities to intentionally facilitate knowledge and skills transfer to the interns. Consultants select appropriate intern candidates with the final selection being subject to approval by the Client. The Consultant should positively consider applications from eligible female candidates. The Consultant in coordination with the partner higher educational institution shall prepare an intern training plan and once implemented maintain a training journal that broadly outlines tasks interns have been engaged in and knowledge transferred. In his monthly reports to the Client, the Consultant is required to report on the work performed by the interns. Financial costs for interns, such as allowances, insurance, and working gear, will need to be calculated by the Consultant and included in Consultant` s financial proposal.

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D.4 Construction Supervision

64. The Consultant shall fulfil the role of the Engineer in accordance with the relevant Conditions of Contract, to conduct technical supervision of the construction sites in compliance with the Contracts and the relevant local legislation.

65. The Consultant shall provide full time construction supervision, technical oversight, contract administration, interface management, testing and commissioning supervision, operational coordination, quality assurance and quality control services (including at sites, assembly yards, sleeper factories, batching plants, material sites, pre-cast sites, fastening manufacturing factory etc.) for all Contracts under the Project. The Consultant shall supervise all construction activities to ensure that the Works are executed in accordance with the approved design, Employer's Requirements, technical specifications, drawings, quality standards, environmental and social safeguard obligations, health and safety requirements, implementation schedules, and all applicable contractual provisions and legal requirements.

66. The Consultant shall always have a representative authorized to act as the Engineer. Holidays or other absences of authorized persons shall not result in any delays in decision-making or processing of documents. The Consultant shall also maintain sufficient qualified personnel at all project sites to ensure continuous supervision and timely decision making throughout the duration of the Project

67. Wherever appropriate and not in conflict with the Contract, the Consultant shall exercise every reasonable care to protect the interests of the Client. The Consultant shall exercise due professional skill, care, diligence, impartiality, and sound engineering judgment in performing its duties

68. The Consultant shall take prior approval by the Client for taking any action under a contract designating the Consultant as "Engineer" for which action, pursuant to such contract, the written approval of the Client as "Employer" is required. However, for routine site instructions and directions necessary for smooth execution of the Works, the Engineer can issue instructions regarding construction sequencing, work scheduling, access arrangements, temporary works, quality control measures, health and safety requirements, environmental and social compliance measures, rectification of defective works or materials, site establishment arrangements, testing requirements, housekeeping measures, and operational coordination requirements, provided that such instructions do not constitute Variations as defined under the Conditions of Contract.

69. The Consultant shall maintain complete records of all instructions issued to the Contractors and shall provide the Client with a summary of all site instructions issued during the preceding month within seven (7) days after the end of each calendar month. In emergency situations where immediate action is necessary to prevent injury, loss of life, damage to property, damage to the Works, environmental harm, operational disruption, or safety hazards, the Consultant may issue oral instructions to the Contractor, provided that such instructions are formally confirmed in writing within twenty four (24) hours with copies submitted to the Client.

70. Pakistan Railway through its relevant department/section will issue Railway Operations Protocol (during construction phase). The Consultant shall continuously monitor implementation and compliance with the Railway Operations Protocol and shall include status of compliance, operational coordination activities, possession management issues, operational disruptions, and corrective actions within the monthly progress reports. The Consultant shall not be held responsible for delays, disruptions, operational impacts, or additional costs arising from failure of Pakistan Railways operational divisions or other stakeholders to comply with the approved Protocol, provided that the Consultant has diligently followed all procedures defined under the Protocol and has notified the Client in writing within seven (07) days of occurrence of such non-compliance or operational constraint.

71. The Consultant shall provide full-time construction supervision services for the ML-1 Secretariat Office Building (part of the CW package) throughout the construction period. The Consultant shall monitor and supervise all construction activities to ensure compliance with the approved designs, Employer's Requirements, technical specifications, applicable codes and standards, environmental and social requirements, occupational health and safety requirements, and the Conditions of Contract. The Consultant shall verify construction methodologies, review work schedules, monitor progress, inspect workmanship, verify measurement of completed works, administer the contract,

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and ensure timely completion of the facility in accordance with the approved implementation schedule.

72. The Consultant shall supervise and monitor the establishment of the Fastening Manufacturing Factory under the Civil Works Contract to ensure compliance with the Employer's Requirements, approved designs, and applicable international standards. The Consultant shall verify that the factory is fully established, commissioned, and capable of meeting the specified production capacity and product quality requirements, ensure that all required inspections and certifications by internationally recognized certification bodies are successfully obtained, and monitor production activities, quality control, and testing to confirm continued compliance until handover of the factory to the Employer.

73. As Engineer, the Consultant shall perform all supervision and contract administration duties necessary for effective implementation of the Works including, but not limited to, the following:

    a. Assess, review, and verify adequacy and sufficiency of all Contractor inputs including personnel, plant, equipment, construction materials, temporary works, laboratory facilities, and other resources necessary for execution of the Works;
    b. Advise the Client regarding the Contractor’s compliance with contractual requirements relating to subcontracting arrangements, specialist subcontractors, assignment of works, and approvals of subcontractors;
    c. Carry out field inspections and verification of the Contractor’s setting out works, benchmarks, survey controls, alignment coordinates, levels, dimensions, and reference points in relation to the approved drawings and design data;
    d. Review, evaluate, and issue approvals or no objections to Contractor submissions including work programs, detailed construction schedules, method statements, shop drawings, working drawings, temporary works designs, quality assurance plans, quality control plans, environmental and social management plans, occupational health and safety plans, traffic management plans, testing procedures, and all other submissions required under the Contracts;
    e. Ensure that all construction activities are carried out strictly in accordance with the approved Detailed Engineering Design, Employer’s Requirements, technical specifications, approved construction drawings, and applicable standards;
    f. Monitor and supervise quality assurance and quality control activities for all permanent and temporary works through regular inspections, testing, sampling, measurements, verification procedures, and laboratory monitoring;
    g. Ensure that the Contractors utilize only approved materials, equipment, components, and construction methodologies conforming to the requirements of the Contracts and applicable technical standards;
    h. The Consultant shall also review and monitor, as applicable, the Contractor’s management of primary suppliers in accordance with the LMP, ESMP, procurement documents, and applicable ESS requirements, including risks related to labor and working conditions, child labor, forced labor, occupational health and safety, material sourcing, and environmental compliance.
    i. Supervise all field tests, material sampling, laboratory tests, factory inspections, site acceptance tests, pre-shipment inspection, system integration tests, testing and commissioning activities, and operational trials carried out under the Contracts;
    j. Monitor construction progress against approved baseline schedules and identify delays, risks, interface conflicts, operational constraints, or performance deficiencies and recommend corrective measures necessary for timely completion of the Works;
    k. Review and verify Interim Payment Certificates (IPCs), quantities executed, measurements, statements at completion, claims, variations, extension of time requests, and final accounts in accordance with the Conditions of Contract;
    l. Review Contractor reports, as built drawings, operation and maintenance manuals, testing records, commissioning reports, training documentation, warranties, and all other technical submissions required under the Contracts;
    m. Identify, record, monitor, and close out non-conformances, deficiencies, and departures from the Contract requirements and shall ensure timely implementation of corrective and preventive actions by the Contractors.

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n. Coordinate and manage technical, construction, operational, and contractual interfaces among multiple contractors, consultants, utility agencies, railway operators, and other stakeholders to ensure efficient implementation of the Project.
o. Prepare, maintain, and monitor punch lists, snag lists, and lists of outstanding works, defects, deficiencies, and incomplete items and shall ensure their timely rectification by the Contractor prior to Taking Over and during the Defects Notification Period.
p. Carry out inspections for Taking Over, completion, testing and commissioning, performance verification, and final acceptance and issue certificates including Taking Over Certificates, Performance Certificates, and Defects Notification certifications as specified under the Contracts;
q. Provide periodic and continuous inspection services during the DNP and ensure timely identification, notification, monitoring, and rectification of defects, deficiencies, or incomplete works by the Contractors;
r. Review accident and incident reports submitted by the Contractors and immediately notify the Client regarding accidents, fatalities, operational disruptions, safety incidents, environmental incidents, or other major events occurring during implementation of the Project;
s. Ensure that all systems, facilities, equipment, structures, and components of the Works are installed, integrated, tested, commissioned, and operated in accordance with the Contracts, approved designs, Employer's Requirements, operational requirements, and applicable railway safety standards; and
t. Maintain detailed site records, inspection records, test results, correspondence, instructions, photographs, and technical documentation relating to implementation of the Works.
u. Any other responsibility as per the respective contractor's contract.

D.5 Collaboration with Other Parties

74. The Consultant shall:

a. Maintain close coordination and effective collaboration with all stakeholders, agencies, authorities, consultants, contractors, operational departments, utility providers, and other parties associated with the Project in order to facilitate smooth implementation, timely decision making, efficient interface management, and successful completion of the Works.
b. Assist and support the Client in obtaining all approvals, clearances, licences, permits, consents, no objections, allocations, operational permissions, utility approvals, environmental approvals, traffic management approvals, railway operational clearances, and any other statutory or administrative permissions required for implementation of the Project from relevant federal, provincial, district, municipal, railway, utility, environmental, and regulatory authorities. The Consultant shall monitor the status of such approvals and shall proactively coordinate with the concerned authorities to avoid delays or disruptions to Project implementation.
c. Collaborate and coordinate with all parties engaged under the Project including Contractors, design consultants, independent reviewers, testing agencies, specialist consultants, railway operational divisions, utility agencies, local administrations, safeguard consultants, government organizations, and other stakeholders identified by the Client or ADB. The Consultant shall establish effective communication and coordination mechanisms to ensure integration of activities, timely exchange of information, consistency in implementation, and efficient resolution of technical, operational, contractual, safeguards related, and interface issues arising during execution of the Project.
d. Support the Client in planning, coordinating, and monitoring community outreach and awareness activities, as appropriate, related to project implementation, including construction safety, environmental and social matters, gender equality and social inclusion, grievance redress mechanisms, and other relevant community engagement initiatives. The consultant shall coordinate with the Contractor and relevant stakeholders to promote effective communication with affected communities and shall monitor and report on the implementation and effectiveness of such activities as part of the Project's environmental and social monitoring and reporting requirements.
e. Liaise closely with utility companies and relevant service providers responsible for electricity, gas, water supply, sewerage, telecommunications, fiber optic systems, oil pipelines, drainage systems, and other public or private utilities affected by the Project. The Consultant shall support the Client in planning, coordinating, monitoring, and facilitating relocation, diversion,

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protection, modification, removal, restoration, or installation of utilities required for implementation of the Works. The Consultant shall ensure that utility coordination activities are integrated within the overall construction schedule and shall monitor associated risks, delays, access requirements, operational constraints, and stakeholder coordination issues.

f. Coordinate with Pakistan Railways operational departments and other railway authorities to facilitate safe and uninterrupted railway operations during implementation of the Project. Such coordination shall include railway possession planning, operational scheduling, traffic blocks, operational safety procedures, signaling integration, testing and commissioning activities, emergency response coordination, and implementation of the Railway Operations Protocol. The Consultant shall ensure that all Contractors comply with operational coordination procedures and railway safety requirements throughout execution of the Works.
g. Cooperate and coordinate with any Dispute Avoidance/Adjudication Board (DAAB), dispute adjudication body, dispute review mechanism, or dispute resolution panel established under the Contracts. In this regard, the Consultant shall provide all relevant data, reports, records, correspondence, schedules, drawings, technical documentation, progress information, claims related documentation, meeting records, and other information necessary for effective functioning of the dispute resolution process. The Consultant shall attend DAAB meetings, hearings, site visits, dispute review sessions, and coordination meetings as required and shall assist the Client in preparation of submissions, responses, factual records, and technical evaluations related to disputes or contractual matters arising under the Contracts.
h. Support the Client in mplementation, monitoring, and updating of SEP for the Project in accordance with ADB ESF 2024 and applicable ESS. The Consultant shall coordinate and facilitate consultations with affected communities, local authorities, businesses, utility agencies, government departments, railway users, vulnerable groups, civil society organizations, and other stakeholders throughout the Project lifecycle.
i. Participate in, organize, and document stakeholder engagement activities including coordination meetings, technical workshops, public consultations, community meetings, safeguard consultations, disclosure sessions, utility coordination meetings, operational coordination meetings, and inter agency consultations. The Consultant shall prepare agendas, minutes of meetings, action trackers, attendance records, consultation summaries, and follow up reports for all major coordination and stakeholder engagement activities.
j. Ensure that all stakeholder consultations and engagement activities are conducted in an inclusive, transparent, gender responsive, culturally appropriate, and accessible manner. The Consultant shall also support the Client in addressing stakeholder concerns, community grievances, operational coordination issues, and public communication matters associated with implementation of the Project.
k. Establish and maintain effective coordination mechanisms for management of interface risks, overlapping responsibilities, access constraints, construction sequencing conflicts, utility relocation dependencies, railway operational constraints, and stakeholder related implementation challenges. The Consultant shall promptly notify the Client regarding any coordination issues or institutional bottlenecks that may adversely affect Project implementation and shall recommend practical mitigation measures and coordination strategies necessary to ensure smooth execution of the Project.

D.6 Commencement of Work on Site

75. The Consultant shall:

a. Acting as the Engineer under the respective Contracts, shall coordinate and administer commencement of the Works in accordance with the Conditions of Contract, approved implementation schedules, railway operational requirements, and instructions of the Employer. Prior to issuance of the Commencement Notice, the Consultant shall verify that all contractual pre-commencement requirements have been fulfilled, including site readiness, mobilization requirements, insurances, performance securities, safeguards obligations, and other conditions specified under the Contract. Upon satisfaction of such requirements, the Consultant shall issue the Commencement Notice in accordance with the Contract, obtain the Contractor's acknowledgement or countersignature where required, and maintain records of all commencement-related documentation.

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b. Maintain records of commencement notices, site possession certificates, access restrictions, railway possessions, operational constraints, delays, and other related contractual events. Where the Contractor does not receive the Commencement Notice, site possession, access to work areas, or other required access arrangements within the time specified under the Contract, or where access to any section of the Works is delayed or restricted, the Consultant shall assess the impacts on construction progress, cost, resources, and completion schedules, advise the Employer on the contractual implications, including any potential entitlement to extension of time or additional cost, and recommend appropriate mitigation measures to minimize delays, disruption, and potential claims.
c. As the existing railway line will remain operational during Project implementation, the Consultant shall coordinate closely with Pakistan Railways, Contractors, utility agencies, and other relevant stakeholders to ensure safe and efficient commencement of the Works while maintaining railway operations. The Consultant shall coordinate railway possessions, access arrangements, operational clearances, work permits, and construction sequencing required for execution of the Works.
d. Ensure that the site possession shall be provided progressively in sections (50-70km) in accordance with the approved implementation strategy, construction schedule, railway operational requirements, land availability, utility relocation status, and readiness of the respective work areas. The Consultant shall coordinate, administer, and document phased site handover and possession arrangements and shall ensure that Contractors receive access to the relevant work sections in accordance with the Contract and approved implementation schedule.
e. In addition to above, the Consultant shall Before recommending or authorizing access to a work section shall verify, as applicable, that:

- the relevant ESIA/ESMP and site-specific management plans have been approved;
- required permits and clearances are in place;
- building condition surveys and road condition surveys have been completed, where construction activities may create risks of damage, access disruption, or claims.
- laydown areas, access roads, stockpile locations, construction camps, borrow areas, spoil disposal areas, batching plants, and other ancillary facilities have been reviewed and, where delegated under the Contract, no-objection has been provided.
- land acquisition and land-use restriction impacts have been fully assessed;
- completion of a business baseline survey, including identification of affected businesses, contact details, basic economic data, number of workers, and potential access or temporary economic displacement risks before construction starts
- compensation and other entitlements required before displacement or site possession have been completed;
- livelihood-restoration and relocation arrangements required before displacement are operational;
- consultations and disclosure have been completed;
- grievances affecting site availability have been appropriately addressed;
- E&S audits or due diligence for existing facilities or areas to be used by the Contractor, where relevant
- contractor E&S personnel and systems have been mobilized; and
- ADB no-objection or other approvals required under the legal agreements and ESCP have been obtained.

D.7 Environmental and Social Monitoring

D.7.1 General E&S Monitoring Obligations

76. The Consultant shall ensure that the Contractor delivers its E&S obligations under its contract and applicable laws and regulations. This includes, but is not limited to the following:

a. Review the Contractor's site-specific ESMP, including all updates and revisions at frequencies specified in the Contractor's contract (normally not less than once every 6 months);
b. Review all other applicable contractor's E&S management documents including the health

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and safety management plan, security management plan, waste management plan, etc.;

c. Maintain a register of all required E&S-relevant permits and licenses required by the Contract and the Contractor, and ensure that reminders are sent to the relevant party to obtain or renew permits and licenses;
d. Review and consider E&S risks and impacts of any design change proposals and advise if there are implications for compliance with Contract requirements;
e. Undertake audits, supervision and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with E&S requirements with and without Contractor and/or Client representatives, as necessary, but not less than once per month;
f. Undertake audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other E&S related documentation, as necessary, to confirm the Contractor's compliance with E&S requirements;
g. Agree remedial action/s and their timeframe for implementation in the event of a non-compliance with the Contractor's E&S obligations;
h. Ensure the Contractor has deployed E&S staff in accordance with its contractual obligations;
i. Ensure appropriate representation at relevant meetings including site meetings, and progress meetings to discuss and agree appropriate actions to ensure compliance with E&S obligations;
j. Check that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;
k. Review and critique, in a timely manner, the Contractor's E&S documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
l. Undertake and document engagement with project stakeholders as foreseen in the Stakeholder Engagement Plan to identify and discuss any current or potential E&S issues;
m. Support and maintain Workers Grievance Mechanisms, including types of grievances to be recorded and how to protect confidentiality;
n. Support and monitor the implementation of any gender equality and social inclusion measures envisaged for the Contract(s); and
o. Ensure national regulations and contractual procedures are followed for chance finds.
p. In addition to the above, the Consultant shall:
    i. Monitor implementation of environmental, social, occupational health and safety, and community safety measures associated with construction activities undertaken adjacent to, or within, an operational railway corridor and ensure that such activities do not adversely affect railway operations, passengers, workers, or surrounding communities.
    ii. Monitor implementation of environmental and social requirements at construction camps, borrow areas, quarry sites, spoil disposal areas, batching plants, access roads, utility relocation sites, and other ancillary facilities associated with the Works.
    iii. Review and monitor implementation of traffic, access, and community safety management measures at stations, level crossings, road interfaces, and other locations where construction activities may affect public movement, local communities, or railway operations and promptly recommend and track corrective actions where deficiencies or non-compliances are identified.
    iv. Monitor implementation of project-specific environmental and social commitments, mitigation measures, and monitoring requirements contained in the approved safeguard instruments and Environmental and Social Commitment Plan (ESCP), including all applicable requirements and monitoring measures identified in the approved ESIA/ESMP and any subsequent updates or site-specific management plans.
q. In cases of incidents or significant non-compliances by any party, the Consultant shall: Immediately notify the relevant party of any failure and to comply with its E&S obligations;
r. Immediately notify the Client of any allegation, incident or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Client's Personnel, Contractor's Personnel and CSC's Personnel. Confidentiality of full details should be maintained for sensitive cases. The Consultant shall provide full details of

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such incidents or accidents to the Client within the timeframe agreed with the Client;

s. Immediately inform and share with the Client any immediate notification related E&S incidents provided to the Consultant by the Contractor, and as required of the Contractor as part of the Progress Reporting.

t. In addition to above, the consultant shall:

- immediately inform the PIU of serious incidents and allegations;
- support timely notification to ADB within the prescribed timeframe;
- preserve confidentiality in SEAH and other sensitive cases;
- review root-cause investigations and corrective action plans;
- verify implementation and closure of corrective actions; and
- maintain an incident and near-miss register.

77. The Consultant shall actively maintain and manage a register of non-compliances and corrective actions, which records these issues, their impact and severity, and time-bound measures for their rectification.

78. The Consultant shall support the Client in the implementation, monitoring, coordination, documentation, and reporting of all land acquisition, resettlement, environmental, social, and other safeguard activities undertaken during the Consultant's contract period as mentioned under this TORs. This shall include support to the implementation of the Land Acquisition and Resettlement Plan (LARP), environmental and social management plans, stakeholder engagement activities, grievance redress mechanisms, livelihood restoration measures, safeguard monitoring, compliance verification, and reporting requirements in accordance with applicable national regulations, ADB requirements, and approved safeguard documents. Monitoring of ESMP and other applicable management plans.

79. The Consultant shall monitor non-compliance and administer the contractual remedies expressly delegated to the Engineer under the respective Conditions of Contract, subject to the limits of the Engineer's authority. Where E&S non-compliance is identified, the Consultant shall:

(a) issue corrective action notices in accordance with the Conditions of Contract;
(b) recommend withholding of payments where contractually permitted and where consistent with the Engineer's delegated authority;
(c) recommend removal of personnel where necessary;
(d) recommend suspension of affected activities where contractually permitted; and
(e) recommend other contractual measures available to the Client under the Conditions of Contract.

80. The Consultant shall not independently enforce penalties without the Client's authorisation where such action requires Client approval under the Conditions of Contract (for any CW or system contracts). The final Works Contracts shall clearly establish E&S non-compliance remedies, including corrective action notices, withholding of payments, removal of personnel, work suspension, and other contractual measures.

81. The Consultant shall supervise and monitor the implementation of the Environmental and Social Management Plan (ESMP) and other applicable plans, including the Contractor’s Site-Specific Environmental and Social Management Plan (SSESMP), other applicable site specific plans, Environmental and Social Monitoring Plan (ESMP).

82. In addtion to above, the Consultant ESS5 requirements across all Project activities, also include:

i. all forms of physical and economic displacement arising from land acquisition and land-use restrictions, including temporary impacts, access restrictions, impacts on businesses and informal users, utility relocation, contractor facilities, borrow areas, access roads, construction restrictions, and design changes;
ii. screening all construction-stage changes and ancillary facilities for new ESS5 impacts;
iii. maintaining an impact and commitment register;
iv. verifying that no displacement occurs before applicable ESS5 requirements are satisfied;
v. monitoring livelihood-restoration measures and outcomes;
vi. identifying unanticipated impacts and supporting preparation or updating of the applicable plan or corrective action plan; and

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vii. supporting the PIU in maintaining complete affected-person, compensation, consultation, grievance, and implementation records.

83. During the pre-construction phase, the Consultant shall:

a. Prepare an ambient environmental and social monitoring program for parameters to be monitored, such as air quality, water quality, soil quality, noise control, vibration control, vegetation clearance and restoration , biodiversity buffer zone integrity tracking, alternative access provisions, and delivery reports;
b. Ensure that the pre-construction baseline monitoring program has been implemented as per relevant national requirements and the ADB Environmental and Social Framework (ESF 2024) requirements as defined under D.6 above.;
c. Review the Contractors' SSESMPs and other applicable contractor's E&S plans;
d. Develop the compliance monitoring system, including checklists to be used during the construction period for monitoring the Contractor's performance related to E&S requirements; and
e. Ensure that the construction methods proposed by the Contractor(s) are satisfactory, with reference to the technical requirements of ADB ESF.
f. Ensure that the pre-construction monitoring program and compliance monitoring arrangements are updated, as applicable, to incorporate all relevant project-specific environmental and social monitoring requirements, mitigation measures, and commitments identified in the approved ESIA/ESMP, ESCP, and other approved E&S instruments and site-specific management plans.

84. During the construction phase, the Consultant shall:

a. Ensure compliance with the ADB ESF and the applicable national laws and regulations in every sphere of the Contract(s) regarding E&S issues;
b. Monitor and keep a live record of ESMP, LMP and other applicable E&S management documents implementation and compliance;
c. Supervise field and laboratory tests of environmental parameters (e.g., air and water quality, noise, and vibration) in compliance with the ESMP and other applicable E&S plans;
d. Guide the Contractor for mitigating E&S problems including damages to assets of the public, businesses and affected persons;
e. Review the Contractor's records for training of its personnel on E&S issues, and ensure application of the training by the Contractor and its personnel;
f. Conduct site meetings with the Contractor and prepare the minutes of such meetings, including corrective actions and timelines, circulating them among the participants;
g. Assist with an E&S audits and follow-up actions on audit recommendations;

85. During the defects notification period, the Consultant shall:

a. Prepare a report on the Contract(s) E&S compliance performance;
b. Supervise field and laboratory tests of environmental parameters;
c. Monitor E&S measures to be implemented during this period; and
d. Document all activities performed on E&S-related issues.

86. During all phases, the Consultant shall share with the Client in a timely manner the Contractor's E&S metrics, as required by the Contractor as part of its Progress Reports.

D.7.2 Monitoring of Health, Safety and Security

87. The Consultant shall:

a. Provide oversight and undertake compliance verification
- Ensure contractor compliance with national regulations, ESS4: Health, Safety and Security, and project-specific health and safety management plan (HSMP), Security Management Plan and other related plans;
- Conduct regular site inspections to verify implementation of safe systems of work, personnel protective equipment (PPE) usage, and hazard controls;
- Review and approve contractor's HSMP and other related plans;
- Ensure proper measures are in place to prevent SEAH incidences within contractor personnel and in the community;

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- Ensure where necessary, require the Contractor to provide and maintain at its own cost all lights, guards, fencing, warning signs and CCTV, for the protection of the Works or for the safety and convenience of the public, contractor's personnel and others;
- Ensure workers' and community health, safety and security at site, camps, and ancillary facilities and
- Ensure traffic management, pedestrian diversion schemes (if any) and temporary access to public, business and affected persons properties (if any) are implemented safely and communicated to those affected before works start at specific locations;
- Ensure the construction sites are secure and not accessible to the public.

b. Undertake monitoring and reporting
   - Monitor compliance with the contractor's HSMP and other related plans;
   - Monitoring and evaluating the health and safety performance of the contractor and subcontractors' operations, documenting compliance, and providing regular reports to the implementing agency
   - Monitor incident and near-miss reporting systems and ensure timely investigation and corrective actions;
   - Maintain a non-compliance tracking system and escalate unresolved issues to the employer.
   - Advise the project implementing agency on corrective actions required to address non-compliances, including but not limited to preparation of notices/memos and work stoppage memos in event there are unsafe working conditions and workers are not following health and safety plan and related instructions.
c. Undertake risk assessment and mitigation
   - Support dynamic risk assessments for high-risk activities (e.g., working at heights, confined spaces, traffic interfaces);
   - Advise on site-specific emergency preparedness plans, evacuation procedures, and drills;
   - Advise on heat stress protocols, vector control, and weather-related safety planning;
   - Monitor security protocols for asset protection, access control, and community interface in sensitive areas;
   - Monitor contractor coordination with security providers in conflict and fragile contexts;
   - Monitor community health and safety risks, especially in densely populated or vulnerable areas; and
   - Liaise with local authorities and emergency services for coordinated response planning.
d. Undertake capacity building and technical support
   - Provide on-the-job coaching to contractor's HSS staff and site supervisors;
   - Facilitate toolbox talks, refresher training, and awareness sessions on emerging risks; and
   - Recommend improvements to contractor's HSS systems based on lessons learned and global best practices.
e. Support documentation and audits
   - Maintain audit-ready documentation of HSS monitoring activities, findings, and resolutions;
   - Support third-party audits or employer reviews with evidence-based reporting and site walkthroughs; and
   - Contribute to monthly progress reports with HSS performance summaries and recommendations.

D.7.3 Monitoring Labor and Working Conditions

a. Ensure that all labor and working conditions specified in the contract documents for contractors and sub-contractors are complied with in respect of project workers (direct, contracted, primary supply workers, and community workers);
b. Ensure review and monitor, as applicable, the Contractor's management of primary suppliers in accordance with the LMP, ESMP, procurement documents, and applicable ESS requirements, including risks related to labor and working conditions, child labor, forced labor, occupational health and safety, material sourcing, and environmental compliance.

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c. Ensure contractor compliance with the labor management plan and initiate corrective action where necessary;
d. Monitor changes to contractor's human resources policies, practices and management systems affecting the contractor's workforce and ensure the changes are in compliance with contract obligations;
e. Ensure worker grievance mechanisms are functional, accessible, and responsive;
f. Identify any regulatory changes which arise and may impact the workforce, or give rise to new labour related risks and inform the employer if addendums to contracts are required; and
g. Monitor compliance with SEAH provisions in the contract by reviewing the worker grievance mechanism, any SEAH grievances received through other dedicated SEAH complaints mechanism shared by the employer, relevant codes of conduct, and implementation of relevant trainings.

D.8 Programming and Monitoring Progress

88. The Consultant shall:

a. Upon receipt of the Contractor's Programme, and within the time stipulated in the Conditions of Contract, notify the Contractor, with a copy to the Client, whether the Programme complies with the Contract, and if not, in what respect does it not comply.
b. Request the Contractor to provide an expected monthly cash flow forecast.
c. Verify that the progress of the Works is in compliance with the Programme and milestone schedule consented under the Contract on behalf of the Client. Notify the Client as far as possible in advance of any possible failure to attain a milestone by the applicable date or non-compliance with the Programme.
d. Report on the Contractor's control of the progress of the Works to ensure completion of the Works within the time established in accordance with the Contract.
e. Identify and analyze the critical path and near critical path to ensure activities on these paths are carried out as planned.
f. If for any cause other than those listed in the Contract, the rate of progress of the Works or any Section is at any time, in the Consultant's opinion, too slow to ensure the completion of the Works or any Section by the Completion Date, instruct the Contractor to accelerate the Works in accordance with the Conditions of Contract in writing with a copy to the Client.
g. Authorize (with the Client consent) any reasonable request by the Contractor's to work outside agreed time windows to expedite progress so as to comply with the Completion Date for the Works or any Section.
h. Receive Monthly Progress Reports from the Contractor, in accordance with the Conditions of Contract, checking the same to ensure that they cover all relevant aspects of the Works and highlights actual or potential departures from the Programme or the milestone or Payment Schedules and stating the proposed or necessary measures to be taken by the Contractor to overcome such departures; commenting on and supplementing as necessary such Progress Reports before forwarding them to the Client, and advising them of any necessary measures to be taken to achieve completion of each Section within the applicable Time for Completion.
i. Convene formal monthly meetings with other relevant parties. These meetings must have a formal agenda and minutes.
j. Monitor and coordinate interface management between multiple contract packages (civil works and signaling & telecommunication to ensure consistency of programme interfaces, access constraints, and sequencing requirements.
k. Review and monitor the Contractor's planned possession schedules, track access requirements, and construction "block" management arrangements in coordination with railway operations authorities to ensure safe and efficient execution without disruption to railway operations.
l. Ensure that construction progress is aligned with system installation, testing, commissioning, and operational readiness requirements, including integration of civil works with signaling, traction power, and rolling stock interfaces.
m. Support evaluation of contractor-submitted delay analysis and Extension of Time (EOT) claims, including assessment of critical path impact and concurrency, in accordance with

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the Conditions of Contract.

D.9 Quality Control

89. The Consultant shall carry out the duties of the Engineer in relation to quality management, inspections and testing in accordance with the Conditions of Contract;

90. The Consultant shall also:

a. The Consultant shall establish and implement appropriate quality assurance and quality control (QA/QC) procedures for all civil and systems contract which also include the ML-1 Secretariat office building and Fastening Manufacturing Factory.
b. Verify that independent testing of materials, plant, equipment, and systems required under the Contracts has been or is being carried out in accordance with the Contract requirements at the expense of the Contractor.
c. Agree practical procedures with the Contractor for notification and examination prior to covering or putting out of view any part of the Works. In accordance with such procedures and the approved Quality Management System, examine and inspect relevant works prior to cover-up, and notify the Client of any material defects and monitor rectification.
d. Require the Contractor to submit copies of all test results, quality records, and laboratory reports within a time stipulated in respective civil and system contracts.
e. Through oversight and inspection, determine whether any materials, plant, equipment, or workmanship are defective or non-compliant with the Contract and reject such items where required.
f. Notify the Client in the event of failure of any tests or inspections and assess whether such failures are likely to cause delay or adverse impacts. Advise on further testing and ensure necessary rectification is undertaken by the Contractor.
g. Take into consideration any reasonable requirement by the Client for inspection or testing of defective works or suspected defects and arrange such inspections and testing in accordance with the Contract.
h. Afford full opportunity for the Client to be present during inspections, measurements, and testing of works prior to cover-up, commissioning, or concealment, and provide reasonable advance notice of such activities.
i. Carry out additional inspections, supervision of testing, and acceptance procedures when requested by the Client, and coordinate such activities with the Contractor and relevant authorities as required under the Contract.
j. Maintain complete records of tests witnessed, inspections conducted, and quality verification activities carried out under the Contract.
k. Supervise factory inspections (local and abroad), installation works, site construction activities, and commissioning/testing of Contract components, including where required under the Contracts. Particular attention shall be given to signaling and telecommunication systems, track works, switches, crossings, traction power, bridge structures, and safety-critical installations.
l. For the Signalling and Telecommunication Package (S&T-01), review and monitor quality assurance and testing activities including installation checks, integration testing, system validation, fail-safe testing, operational simulations, and trial operations, ensuring compliance with approved procedures, contractual requirements, railway safety standards, and interoperability requirements prior to operational acceptance.
m. Coordinate quality assurance activities across all Contracts to ensure consistency of standards, compatibility of systems, and proper integration of civil works, track works, signaling systems, and operational infrastructure along the entire Karachi–Rohri corridor.
n. Conduct periodic reviews of Contractor's Quality Management Systems and quality performance. Where repeated deficiencies or non-conformities are identified, require corrective and preventive actions in accordance with the Contract.
o. Include detailed quality performance information in monthly progress reports, including summary of inspections conducted, tests witnessed, non-conformity reports issued and resolved, quality trends, rejected materials or workmanship, corrective actions status, factory inspections, and system-level quality risks and recommendations.

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D.10 Payment Certification

91. The Consultant shall carry out the duties of the Engineer in relation to certification and payment of the Works in accordance with the Conditions of Contract and comply with the timelines set out in the Contract.

92. The Consultant will also advise the Client of its responsibility with respect to making payments and complying with the timelines set out in the Contract.

93. In addition, the Consultant shall collate, prepare and submit to the Client quarterly budgets showing sums anticipated to be included in Interim Payment Certificates of the Contractor based on the no-objected Programme and expected progress, as well as dates and amounts of invoices under the Contract and milestone values expected to be achieved in the quarter.

94. The Consultant shall monitor payment status, cash flow requirements, and financial progress under each Contract and promptly advise the Client of any actual or potential issues that may adversely affect implementation progress, contractual compliance, funding requirements, or disbursement schedules.

95. The Consultant shall maintain appropriate records and summaries of payment certifications, disbursements, and financial commitments under the Contracts and shall provide periodic financial information as part of the Project reporting requirements.

96. The Consultant shall compare actual payments and disbursements against approved budgets and forecasts and shall identify and report significant variances, funding constraints, or financial risks that may affect Project implementation.

97. The Consultant shall assist the Client in responding to financial reviews, audits, disbursement verification exercises, and other assessments undertaken by ADB, auditors, or other authorized entities relating to contract payments and financial management of the Project.

D.11 Variations

98. The Consultant shall comply with the authorization given to the Engineer under the works Contract with respect to agreeing to any modification or waiver of the terms and conditions of a contract or granting an extension of the time for performance. The Consultant shall also be aware of the requirements for the Client to obtain the ADB's no objection to change or variation orders, and shall ensure that the Client has obtained a no objection from the ADB if required before a Variation Order is instructed.

99. In case of a variation, the Consultant will follow the procedures and conditions stipulated within the Conditions of Contract, and shall note the restrictions placed on the Consultant's authority as the Engineer under the Contract.

100. The Consultant shall assess the technical, operational, cost, schedule, safeguards, and implementation implications of proposed Variations and provide recommendations to the Client in accordance with the Conditions of Contract.

101. Where a proposed Variation may affect other Contracts, system interfaces, operational requirements, commissioning activities, or sectional completion arrangements, the Consultant shall assess such impacts and advise the Client on appropriate coordination and mitigation measures.

102. For Variations affecting safety-critical infrastructure, railway systems, signaling and telecommunications systems, structural elements, or operational requirements, the Consultant shall ensure that the proposed changes are reviewed by appropriately qualified specialists prior to recommendation or implementation.

D.12 Contractor's Claims

103. The Consultant shall:

a. Check that the Contractor continues to give notices and detail particulars that are required under the Contract relating to any claims and forward such notices and details to the Client;
b. Notify the Client immediately if a Contractor fails to complete any Section within the applicable Completion Date or appears likely to fail;

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c. Advise the Client on any difficulties that may arise generally in connection with the execution of the Works;
d. Receive notice of the intention of a Contractor to claim any additional payment or extension of time within the times stipulated in the Conditions of Contract and adopt the stipulated process for claim resolution and notify the Client thereof;
e. Work with the Client and the Contractor to set up the Dispute Avoidance / Adjudication Board (DAAB), as required under the Conditions of Contract, and follow up all requisite processes in addressing the Contractor's or Client's claims;

104. In addition to the above, in the event of receipt of a notice of claim from a Contractor, immediately thereafter, the Consultant will notify and copy the notice to the Client.

105. Promptly after receipt of any Contractor's claim, the Consultant will provide the Client with an assessment of the Consultant's preliminary conclusions with regard to the potential outcome of the claim. The Consultant will require the Contractor to copy to the Client all accounts sent to the Consultant with regard to the Contractor's claim.

106. Prior to certification of any payment to a Contractor in relation to Contractor's claims, the Consultant will have consulted with the Client on the grounds on which the Consultant intends to certify the payment. The Consultant will provide the Client with any particulars to enable the Client to establish its position with regard to the Engineer's certificate.

107. Regardless of the advice provided by the Consultant, the Consultant's Agreement or determination of the Claim as the Engineer shall be based solely on the Claim submitted by a Contractor. In advising the Client, the Consultant shall not be required to act improperly or contrary to their obligations as the Engineer under the Contract.

108. The Consultant shall actively support dispute avoidance through timely contract administration, early identification of potential claims, factual verification, record keeping, and prompt resolution of contractual issues where possible.The Consultant shall maintain appropriate records of claims, determinations, disputes, and related contractual matters and shall report significant claim developments, financial exposures, and dispute risks through the Project reporting system.

D.13 Client's Claims

109. The Consultant shall proactively advise the Client on specific claims the Client may wish to raise as the Employer under the Contract (e.g. application of Delay Damages, a claim against the Performance Security, etc.) and the general content required of a Notice of Claim, contemporary records, and a fully detailed Claim. However, the Consultant shall not prepare claims on behalf of the Client, and regardless of the advice provided by the Consultant, the Consultant's Agreement or determination of the Claim as the Engineer shall be based solely on the submitted Claim. In advising the Client, the Consultant shall not be required to act improperly or contrary to their obligations as the Engineer under the Contract.

110. The Consultant shall monitor Contractor performance and contractual compliance and promptly advise the Client of any events or circumstances that may give rise to potential contractual entitlements, remedies, or claims available to the Client under the Contract.

111. Where requested by the Client, the Consultant shall assist in assembling and providing relevant factual records, technical information, progress data, inspection records, test results, and other contemporaneous documentation relating to a potential Client claim.

D.14 Non-Compliance, Suspension and Disputes

112. The Consultant shall:

a. Notify the Client immediately if the Contractor is failing to comply with its obligations under a Contract;
b. Discuss with the Client possible remedies, and advise on the rights and obligations of the parties under the Contract;
c. As soon as may be practicable after any suspension request or termination by the Client in accordance with a Contract, adopt the procedures and conditions stipulated in the Conditions of Contract;

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d. If any urgent remedial work is necessary, act in accordance with the Contract, and otherwise advise the Client on carrying out the same by the Contractor or, if impossible to do so, discuss such failure with the Client;
e. In the event of suspension or termination, provide advice and assistance in connection with the departure of a Contractor from the site and the assignment of the benefit of any agreement for the supply of goods, materials, services and/or execution of any works; and
f. Advise the Client of their rights upon the occurrence of any Force Majeure or Exceptional Events.
g. If any dispute referred to adjudication or arbitration, assist the Client generally in respect of such arbitration provided always that the Consultant will not be required to act improperly or contrary to their obligations as the Engineer under the Contract;

D.15 As-Built Drawings/records, Manuals and Documentation

113. Upon completion, review and issue no-objection copies of all As-Built Drawings/records, manuals of the Permanent Works as completed, and such other technical information and completion records relating to the said permanent works as specified in the Contract and as the Engineer or the Client may reasonably require.

114. The Consultant shall verify that all approved Variations, design revisions, field modifications, and other authorized changes implemented during construction are accurately reflected in the final As-Built documentation.

115. The Consultant shall ensure that all final As-Built Drawings, records, manuals, and associated documentation are submitted in the formats specified under the Contracts, including required digital and editable formats suitable for future operation, maintenance, and asset management purposes.

116. The Consultant shall review operation and maintenance manuals submitted by the Contractors and verify that such manuals are complete and suitable for operation and maintenance of the completed Works.

117. The Consultant shall verify that all testing records, commissioning records, certificates, warranties, and other completion documentation required under the Contracts have been submitted through the Project document management system, reviewed, and accepted prior to Taking Over of the relevant Works.

118. For the Signalling and Telecommunications Package, the Consultant shall verify that all system documentation, testing records, configuration records, software documentation, operational manuals, maintenance manuals, and related technical documentation required under the Contracts are complete and available for handover prior to operational acceptance.

119. The Consultant shall utilize the Project Management Information System (PMIS) and document management system established for the Project to monitor and manage the submission, review, no-objection status, acceptance, and handover of As-Built documentation, operation and maintenance manuals, and completion records.

120. The Consultant shall verify that final As-Built documentation, asset information, equipment records, and associated technical documentation required under the Contracts are suitable for incorporation into Pakistan Railways' asset management, maintenance, and operational systems.

D.16 Completion and Defects Notification Period

121. The Consultant shall follow the procedures set out in the Employer’s Requirements and conditions of contract for testing and acceptance of the Works and taking-over of the Works.

122. The Consultant shall support the Client in compliance with any national acceptance and taking-over procedures (if any mentioned under the contracts). These procedures shall be completed before the Consultant issues a Taking-Over Certificate for part or all of the Works.

123. The Consultant shall:

a. Assist the Client in the resolution of the issues during the Defects Notification Period as stipulated in the contracts of the relevant packages;

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b. Monitor the Contractor in its performance of its obligations during the Defects Notification Period;
c. Prepare and issue a Performance Certificate, within the times and using procedures prescribed within the conditions of contract.
d. In the event that a Contractor refuses to carry out any rectification work, assist the Client in the employment of an alternative Contractor and in the recovery from the Contractor of the costs of employing the same where applicable;
e. Advise the Client of the value of any completed Section (if any) and of any further information as may be necessary for calculating any adjustment in the amount of the performance securities and any other bonds or securities procured by a Contractor to secure its obligations;
f. Arrange for the return of any outstanding guarantees provided by the Contractor, such as performance securities; and
g. Support the Client in preparing any project completion reports required by the Borrower and ADB.

124. The Consultant shall coordinate with Pakistan Railways and other relevant stakeholders in relation to testing, commissioning, operational readiness, trial operations, and handover activities required prior to Taking Over of the Works.

125. The Consultant shall monitor and coordinate integrated testing, interface verification, and commissioning activities involving multiple Contracts or railway systems to facilitate successful completion and operational acceptance of the Works.

126. During the Defects Notification Period, the Consultant shall monitor defects, deficiencies, and outstanding works reported by the Client or identified through inspections and shall verify satisfactory completion of the required corrective actions by the Contractor.

127. The Consultant shall provide the Client with information relating to physical completion, testing and commissioning, defects rectification, contract performance, safeguards compliance, and lessons learned for incorporation into Project Completion Reports and other completion documentation required by the Client and ADB.

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E. SPECIFIC SCOPE OF SERVICES

128. In addition to the general PMCSC responsibilities set out in Section D of this Terms of Reference, the Consultant shall perform the Project-specific services described in this section, which reflect the particular characteristics, complexity, interfaces, operational requirements, and implementation arrangements of the Project. These requirements supplement, and shall be read in conjunction with, the general PMCSC obligations specified in Section D and the applicable Conditions of Contract. The Project-specific scope includes, but is not limited to, requirements relating to management of design changes and change control, interface management and coordination among multiple contracts and stakeholders, operational and railway possession constraints, regulatory and certification requirements, cross-contract coordination mechanisms, coordination committees and governance arrangements established by the Client, master testing, integration and commissioning management, system-wide operational readiness, climate resilience and sustainability requirements, safeguards implementation, GIS and digital information management systems, and other sector-specific and Project-specific obligations necessary for successful delivery, integration, commissioning, and operation of the Project.

E.1 Design Review, Drawing Management and Change Management

E.1.1 Review and Issuance of Construction Drawings

129. The Detailed Engineering Design (DED) for the Project prepared by the Employer's DED Consultant and reviewed under the Project Readiness Financing (PRF) assignment with the objective of producing construction-ready drawings, technical specifications, Bills of Quantities (BOQs), and bidding documents. The Consultant shall review such documents from an implementation, constructability, interface, operational, safety, maintainability, and contract administration perspective and shall issue construction drawings and related technical documents required for execution of the Works. In addition to that the consultant shall be responsible for comprehensive review of the detailed engineering design prepared by the Siganlling and Telecom Consultnat under yellow book contract. The consultant shall act as idependent reviewer for signalling and telecom detailed deisgn to be submitted by the contractor.

130. The Consultant shall establish and maintain procedures for the review, validation, issuance, revision control, distribution, and management of construction drawings, technical submissions, and engineering documents throughout implementation of the Project. All such processes shall be administered through the Project Management Information System (PMIS) and document management platform established for the Project. The Consultant shall ensure that only approved and current revisions are issued for construction and that superseded documents are appropriately controlled and withdrawn from use.

131. Where the Consultant identifies any apparent omissions, inconsistencies, discrepancies, constructability concerns, interface conflicts, design deficiencies, or other issues in the original DED documentation, the Consultant shall promptly notify the Employer and refer such matters to the DED Consultant and/or the designated design review consultant for clarification, revision, or corrective action. The Consultant shall not be responsible for redesign of deficiencies in the original DED unless specifically instructed by the Employer.

132. The Consultant shall utilize the PMIS and document management system as the primary platform for submission, review, comment resolution, approval workflows, revision control, distribution, and archiving of drawings, technical submissions, requests for information (RFIs), engineering instructions, design changes, and associated project records.

E.1.2 Construction-Stage Design Changes

133. The Consultant shall review, assess, coordinate, and where appropriate prepare construction-stage design modifications, revisions, and engineering adjustments required to facilitate implementation of the Works. Such services shall include normal and foreseeable design support typically required during construction supervision, including clarification of design intent, resolution of site-specific issues, incorporation of minor field adjustments, utility conflict resolutions, accommodation of verified site conditions, coordination of interfaces, correction of design

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inconsistencies, review of contractor proposals, value engineering assessments, material or equipment substitutions, and other similar modifications necessary for successful implementation of the Project.

134. The Consultant shall prepare or coordinate the preparation of drawings, calculations, technical assessments, quantity revisions, specifications, reports, and other engineering documentation required to support such construction-stage modifications and shall ensure that all proposed revisions comply with the Project requirements, applicable standards, operational requirements, safety requirements, safeguard requirements, and contractual obligations. Prior written approval of the Client shall be obtained before implementation of any design modification affecting the approved design, scope, cost, schedule, operational performance, or contractual obligations.

135. The services described under Clauses 124 and 125 shall be deemed included within the Consultant's scope of services and financial proposal and shall not constitute additional services, provided that such modifications are limited to normal construction-stage design support and do not involve substantial redesign of the Project or any major project component.

136. Notwithstanding the above, major design revisions involving substantial changes to the approved Project scope, railway alignment, station location, bridge type or structural configuration, or other fundamental design parameters shall not be deemed part of the Consultant's normal construction-stage design support obligations. In such cases, the Employer may, at its sole discretion, engage the original design consultant, appoint a third-party design consultant, or issue a separate written instruction and appropriate contractual arrangement to the PMCSC to undertake all or part of the required redesign services. The Consultant shall, however, provide reasonable technical review, coordination, and implementation support in relation to such redesign activities.

E.1.3 Change Management and Project Control

137. The Consultant shall establish and maintain a Project Change Management System for identification, evaluation, review, approval, implementation, monitoring, and documentation of all engineering, technical, operational, interface, testing, commissioning, configuration, and other Project-related changes arising during implementation of the Project. The Change Management System shall be integrated with the PMIS to provide full traceability, workflow management, approval records, document control, and audit trails for all changes.

138. The Consultant shall assess the potential impacts of proposed changes on safety, operational performance, railway operations, cost, schedule, quality, maintainability, asset management requirements, climate resilience, environmental and social safeguards, testing and commissioning activities, and interfaces with other contracts and stakeholders, and shall provide recommendations to the Employer prior to implementation.

139. The Consultant shall ensure that no material design, alignment, access, construction methodology, work sequencing, ancillary facility, utility relocation, traffic management, or other Project-related change with potential environmental and/or social implications is recommended for approval or implemented until its environmental and social implications have been screened and assessed in accordance with the applicable Environmental and Social Framework (ESF), the Financing Agreement, and the requirements of the respective Civil Works and Systems Contracts. Where a proposed change gives rise to new or materially different environmental or social risks or impacts, the Consultant shall support the Employer in ensuring that the relevant environmental and social instruments, including as applicable the Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), Stakeholder Engagement Plan (SEP), Land Acquisition and Resettlement Plan (LARP) or other ESS5 instruments, Environmental and Social Commitment Plan (ESCP), and any other applicable management plans, are updated as necessary, and shall verify that all required stakeholder consultations, public disclosure, statutory approvals, and ADB review or no-objection requirements have been completed prior to implementation of the change.

140. The Consultant shall maintain, through the PMIS, a Change Register recording all proposed, approved, rejected, deferred, and implemented changes together with the basis for the change, approvals obtained, affected contracts, associated cost and schedule implications, implementation status, responsible parties, and related actions.

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141. The Consultant shall ensure that approved changes are properly communicated, coordinated, and incorporated into design documents, construction drawings, technical specifications, testing procedures, commissioning activities, operational documentation, asset records, and final As-Built documentation, as applicable. The Consultant shall ensure that all such revisions are processed, tracked, and recorded through the PMIS and document management system.

142. The Consultant shall coordinate change management activities across all contracts to ensure consistency of technical solutions, effective interface management, avoidance of conflicting changes, and maintenance of configuration control throughout implementation of the Project.

143. The Consultant shall establish electronic workflows within the PMIS for review and approval of design submissions, design changes, engineering instructions, technical queries, contractor proposals, value engineering proposals, material substitutions, equipment substitutions, and other controlled documents to ensure transparency, accountability, version control, and timely decision-making throughout Project implementation.

144. The effectiveness of the Consultant's Change Management and associated Project Control functions shall constitute a key element of the Consultant's performance evaluation under the Assignment. Performance shall be assessed based on the Consultant's ability to establish and maintain effective change control procedures, undertake timely and accurate impact assessments, maintain complete and auditable change records, support timely decision-making, monitor implementation of approved changes, maintain configuration control, and proactively identify, avoid and manage potential impacts of changes on Project scope, cost, schedule, quality, safety, operational performance, testing and commissioning activities, and interface requirements. Failure to maintain effective change management and associated project control processes may be considered in the assessment of the Consultant's overall performance.

E.2 Support for Interface Management and System Integration

145. The Consultant shall support the Client in the management of interfaces and overall system integration across all Project contracts, including Civil Works Packages CW-01, CW-02, and CW-03, the Signalling and Telecommunications Package (S&T-01), utility relocation works, third-party contracts, operational stakeholders, government agencies, and future operation and maintenance entities.

146. The Consultant shall identify, review, validate, and maintain a comprehensive Interface Matrix and Interface Register covering all physical, technical, operational, contractual, testing, commissioning, organizational, and stakeholder interfaces associated with the Project. The Interface Matrix and Interface Register shall be maintained through the Project Management Information System (PMIS) and regularly updated throughout implementation of the Project.

147. The Consultant shall establish and implement an Interface Management Plan defining interface responsibilities, coordination arrangements, information requirements, monitoring procedures, escalation mechanisms, reporting requirements, and governance arrangements necessary for effective management of inter-package interfaces and integrated delivery of the Project.

148. As part of the Interface Management Plan, the Consultant shall develop, implement, maintain, and periodically update appropriate interface management tools and procedures necessary for effective management of Project interfaces. Such tools may include, as appropriate, Interface Registers, Interface Matrices, Interface Data Sheets (IDS), Interface Completion Certificates (ICC), Civil Prerequisite Registers, Interface Readiness Registers, Lead and Receiving Contractor arrangements, interface action trackers, interface risk registers, interface handover procedures, and other management tools required for effective coordination and control of interfaces. The Consultant shall periodically review the effectiveness of such tools and refine them as necessary throughout implementation of the Project.

149. The Consultant shall review designs, working drawings, technical submissions, construction methodologies, testing procedures, and implementation plans prepared by the Contractors with particular emphasis on technical interfaces, spatial coordination, compatibility of systems, operational requirements, constructability, maintainability, safety, and consistency across all Project packages.

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150. The Consultant shall review consistency of Contractor designs and submissions with adjacent civil work contracts, existing Pakistan Railways infrastructure, utility installations, operational requirements, and other infrastructure under the Employer's responsibility.

151. The Consultant shall coordinate and monitor interface obligations between Contractors and shall ensure timely exchange of information, drawings, technical data, site access, handover requirements, construction readiness requirements, and other deliverables necessary to avoid delays, conflicts, duplication of work, or disruption to Project implementation.

152. The Consultant shall support coordination between Contractors and external stakeholders, including Pakistan Railways, utility agencies, local authorities, regulatory bodies, and other entities whose activities may affect implementation, testing, commissioning, operation, or integration of the Project.

153. The Consultant shall establish, administer, and maintain all interface management processes through the PMIS, including interface registers, action tracking, document control, review workflows, interface submissions, approvals, technical queries, design changes, and interface-related correspondence.

154. For the Walton Academy reconstruction works under CW-03, the Consultant shall coordinate interfaces between Civil Works Contractors, designers and third-party suppliers responsible for training equipment, simulators, IT systems, furniture, and operational equipment. The Consultant shall ensure full coordination of civil works, training requirements, utilities, building services, installation requirements, testing, commissioning, operation and mainteance requirements of railways and operational readiness requirements to enable successful integration and operational use of the facility.

155. The Consultant shall support the Employer in establishing and operating a Cross-Contract Coordination Committee (CCCC) chaired by the Employer for management of inter-package interfaces, construction sequencing, railway operational coordination, possession planning, utility coordination, testing and commissioning activities, operational readiness matters, interface risks, and resolution of cross-contract issues. The Consultant shall act as secretary to the Committee and shall prepare agendas, technical papers, action trackers, and meeting minutes.

156. The Consultant shall support the Employer in preparations for operational commencement of the upgraded railway corridor, including coordination of operator participation, training activities, operational readiness reviews, phased commissioning arrangements, and transition from construction to operational service

E.2.1 Civil Works and S&T Interface Management

157. The Consultant shall give particular attention to management of interfaces between Civil Works Packages and the S&T-01 Contract and shall ensure that all civil, structural, utility, track, drainage, station, building, access, power supply, cable routing, equipment accommodation, and other prerequisite works required for installation, testing, commissioning, and operation of signalling and telecommunications systems are properly coordinated and delivered in accordance with the implementation programme.

158. The Consultant shall prepare, maintain, and regularly update detailed interface matrices identifying prerequisites, dependencies, readiness criteria, responsibilities, target dates, and acceptance requirements for inter-package interfaces, with particular emphasis on Civil–S&T integration. The matrices shall cover all enabling works including earthworks, track works, drainage, cable routes, ducts, equipment rooms, power systems, and other requirements necessary for installation, testing, commissioning, and operational acceptance. An indicative matrix may be provided in the Appendix for reference, which shall be reviewed and finalized by the Consultant.

159. The Consultant shall continuously monitor interface readiness and coordinate timely release of work fronts, possessions, access arrangements, testing windows, and handover areas required for S&T installation, testing, commissioning, and operational integration.

160. The Consultant shall ensure compatibility and full integration of signalling, telecommunications, civil works, track, stations, buildings, power systems, safety systems, and other infrastructure components required for safe and reliable railway operations.

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E.2.2 System Integration, Testing and Commissioning

161. For coordination of overall system integration, the Consultant's tasks shall include the following:

a. Coordinate and review plans for testing, trial operation of certain components and the Project as a whole, and commissioning, including;
    i. Review of test methods, documentation and schedules;
    ii. Coordination between participating contractors;
    iii. Involve of independent assessors (if any); and
    iv. Involve future the operation and maintenance entity and/or staff if available.
b. Supervise, monitor and document the integration of works and systems during testing, trial operations and commissioning;
c. Coordinate the resolution of problems identified during testing with contractors;
d. Review and collate the interface management documents prepared by contractors as a complete and coherent package for the Client; and
e. Review and collate the Operation and Maintenance (O&M) Manuals prepared by contractors/designers as a complete and coherent package for the Client, ensuring consistency between package-wise O&M Manuals.

E.2.3 Track Possession and Railway Access Coordination

162. The PMCSC shall establish and implement a comprehensive Track Possession and Access Coordination System in close coordination with Pakistan Railways Operations, Contractors, and relevant stakeholders to ensure safe and efficient execution of works within an operational railway environment.

163. The Consultant shall prepare, maintain, and continuously update a Corridor-Wide Master Possession Plan integrating all construction, testing, commissioning, and operational requirements across all Project contracts. The Plan shall be fully aligned with the approved construction programmes, interface requirements, and railway operational constraints.

164. The Consultant shall review and assess all possession and access requests submitted by Contractors to ensure technical justification, safety compliance, operational feasibility, sequencing compatibility, and alignment with Project priorities. The Consultant shall coordinate the resolution of conflicts between competing possession requirements and optimize the utilization of available railway access windows in consultation with Pakistan Railways Operations and the Employer.

165. The Consultant shall coordinate with Pakistan Railways Operations for timely approval of possession plans and ensure that all approved possessions are implemented in accordance with agreed safety procedures and operational protocols. The Consultant shall monitor actual possession utilization, including compliance with approved time windows, and record any overruns, delays, or disruptions affecting railway operations or other Contractors.

166. The Consultant shall maintain a comprehensive Possession Register and submit periodic reports on possession utilization, conflicts, operational impacts, and performance trends, including recommendations for improving efficiency and minimizing disruption to railway operations.

167. The Consultant shall convene and facilitate regular possession coordination meetings with Pakistan Railways Operations, Contractors, and relevant stakeholders to review upcoming works, resolve conflicts, and optimize possession planning for construction, testing, and commissioning activities.

168. The Consultant shall ensure integration of possession planning with the overall Interface Management System, Integrated Master Programme, and Testing and Commissioning schedules to ensure safe and coordinated implementation of the Project.

169. The Consultant shall coordinate emergency possessions and urgent access requirements where necessary, in consultation with Pakistan Railways Operations, to address safety-critical situations, breakdowns, or unforeseen operational needs.

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E.3 Sectional Access, Possession and Handover Coordination

170. The Consultant shall administer all contractual certification procedures in accordance with the provisions of the respective Contracts and applicable Conditions of Contract. Nothing in this TOR shall be construed as modifying the contractual provisions governing Taking Over, Completion, Defects Notification, Performance Certification, or other contractual certifications.

171. Recognizing that railway operations are required to continue throughout implementation of the Project, the Consultant shall establish and implement procedures for phased access, sectional possessions, rolling handovers, interface readiness verification, and coordinated release of work fronts between the Civil Works Contractors, the Signalling and Telecommunications Contractor, Pakistan Railways Operations, and other relevant stakeholders.

172. The Consultant shall ensure that progressive completion of civil works sections enables timely access for installation, testing, and commissioning activities by the S&T Contractor in accordance with the approved construction programme, Interface Management Plan, Possession Management System, and Railway Operations Protocols. Such sectional access arrangements shall be implemented solely for construction, interface management, testing, and operational coordination purposes and shall not constitute contractual Taking Over or completion of the Works unless expressly provided under the relevant Contract.

173. The Consultant shall maintain appropriate records of sectional handovers, access authorizations, readiness confirmations, possession releases, testing access arrangements, and interface obligations necessary to support coordinated implementation of the Project while maintaining safe and uninterrupted railway operations.

E.4 Master Testing, Integration and Commissioning Management

174. The Consultant shall prepare, maintain, update, and implement a Master Testing and Commissioning Plan (MTCP) for the integrated Karachi–Rohri railway corridor, covering all Civil Works Contracts, the Signalling and Telecommunications Contract, and all associated systems and interfaces.

175. The MTCP shall define the overall strategy, sequencing, and coordination framework for Factory Acceptance Testing, Site Acceptance Testing, System Integration Testing, trial running, operational readiness verification, safety certification, and commissioning leading to phased commercial opening of corridor sections.

176. The Master Testing and Commissioning Plan (MTCP) shall establish section-wise Commissioning Readiness Milestones for each Civil Works Contract/Lot and its corresponding Signalling and Telecommunications (S&T) works. The readiness milestones shall define the minimum prerequisites for release of each section for S&T installation, integrated testing, and commissioning, including, as applicable:

    i. completion and acceptance of civil, track, structures, drainage, buildings and utility works affecting S&T installation;
    ii. availability of cable routes, ducts, equipment rooms, power supply and access arrangements;
    iii. completion of quality inspections, safety requirements and interface obligations;
    iv. availability of approved as-built information and handover documentation; and
    v. verification by the Engineer that all contractual interface requirements have been satisfied.

177. No section shall be released for integrated testing and commissioning unless the applicable Commissioning Readiness Milestones have been achieved and certified by the Engineer.

178. The Consultant shall ensure that the MTCP is fully integrated with the construction programme, Interface Management System, Possession Management System, and Railway Operations requirements for execution under live railway conditions and sectional availability constraints.

179. The Consultant shall coordinate and harmonize testing and commissioning activities across all Contracts, including management of inter-contract dependencies, readiness conditions, interface prerequisites, and sequencing requirements to ensure safe and integrated system performance.

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180. The Consultant shall establish and maintain a Testing and Commissioning Register capturing status of key testing activities, defects, integration issues, approvals, and commissioning milestones across all Contracts and systems.

181. The Consultant shall support and coordinate the Operational Readiness Review process, including verification of system integration, training completion, documentation readiness, maintenance preparedness, and safety-related readiness conditions prior to trial operations and commissioning.

182. The Consultant shall prepare, supervise, monitor, and certify comprehensive dynamic testing and performance validation of the completed railway infrastructure prior to commissioning, using recording trains or other equivalent approved measurement and testing systems, as appropriate. The dynamic testing programme shall verify the performance, safety, reliability, and operational readiness of the integrated railway system under representative operating conditions and planned operating speeds.

183. The dynamic testing programme shall include, as applicable:

- verification of track geometry, ride quality, track-vehicle interaction, and civil structure performance under dynamic loading;
- validation of signalling, interlocking, telecommunications, train detection, and associated railway systems under operational conditions;
- verification of interfaces between civil works, track, signalling, telecommunications, power supply, stations, and other railway systems;
- operational scenario testing, including degraded mode operation, emergency response, and recovery procedures; and
- preparation of dynamic testing reports identifying non-conformities, corrective actions, re-testing requirements, and recommendations prior to commissioning.

184. The Consultant shall ensure that dynamic testing is completed and all identified deficiencies are satisfactorily addressed before recommending any section for trial operation, commissioning, or commercial service.

185. The Consultant shall support coordination of statutory, regulatory, and safety certification processes required for operational authorization and commercial opening, including liaison with Pakistan Railways and relevant regulatory authorities.

186. The Consultant shall supervise and witness the testing and commissioning of all building systems and associated infrastructure for the ML-1 Secretariat Office Building. This shall include, but not be limited to, mechanical, electrical, plumbing (MEP), HVAC, fire detection and suppression systems, lifts, backup power systems, ICT infrastructure, security systems, utilities, and other building services. The Consultant shall review commissioning procedures, witness functional and performance testing, verify compliance with design and performance requirements, ensure rectification of deficiencies, and certify successful completion of testing and commissioning prior to taking-over.

187. The Consultant shall ensure that no section is recommended for commissioning or commercial operation unless system integration, safety, operational readiness, and interface requirements have been satisfactorily verified in accordance with the MTCP and applicable contract requirements.

188. The Consultant shall monitor implementation of RAMS requirements and ensure progressive verification of reliability, availability, maintainability, and safety performance during testing, trial running, and commissioning stages.

E.5 Other compliance review

189. The Consultant shall:

a. Monitor and report the Contractor’s compliance with local participation targets.
b. Monitor and report the Contractor’s compliance with the obligations highlighted in merit point criteria proposals.

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c. Execution of construction activities on a continuous 24-hour, three-shift basis where required under the approved construction methodology and programme, including monitoring of resource deployment, productivity, and progress against planned outputs;
d. Compliance with railway operational safety requirements during execution of works within an active and operational railway corridor, including adherence to approved possession arrangements, track access restrictions, operational windows, and safety protocols issued by Pakistan Railways;
e. Compliance with approved Interface Management procedures, including coordination obligations between Civil Works Contractors, the Signalling and Telecommunications Contractor, Pakistan Railways Operations, utility agencies, and other stakeholders to ensure integrated and conflict-free implementation;
f. Verify and monitor the implementation of all climate resilience measures incorporated into the approved designs, specifications, and works contracts, including those identified through the Value Engineering (VE) process and other climate-related recommendations developed by the Design Consultant and PRF Consultant. The Consultant shall ensure that such measures are effectively implemented during construction, monitor the Contractor's compliance, identify any deviations or deficiencies, recommend corrective actions, and report on the status of climate resilience implementation as part of the regular project monitoring and reporting requirements;
g. Compliance with Environmental and Social (E&S) requirements, Environmental and Social Management Plans (ESMP), Occupational Health and Safety (OHS) requirements, labor management requirements, and ADB Environmental and Social Framework 2024 and the applicable National Environmental and Social Standards;
h. Compliance with quality assurance and quality control requirements, including adherence to approved Inspection and Test Plans (ITPs), material testing procedures, construction methodologies, and quality management systems under the respective Contracts;
i. Any other compliance requirement under the specific civil and S&T contracts.
j. The Consultant shall report instances of non-compliance, identify potential risks and deviations, and recommend corrective actions to the Employer. The Consultant shall also monitor implementation of corrective measures and provide periodic compliance performance reports as part of the Project reporting system

190. In addition to the Contractor Compliance Review above the Consultant shall comply with the Project Key Performance Indicators (KPIs) and performance evaluation framework applicable to the Consultant’s services, as defined in this document and/or the Consultant’s Contract agreement.

E.6 Procurement Support

191. The Consultant shall provide procurement support for any contracts under the Project as required during the duration of the Consultant’s contract. The Consultant’s role shall primarily include review, validation, update, and procurement support based on bidding documents prepared by the Design Consultant/DED Consultant. The Consultant shal:

a. Review, validate, and update bidding documents prepared by the Design/DED Consultant to ensure consistency with the latest ADB Standard Bidding Documents (SBDs), Employer’s Requirements, design outputs, and overall Project scope, including constructability, interface, and packaging considerations;

b. Review and confirm the draft bidding documents, which include, among others, i) clauses stating that the Contractor is to comply with the requirement of the Environmental Management Plan (EMP), ADB ESF ii) the specification stipulating the safety requirements in accordance with the laws and regulations in the country of the Borrower, and/or relevant international standards (including guidelines of international organization), if any, and also in consideration of “the Guidance for the Management of Safety for Construction Works in

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ADB Projects," iii) the requirement to furnish a safety plan to meet the safety requirements, iv) the requirement for the personnel for critical positions to include an accident prevention officer, and v) the requirement to submit method statements of safety to the Client and the Consultant at the construction stage;

c. Assist the Client in issuing invitations for bids, conducting pre-bid conferences, issuing addendums/corrigendum, responding to bidder's requests for clarifications, and preparing draft bid evaluation reports;

d. Assist the Client in contract negotiation by preparing agenda and facilitating negotiations, including preparation of minutes of negotiation meetings; and

e. Assist the Client in preparing a draft and final contract agreement.

E.7 Monitoring of the Grievance Mechanism

192. During all phases, the Consultant shall ensure that a functional Grievance Mechanism (GRM) is in place and that all grievances are kept confidential and are acted upon;

193. The Consultant shall support the Client in administering the GRM by reviewing the issues and recommending any action to be taken;

194. The Consultant shall ensure the Contractor establishes a GRM for its workers to confidentially report issues; and the Consultant shall also review grievances received and how these are handled by the Contractors.

E.8 SEAH Requirement

195. Sexual exploitation, abuse and harassment (SEAH). The Consultant will ensure implementation of the measures within the ADB SEAH Good Practice Note to address risks of SEAH in ADB-financed operations with civil works.

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F. REPORTS AND DELIVERABLES

196. The Consultant shall report to the Client's nominated representative on all aspects of the assignment, and all deliverables shall comprehensively address the tasks specified under Section D (General Scope of Services) and Section E (Specific Scope of Services). All reports shall include an executive summary.

197. All project deliverables, correspondence, drawings, reports, and documentation shall be managed through the Project Management Information System (PMIS) (e.g., Aconex or any equivalent system approved by the Client). The PMIS shall serve as the official system for submission, review, tracking, approval, and archival of all project documentation. No parallel or independent document control systems shall be used for project deliverables.

198. All documents submitted through the PMIS shall follow a structured approval workflow (approval ladder) as defined by the Client. All review comments, responses, revisions, approvals, and re-submissions shall be fully recorded within the PMIS to ensure a complete audit trail. The Consultant shall be responsible for ensuring that all documents are properly labeled, version controlled, and traceable at all stages.

199. Unless otherwise agreed, all deliverables shall be submitted in English. Five (05) printed hard copies of final approved reports shall be submitted to the Client in the prescribed format. All reports, drawings, and supporting documents shall also be submitted in digital format (including editable formats such as Word, Excel, AutoCAD or equivalent) and PDF format. All digital submissions shall retain active links, formulas, fields, and metadata as applicable.

200. The Consultant shall be responsible for the effective operation, administration, and maintenance of the PMIS document management system for the Project, including user coordination, workflow configuration support, document structuring, and troubleshooting as required. The Consultant shall provide training and capacity building to the Client and relevant stakeholders in the use of the PMIS system where necessary to ensure effective adoption and compliance.

201. All reports submitted by the Consultant shall be reviewed and approved by the Client. Where required, the reports shall also be submitted to ADB for review and comments. The Consultant shall incorporate all comments and revisions requested by the Client and ADB and submit the final version for approval.

202. Final reports related to safeguards, due diligence, and other disclosure requirements shall be disclosed in accordance with ADB's Access to Information Policy and uploaded to the ADB website for public access, as applicable.

203. Reports and their content are set out in the table below:

Table 2: List of reports and deliverables, and their content

1	Inception Report	Within 1 month after commencement of the assignment	• Consultant's approach and methodology to implement construction supervision • Work plan and timeline using Gantt chart • Team composition and responsibilities • Document and correspondence management system • Consultant's safety policies • Consultant's quality management system • Draft records, report and other document templates
2	Mobilization Plan	Within one months after the commencement of the services and update it every three (03) months	• Consultant's planned deployment schedule
3	Construction Management Plan	Within 1 month after commencement	• Complete construction management plan including work plans,

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			methodology of construction, interface management, scheduling and sequencing of activities, monitoring mechanism etc.
4	Monthly Progress Reports	By 15th day of the next month; submissions only once the Contractor begins to mobilize to site	The Consultant's Monthly Progress Reports at minimum contain the content required of the Monthly Progress Report as identified in the Contract Management Plan (refer to Section D.2 of these TOR).
5	Quarterly Report	At the end of each quarter before the 15th of each quarter	A summary of the progress of the project (physical, financial, safeguards...), work completed, and any problems encountered during the quarter
6	Environmental and Social Safeguard Reports		The deliverables should include, as appropriate: • an E&S supervision and monitoring plan; • an E&S compliance matrix linked to the ESCP, legal agreements, E&S instruments, and works contracts; • monthly contractor and PMCSC E&S performance reports; • consolidated semiannual E&S monitoring reports in the format agreed with ADB; • sectional E&S readiness or site-handover verification reports; • land acquisition and resettlement implementation and completion reports; • livelihood-restoration monitoring reports; • incident investigation and corrective action reports; • stakeholder engagement and grievance reports; • E&S input to design-change and variation assessments; and • an E&S completion and lessons-learned report.
7	Works Completion Report	Prior to overall completion of construction works	• Short description of achievements including problems encountered and recommendations. • A final invoice for the Works and a financial report accompanies by an expenditure verification report. • Copies of the Taking-Over Certificate and documentation of the Taking-Over procedure • Verified "as-built" drawings and other documents required, prepared by the Contractor, showing all revisions to the design of the Works. • Analysis of cost of the completed Works. • Analysis of actual progress of the Works, including details of reasons for delays and/or extensions of time.

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			• Commissioning reports for plant and equipment components • Register of permits • Register of insurances • Register of performance securities • Register of variations. • Review of site safety procedures, any problems and recommendations for improvements. • Overview of Contractor's working practices and resources. • Assessment of quality of materials and workmanship.
8	DNP Reports	30 days after the end of the first year of the DNP Plus immediately after any mission	• Details on the Project's status, any defect found and recommendations to resolve the defect, and details of any resolved defects
9	Final DNP Report	15 days before the end of the DNP	• Details of all remedial works carried out by the Contractor to rectify any defects found and any remaining defects still to be corrected • Updated financial reporting • Updates to the information contained in the Works Completion Report
10	Project Completion Report	At the end of the Project	Historical record during the whole duration of the Project until the end of the Defects Notification Period. The reports shall include the information required for the Project Completion Report to be submitted to ADB
11	Ad-Hoc Reports	As required by the Client or due to a project circumstance	Content dependent on the nature of the report and shall be agreed upon with the Client.

204. The following additional reports shall also be submitted by the Consultant.

1.	Training Plan	Within two months after the commencement of the services and update annually	• Objective of the training program with reference to these TOR • Tentative schedule of training program • Training methodology and activities • Content of training • Location and number of participants etc. • Proposed trainers' qualifications and experience
2.	Training Execution and Evaluation Report	Within three months after completion of training	• Training record • Evaluation and feedback • Certification • Summary of training requirements from the contractor(s) and the real actions taken • Subject to reinforce for future projects
3.	As-Built Drawings	At the completion of each Package	• Final record drawings reflecting all changes made during construction,

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			suitable for the Employer's asset management system.
4.	Interface Management Plan (IMP)	Within 2 months of commencement	• Governance framework, interface ownership matrix, IDS format, ICC format, dispute resolution protocol, escalation path.
5.	Civil Pre-Requisites Register	Within 3 months of commencement; updated monthly	• Full matrix of S&T activities vs. civil pre-requisites, completion status by chainage, certificate tracking.
6.	Master Testing and Commissioning Plan (MTCP)	Not later than 6 months before first System Integration Testing	• In accordance with the requirements of the TOR.
7.	Any other report or deliverable required under these Terms of Reference.	As required	In accordance with the requirement of the TORs.

205. In addition to the reports and other deliverables identified above, the Consultant will prepare and maintain full and proper records of all meetings and discussions and shall upload in PMIS.

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G. TEAM COMPOSITION AND QUALIFICATION REQUIREMENTS

G.1 Consultant team requirements

206. The Consultant shall retain personnel, with the required minimum qualifications, for the tasks described in these TOR, including but not limited to the following disciplines:

- Project management
- Project planning and scheduling
- Financial management and disbursement
- Contract administration
- Environmental and social impact assessment and management
- Quality assurance and audit
- Claims assessment
- Monitoring / supervision of construction works
- Construction safety
- Technical expertise / engineering

207. The Consultant shall prepare a Deployment Schedule of their experts for the entire period of the implementation of the Project. Depending on the pace of the progress on the project, the Client may require the Consultant to adjust and regulate the engagement and deployment of its experts. The Consultant shall consider the prospective peaks of the construction activities and ensure the adequacy of staff levels during such periods.

208. The staffing structure specified herein represents the minimum staffing requirements considered necessary for effective implementation of the assignment. The Consultant shall remain fully responsible for assessing actual project requirements and shall deploy additional personnel, specialists, inspectors, technicians, survey teams, testing personnel, document controllers, administrative support staff, and other resources as necessary to successfully discharge its obligations under the Contract without additional cost to the Employer.

209. The Deployment Schedule shall be submitted with the Inception Report and thereafter updated quarterly or whenever significant changes occur in Project implementation arrangements, construction sequencing, commissioning activities, or staffing requirements.

210. The Client reserves the right to require adjustments to staffing levels, deployment locations, reporting arrangements, and mobilization schedules where such changes are reasonably required to reflect Project progress, emerging risks, implementation challenges, additional work fronts, commissioning requirements, or operational needs.

211. It is expected that during the discharge of its duties, the Consultant will apply international best practice in all fields including, but not limited to, the areas of environmental, health and safety, and social safeguards best practice and the promotion of gender equality.

212. All key personnel shall be fluent in English and be fully computer literate. Knowledge of the Local Language will be considered an asset.

213. The Consultant shall progressively mobilize Testing and Commissioning personnel in accordance with the approved implementation programme, construction progress, and commissioning schedule. Staffing levels shall be increased during periods of peak testing, system integration, dynamic testing, trial operations, and commissioning to ensure adequate supervision, coordination, and timely completion of testing and commissioning activities across all Civil Works contracts/lots and the Signalling & Telecommunications Contract.

214. The E&S scope, staffing requirements, level of effort, deliverables, institutional arrangements, and reporting requirements set out in these TOR constitute the basis for the Consultant's proposal and financial offer. The Consultant shall be responsible for providing and managing appropriately qualified E&S personnel and resources necessary to satisfactorily perform the Services, taking into account the approved E&S assessments, ESCP, applicable ESSs, procurement packaging, works-contract requirements, implementation arrangements, E&S risks, construction progress, and active work fronts. The staffing identified in these TOR represents the minimum staffing requirements. The Consultant shall organize and, where necessary, redeploy its E&S personnel to meet the

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requirements of the Services and shall provide additional resources, where required, within its contractual responsibilities

G.2 Key Expert Requirements

215. Summary of the Expert Requirements is shown below:

Table 3: Expert Requirements

No.	Position	Number of Experts	Input (person-month)	No.	Position	Number of Experts	Total Input Person Months
A.	**International key experts**			**B.**	**National Key Experts**		
1.	Team Leader / The Engineer	1	72	1.	Deputy Team Leader/The Engineer Representative	1	72
2.	General Manager Construction	1	56	2.	Planning & Scheduling Specialist	1	48
3.	Senior Contract Management & Claims Specialist	1	56	3.	Commercial/ Costing Manager	1	56
4.	Senior Railway Track & Permanent Way Specialist	1	36	4.	Senior Manager Design Coordination	1	36
5.	Senior Railway Systems Integration & Interface Specialist	1	36	5.	Interface Management Engineer	1	36
6.	Senior Signaling & Telecom Specialist	1	56	6.	Track & Permanent Way Engineer	1	36
7.	Senior Bridge & Structural Specialist	1	36	7.	Senior Bridge & Structural Engineer	1	36
8.	Senior Geotechnical & Earthworks Specialist	1	36	8.	Senior Geotechnical & Earthworks Engineer	1	36
9.	Senior Environmental Specialist	1	24	9.	Senior signallling Engineer	1	56
10.	Senior Social Safeguards & Resettlement Specialist	1	24	10.	Senior Telecommunications Engineer	1	56
11.	Senior Project Management Specialist	1	48	11.	Environmental Specialist	1	42
12.	Senior Project Control Specialist	1	48	12.	Social Safeguards Specialist	1	42
13.	Senior Planning & Scheduling Specialist	1	48	13.	Occupational Health & Safety Specialist	1	42
14.	Senior Capacity	1	36	14	Railway Communications	1	56

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	Development and Training Specialist				Systems Specialist		
	Subtotal (International Key Experts)-Person Month	**14**	**612**		**Subtotal (National Key Experts)-Person Month**	**14**	**650**
C.	**Non-key experts (International)**				**Non-key experts (National)- Field Staff**		
1.	Chief Resident Engineer – CW-01	1	30	1.	Resident Engineers	8	360
2.	Chief Resident Engineer – CW-02 Lot-1	1	48	2.	Assistant Resident Engineers	16	720
3.	Chief Resident Engineer – CW-02 Lot-2	1	48	3.	Track Engineers	10	360
4.	Chief Resident Engineer – CW-02 Lot-3	1	48	4.	Claim Expert	8	336
5.	Chief Resident Engineer (S&T)	1	42	5.	Railway Operations and Traffic Management Engineers	5	120
6.	Testing & Commissioning Specialist	1	24	6.	Railway Embankment Engineers	10	240
7.	Railway Operations & Maintenance Specialist	1	36	7.	Structural Engineers	12	288
8.	Station, Building & MEP Specialist	1	18	8.	Bridge Engineers	10	360
9.	Senior Architect	1	18	9.	Surveyors	12	432
10.	Railway Turnout & Yard Design Specialist	1	36	10.	Material Engineers	14	504
11.	Drainage, Hydrology & Flood Protection Specialist	1	24	11.	QA/QC Engineers	14	504
12.	RAMS (Reliability, Availability, Maintainability, Safety) Specialist	1	24	12.	Planning Engineers	8	336
13.	Independent QA/QC & Materials Compliance Specialist	1	36	13.	Environmental Inspectors	6	252
14.	Signalling Interlocking telecom Design Expert	1	36	14.	OHS Inspectors	6	252
15.	Financial	1	36	15	Social safeguard	6	252

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	Management and Reporting Specialist				Experts		
16.	Railway Safety Expert	1	36	16	Community liaison and stakeholder-engagement officers	2	72
17.	Testing & Commissioning Specialist (S&T Systems)	1	24	17	land acquisition/resettlement Experts	6	216
18.	Dynamic Testing Specialist	1	18	18	livelihood-restoration specialists	6	216
				19	Labour and Working Conditions Expert	6	216
				20	GRM and social database specialist	2	72
				21	Gender, Disability Inclusion, and SEAH Expert	2	72
				22	Cultural Heritage Specialist	2	72
				23	Biodiversity Expert	2	72
				24	Security Expert	2	72
				25.	Signalling Engineers	2	84
				26.	Testing Engineers including S&T	6	144
				27.	Interface Engineers	8	336
				28.	Hydrology & Drainage Specialist	6	108
				29.	Electrical Systems Design Expert	6	108
				30.	Senior Planning Engineers	2	72
				31.	Station Building Architects	5	90
				32.	Site Inspectors (Civil & MEP etc.)	30	1260
				33.	HSE Inspectors	10	420
				34.	CAD Engineers	24	1008
				35.	Railway Safety Inspectors	12	432
				36.	PMIS Experts	6	216
				37.	GIS Specialist	2	48
				38.	Lab technicians	24	1008
				39	Telecom Engineers	4	168
				40	Signalling & Telecom System Supervisors	4	168
	Subtotal (International Non- Key Experts)- Person Month	**18**	**582**		**Subtotal (National Non- Key Experts)- Person Month**	**326**	**12,066**
	Support staff						
				1.	Office Managers	10	56
				2.	Document Controllers	16	56
				3.	Finance Officers	4	56
				4.	HR Officers	2	36
				5.	Office Assistants	21	56
				6.	IT Assistants	8	56
				7.	Guards	12	72
				8.	Office Boys	16	42
				9.	Cooks	3	42

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				10.	Cleaners	10	42
					Subtotal (Support Staff)- Person Month	**102**	**5458**

216. The qualifications and experience required for key experts are given in the tables below.

Table 4: Requirements for Key International Experts

No.	Position	Education and Qualification Requirements	Expected Inputs (months)
1	Team Leader / The Engineer	Bachelor Degree in Railway Engineering, Civil Engineering, Transportation Engineering, Construction Management, or related field. Minimum 20 years of professional experience, including at least 15 years in railway infrastructure projects and 10 years in leadership roles for PMCSC/Engineer assignments under FIDIC conditions of contract. Experience on at least two major railway construction supervision assignments involving track, structures, and railway systems. MDB-financed project experience preferred. Demonstrated experience in the administration and supervision of civil works and/or railway infrastructure contracts under the FIDIC Conditions of Contract for Construction (Red Book 2017), including administration of contractual procedures, extensions of time, payment certification, performance monitoring, taking-over, defects management, and dispute avoidance/resolution.	72
2	General Manager Construction	Bachelor's degree in civil engineering, Railway Engineering, or Construction Management. Minimum 20 years of experience in construction management of major railway, transport, or linear infrastructure projects, including at least 10 years in senior management roles. Experience managing multiple contracts simultaneously. Demonstrated experience in the administration and supervision of civil works and/or railway infrastructure contracts under the FIDIC Conditions of Contract for Construction (Red Book 2017), including administration of contractual procedures, extensions of time, payment certification, performance monitoring, taking-over, defects management, and dispute avoidance/resolution. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	56
3	Senior Contract Management & Claims Specialist	Degree in Civil Engineering, Quantity Surveying, Construction Law, or related field. Minimum 18 years of experience in contract administration under FIDIC contracts, including claims management, dispute resolution, variations, EOT assessments, and arbitration support. Railway project experience preferred. Demonstrated experience in the administration and supervision of civil works and/or railway infrastructure contracts under the FIDIC Conditions of Contract for Construction (Red Book 2017) and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017), including administration of	56

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		contractual procedures, claims, variations, extensions of time, payment certification, performance monitoring, taking-over, defects management, and dispute avoidance/resolution. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	
4	Senior Railway Track & Permanent Way Specialist	Degree in Railway Engineering or Civil Engineering. Minimum 18 years of experience in railway track design, construction, rehabilitation, turnouts, yards, ballast track systems, and maintenance. Experience on major railway corridors is mandatory. Demonstrated experience in the supervision of civil works and/or railway infrastructure contracts under the FIDIC Conditions of Contract for Construction (Red Book 2017). and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017), Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	36
5	Senior Railway Systems Integration & Interface Specialist	Degree in Railway Systems Engineering, Electrical Engineering, Electronics Engineering, or related field. Minimum 18 years of experience in railway systems integration and multidisciplinary interface management including Signaling and Telecommunication. Experience in large railway modernization projects required. Demonstrated experience in the supervision of interface works of railway infrastructure under the FIDIC Conditions of Contract for Construction (Red Book 2017). Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	36
6	Senior Signaling & Telecom Specialist	Degree in Electronics Engineering, Electrical Engineering, Telecommunications Engineering, Signaling Engineering, or related field. Minimum 18 years of experience in railway signaling and telecommunications systems including ABS, interlocking, train control, telecom networks, and testing and commissioning. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	56
7	Senior Bridge & Structural Specialist	Master's Degree in Structural Engineering. Minimum 18 years of experience in railway bridges, ROBs, RUBs, viaducts, culverts, retaining structures, and structural rehabilitation works. Experience in railway bridge construction supervision required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	36
8	Senior Geotechnical & Earthworks Specialist	Master's Degree in Geotechnical Engineering. Or Geological Engineering Minimum 18 years of experience in railway earthworks, embankments, foundations, slope stabilization, drainage, and ground improvement works. Experience on ADB-financed or other MDB-	36

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		financed infrastructure projects will be an advantage.	
9	Senior Environmental Specialist	Master's degree in environmental engineering, Environmental Sciences, or related field. Minimum 15 years of experience in environmental safeguards implementation on major infrastructure projects, including MDB-financed projects. The Senior Environmental Specialist shall have demonstrated experience in: • implementation and supervision of environmental requirements on large and complex linear infrastructure projects (preferably railway, highway, or other transport infrastructure); • implementation of Environmental and Social Commitment Plans (ESCPs) and integrated Environmental and Social Management Systems, including Environmental and Social Management Plans (ESMPs); • contractor environmental management and supervision across multiple contracts and geographically dispersed work fronts; • environmental aspects of labour and working conditions, occupational health and safety (OHS), community health and safety, stakeholder engagement, grievance management, biodiversity management, cultural heritage/chance finds, and pollution prevention; • management of environmental incidents, unanticipated impacts, non-compliance, corrective action plans, and adaptive management measures during construction; • environmental monitoring, auditing, compliance reporting, and coordination with government authorities and MDBs.	24
10	Senior Social Safeguards & Resettlement Specialist	Master's degree in social sciences, Sociology, Anthropology, Development Studies, or related field. Minimum 15 years of experience involuntary resettlement, stakeholder engagement, land acquisition, livelihood restoration, and social safeguards implementation on MDB-financed projects. The Senior Social Safeguards & Resettlement Specialist shall have demonstrated experience in: • implementation of social requirements on large and complex linear infrastructure projects (preferably railway, highway, or other transport infrastructure); • preparation and/or implementation of	24

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		Environmental and Social Commitment Plans (ESCPs) and integrated Environmental and Social Management Systems; • land acquisition, involuntary resettlement, economic displacement, livelihood restoration, and implementation of resettlement plans; • stakeholder engagement, grievance redress mechanisms, labour and working conditions, community health and safety, social inclusion, and management of gender-based risks, including prevention of sexual exploitation, abuse and harassment (SEAH); • management of social incidents, unanticipated impacts, corrective action plans, and adaptive management during project implementation; • supervision of multiple contractors and geographically dispersed construction work fronts, including monitoring of contractors' compliance with environmental and social obligations, documentation, reporting, and coordination with government agencies and MDBs.	
11	Senior Project Management Specialist	Master's degree in engineering, Project Management, Construction Management, or related field. Minimum 18 years of experience managing large-scale infrastructure projects. Professional certification in project management preferred (e.g., PMP). Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	48
12	Senior Project Control Specialist	Degree in Engineering, Construction Management, Quantity Surveying, or related field. Minimum 15 years of experience in project controls, cost control, earned value management, risk analysis, reporting systems, and PMIS implementation. Experience on large infrastructure projects required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	48
13	Senior Planning & Scheduling Specialist	Degree in Engineering or Construction Management. Minimum 15 years of experience in planning and scheduling of major railway or transport infrastructure projects. Advanced proficiency in Primavera P6 and schedule risk analysis tools required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	48
14.	Senior Capacity Development and Training Specialist	Master's degree or equivalent in Human Resource Development, Organizational Development, Railway Engineering, Civil Engineering, Project Management, or a related discipline. A bachelor's degree in the above disciplines with additional relevant professional	36

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		experience may be considered. Minimum 20 years of professional experience in institutional capacity development, organizational strengthening, training management, or knowledge transfer for large infrastructure projects, including at least 10 years of experience in developing and implementing capacity development and training programs for government agencies or public sector institutions. Demonstrated experience in carrying out institutional capacity needs assessments, preparing capacity development frameworks and training strategies, designing competency-based training programs, developing training materials, monitoring and evaluating training effectiveness, and managing multidisciplinary capacity development initiatives. Experience in coordinating and monitoring training obligations across multiple civil works, systems, and consulting contracts, and in establishing training implementation and compliance monitoring systems will be highly preferred. The expert shall have demonstrated experience on at least one (1) major railway infrastructure project involving the design, development, implementation, and monitoring of railway systems operation and maintenance training and institutional capacity-building programs. Such experience shall include one or more railway disciplines, including track maintenance, signaling and telecommunications, railway operations, rolling stock maintenance, traction power, or other relevant railway systems, and should demonstrate successful knowledge transfer and institutional strengthening of the client organization. Experience on railway infrastructure projects financed by multilateral development banks (such as ADB, World Bank, AIIB, JICA, EIB, AFD, or similar development partners) and familiarity with their institutional capacity development, knowledge transfer, and training requirements will be considered an advantage. Excellent communication, facilitation, report writing, and coordination skills, with proven ability to work effectively with government agencies, contractors, consultants, and development partners.	

Table 5: Requirements for Key National Experts

1	Deputy Team Leader/The Engineer Representative	Bachelor's or master's degree in civil engineering, Railway Engineering, Transportation Engineering, Construction Management, or related field. Minimum 18	72

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		years of professional experience, including at least 10 years in railway infrastructure projects. Must have served as Resident Engineer, Deputy Team Leader, Engineer's Representative, or similar role on at least one major railway construction supervision assignment. Experience with FIDIC contract administration and MDB-financed projects preferred. Demonstrated experience in the administration and supervision of civil works and/or railway infrastructure contracts under the FIDIC Conditions of Contract for Construction (Red Book 2017), including administration of contractual procedures, extensions of time, payment certification, performance monitoring, taking-over, defects management, and dispute avoidance/resolution.	
2	Planning & Scheduling Specialist	Bachelor's or master's degree in civil engineering, Railway Engineering, Construction Management, or related field. Minimum 15 years of experience in planning and scheduling infrastructure projects, including at least 8 years on railway projects. Demonstrated experience in Primavera P6, delay analysis, schedule risk analysis, and claims support. Experience reviewing contractor schedules for railway corridors, track works, structures, and systems contracts is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	48
3	Commercial/ Costing Manager	Bachelor's degree in civil engineering, Quantity Surveying, Construction Management, or related discipline. Minimum 15 years of experience in contract administration, quantity surveying, cost control, payment certification, variations, and claims management, including at least 5 years on railway infrastructure projects. Familiarity with FIDIC contracts is essential. Demonstrated experience in the administration and supervision of civil works and/or railway infrastructure contracts under the FIDIC Conditions of Contract for Construction (Red Book 2017). Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	56
4	Senior Manager Design Coordination	Bachelor's or master's degree in civil engineering, Railway Engineering, Structural Engineering, or related discipline. Minimum 15 years of experience in multidisciplinary design management and construction support, including at least 8 years on railway projects. Experience coordinating civil, track, bridge, signaling, telecom, and station designs is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	36
5	Interface Management Engineer	Bachelor's degree in civil, Railway, Electrical, Electronics, or Systems Engineering. Minimum 12 years of professional experience including at least 5 years in railway interface management.	36

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		Experience in managing interfaces between civil works, track, signaling, telecom, utilities, operations, and stakeholders is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	
6	Track & Permanent Way Engineer	Bachelor's degree in civil engineering or Railway Engineering. Minimum 12 years of experience in railway track design, construction, rehabilitation, maintenance, or supervision, including experience with track geometry, ballast, sleepers, rail welding, turnouts, and yards. Participation in at least one railway construction project is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	36
7	Senior Bridge & Structural Engineer	Bachelor's or master's degree in Structural Engineering or Civil Engineering. Minimum 12 years of experience in bridge and structural works, including at least 5 years on railway bridges, ROBs, RUBs, culverts, retaining structures, or similar railway infrastructure. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	36
8	Senior Geotechnical & Earthworks Engineer	Bachelor's or master's degree in Geotechnical Engineering or Civil Engineering or Geological Engineering. Minimum 12 years of experience in earthworks, embankments, foundations, slope stabilization, drainage, and ground improvement works, including experience on railway infrastructure projects. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	36
9	Senior Signaling Engineer	Bachelor's Degree in Electronics Engineering, Electrical Engineering, Signaling Engineering, or Railway Systems Engineering. Minimum 12 years of experience in railway signaling systems, including interlocking, train control, signaling design review, installation, testing, and commissioning. Experience on at least one railway signaling project is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	56
10	Senior Telecommunications Engineer	Bachelor's Degree in Telecommunications Engineering, Electronics Engineering, Electrical Engineering, or related field. Minimum 12 years of experience in railway telecommunications systems, including fiber optic networks, transmission systems, communication equipment, control center communications, and testing activities Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	56
11	Environmental Specialist	Master's degree in environmental sciences, Environmental Engineering, Natural Resources Management, or related discipline. Minimum 10 years of professional experience, including at least 5 years on railway, transport, or major	42

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		infrastructure projects. Experience with ADB safeguard requirements and environmental monitoring is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	
12	Social Safeguards Specialist	Master's Degree in Sociology, Social Sciences, Anthropology, Development Studies, or related field. Minimum 10 years of experience involuntary resettlement, stakeholder engagement, livelihood restoration, and social safeguards implementation, including experience on transport or railway projects. Familiarity with ADB safeguard requirements is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	42
13	Occupational Health & Safety Specialist	Bachelor's degree in engineering or occupational safety and health, supplemented by internationally recognized HSE certification (e.g., NEBOSH, IOSH, CSP, or equivalent). Minimum 10 years of experience in occupational health and safety management on major infrastructure projects, including at least 5 years on railway, transport, or linear infrastructure projects. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	42
14.	Railway Communications Systems Specialist	Bachelor's Degree in Telecommunications Engineering, Electronics Engineering, Electrical Engineering, Railway Systems Engineering, or a related field. Minimum 15 years of experience in railway telecommunications systems design, installation, supervision, testing, and commissioning, including at least 10 years on mainline railway, metro, or high-speed rail projects. Experience with GSM-R/FRMCS, fiber optic networks, operational communications, and integrated railway systems is required. Experience on ADB-financed or other MDB-financed infrastructure projects will be an advantage.	56

217. Curriculum Vitae (CV) must be provided with the Consultant's proposal for all key expert positions. Proposal evaluation will be based on all international positions and for national positions identified in Table 4 and Table 5.

218. Curriculum Vitae (CV) for International Non-Key Experts must be provided with the consultant proposal and will be evaluated on pass fail basis. The Table 7 below identified the International Non-Key Experts positions.

G.3 International Non-Key Expert Requirements

Table 7: Requirements for International Non- Key National Experts

No.	Position	Education and Qualification Requirements	Expected Inputs (months)
1	Chief Resident Engineer – CW-01	Bachelor's degree in civil engineering or Railway Engineering. Minimum 15 years of professional experience, including at least 8 years on railway infrastructure projects and	30

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		experience as Resident Engineer, Chief Resident Engineer, Construction Manager, or similar role on at least one major railway construction project. Familiarity with FIDIC contracts required. Demonstrated experience in a similar senior construction supervision role on major railway or linear infrastructure projects implemented under the FIDIC Conditions of Contract for Construction (Red Book 2017) and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017). The expert shall have proven experience in contract administration, including administration of the Engineer's duties, payment certification, variations, claims, extensions of time (EOT), quality management, testing and commissioning, taking-over, defects management, and dispute avoidance/resolution. Experience on ADB-financed or other MDB-financed infrastructure projects will be highly desirable.	
2	Chief Resident Engineer – CW-02 Lot-1	Bachelor's degree in civil engineering or Railway Engineering. Minimum 15 years of professional experience, including at least 8 years on railway infrastructure projects and experience as Resident Engineer, Chief Resident Engineer, Construction Manager, or similar role on at least one major railway construction project. Familiarity with FIDIC contracts required. Demonstrated experience as a Chief Resident Engineer, Resident Engineer, Deputy Chief Resident Engineer, Engineer's Representative, or in a similar senior construction supervision role on major railway or linear infrastructure projects implemented under the FIDIC Conditions of Contract for Construction (Red Book 2017) and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017). The expert shall have proven experience in contract administration, including administration of the Engineer's duties, payment certification, variations, claims, extensions of time (EOT), quality management, testing and commissioning, taking-over, defects management, and dispute avoidance/resolution. Experience on ADB-financed or other MDB-financed infrastructure projects will be highly desirable.	48
3	Chief Resident Engineer – CW-02 Lot-2	Bachelor's degree in civil engineering or Railway Engineering. Minimum 15 years of professional experience, including at least 8 years on railway infrastructure projects and experience as Resident Engineer, Chief Resident Engineer, Construction Manager, or similar role on at least one major railway construction project. Familiarity with FIDIC contracts required. Demonstrated experience as a Chief Resident Engineer, Resident Engineer, Deputy Chief Resident Engineer, Engineer's Representative, or in a similar senior	48

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		construction supervision role on major railway or linear infrastructure projects implemented under the FIDIC Conditions of Contract for Construction (Red Book 2017) and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017). The expert shall have proven experience in contract administration, including administration of the Engineer's duties, payment certification, variations, claims, extensions of time (EOT), quality management, testing and commissioning, taking-over, defects management, and dispute avoidance/resolution. Experience on ADB-financed or other MDB-financed infrastructure projects will be highly desirable.	
4	Chief Resident Engineer – CW-02 Lot-3	Bachelor's degree in civil engineering or Railway Engineering. Minimum 15 years of professional experience, including at least 8 years on railway infrastructure projects and experience as Resident Engineer, Chief Resident Engineer, Construction Manager, or similar role on at least one major railway construction project. Familiarity with FIDIC contracts required. Demonstrated experience as a Chief Resident Engineer, Resident Engineer, Deputy Chief Resident Engineer, Engineer's Representative, or in a similar senior construction supervision role on major railway or linear infrastructure projects implemented under the FIDIC Conditions of Contract for Construction (Red Book 2017) and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017). The expert shall have proven experience in contract administration, including administration of the Engineer's duties, payment certification, variations, claims, extensions of time (EOT), quality management, testing and commissioning, taking-over, defects management, and dispute avoidance/resolution. Experience on ADB-financed or other MDB-financed infrastructure projects will be highly desirable.	48
5	Chief Resident Engineer (S&T)	Bachelor's degree in electrical engineering, Electronics Engineering, Telecommunications Engineering, Railway Systems Engineering, Control Engineering, or another relevant engineering discipline. Minimum 15 years of professional experience, including at least 8 years of experience in railway signalling and telecommunications (S&T) projects, covering design review, installation, testing, commissioning, and construction supervision of railway signalling, interlocking, train detection, telecommunications, centralized traffic control (CTC), ETCS/CBTC or other modern railway control systems, as applicable. The expert shall have served as Chief Resident Engineer (S&T), Resident Engineer (S&T), Deputy Chief Resident Engineer (S&T), S&T Construction	42

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		Manager, Engineer's Representative (S&T), or in a similar senior supervision role on at least one major railway infrastructure project. The expert shall have demonstrated experience in construction supervision under the FIDIC Conditions of Contract for Construction (Red Book 2017) and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017). Proven experience is required in contract administration related to S&T works, including administration of the Engineer's duties, review of contractor submissions, payment certification, variations, claims, extensions of time (EOT), quality assurance and quality control (QA/QC), interface management, systems integration, testing and commissioning, trial operations, taking-over, defects management, and dispute avoidance/resolution. Experience in supervising the implementation of computer-based interlocking (CBI), automatic block signalling, axle counters or track circuits, centralized traffic control (CTC), telecommunications systems (including fiber optic networks, GSM-R/LTE-R or equivalent railway communication systems), SCADA interfaces, and integrated railway systems will be highly desirable, as applicable to the project. Experience on ADB-financed or other MDB-financed railway infrastructure projects will be highly desirable.	
6	Testing & Commissioning Specialist (Civil)	Bachelor's Degree in Railway Engineering, Electrical Engineering, Electronics Engineering, Mechanical Engineering, or related discipline. Minimum 12 years of experience including testing and commissioning of railway infrastructure, track, stations, depots, or railway systems. Experience on at least one railway project required. Demonstrated experience in testing and commissioning of railway civil infrastructure under FIDIC Red Book 2017 and/or Yellow Book 2017 contracts. Experience on ADB-financed or other MDB-financed projects will be an advantage.	24
7	Railway Operations & Maintenance Specialist	Bachelor's Degree in Railway Engineering, Transportation Engineering, Mechanical Engineering, or related discipline. Minimum 12 years of professional experience in railway operations, maintenance planning, asset management, railway operations support, or railway network management. Experience on passenger, freight, or mixed-traffic railways required.	36
8	Station, Building & MEP	Bachelor’s degree in civil engineering,	18

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
	Specialist	Mechanical Engineering, Electrical Engineering, Building Services Engineering, or related discipline. Minimum 12 years of experience in stations, railway buildings, depots, maintenance facilities, and MEP systems. Experience on railway, metro, or transport infrastructure projects preferred. Experience on ADB-financed or other MDB-financed projects will be an advantage.	
9	Senior Architect	Bachelor's degree in architecture. Minimum 12 years of experience in transport infrastructure, railway stations, public buildings, institutional facilities, or similar projects. Railway or metro station experience preferred. Experience on ADB-financed or other MDB-financed projects will be an advantage.	18
10	Railway Turnout & Yard Design Specialist	Bachelor's Degree in Railway Engineering or Civil Engineering. Minimum 12 years of experience in railway turnouts, crossings, yards, depots, maintenance facilities, track layouts, and operational planning. Participation in at least one railway project involving turnout or yard design/review required. Experience on ADB-financed or other MDB-financed projects will be an advantage.	36
11	Drainage, Hydrology & Flood Protection Specialist	Bachelor's degree in civil engineering, Geological Engineering, Water Resources Engineering, Hydraulic Engineering, or Hydrology. Minimum 12 years of experience in drainage design, hydrological assessments, flood protection, stormwater management, and transport infrastructure projects. Experience on railway or linear infrastructure projects preferred. Experience on ADB-financed or other MDB-financed projects will be an advantage.	24
12	RAMS (Reliability, Availability, Maintainability, Safety) Specialist	Bachelor's Degree in Railway Engineering, Systems Engineering, Electrical Engineering, Electronics Engineering, or related discipline. Minimum 12 years of railway experience including RAMS assessments, system assurance, safety management, operational readiness, or railway systems integration. Experience on ADB-financed or other MDB-financed projects will be an advantage.	24
13	Independent QA/QC & Materials Compliance Specialist	Bachelor's Degree in Geological Engineering, Civil Engineering, Materials Engineering, Structural Engineering, or related discipline. Minimum 12 years of experience in quality assurance, quality control, material testing, laboratory management, and construction supervision. Experience on railway or major transport infrastructure projects preferred. Experience on ADB-financed or other MDB-financed projects will be an advantage.	36
14	Signaling Interlocking telecom Design Expert (Independent Auditor role)	Bachelor's Degree in Signaling Engineering, Electronics Engineering, Electrical Engineering, Telecommunications Engineering, or Railway Systems Engineering. Minimum 12 years of railway signaling and telecom experience	36

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		including Autoblock, interlocking systems, train control systems, telecom networks, design assurance, and safety-critical reviews. Experience on ADB-financed or other MDB-financed projects will be an advantage.	
15	Financial Management and Reporting Specialist	Business Administration, or related field. Professional qualification such as CA, ACCA, CPA, CMA, or equivalent required. Minimum 12 years of experience in financial management, project accounting, financial reporting, budgeting, and financial monitoring of major infrastructure projects. MDB-financed project experience preferred. Experience on ADB-financed or other MDB-financed projects will be an advantage.	36
16	Railway Safety Expert	Bachelor's Degree in Railway Engineering, Systems Engineering, Electrical Engineering, Mechanical Engineering, or related discipline. Minimum 15 years of railway experience including railway safety management, operational safety, safety certification, accident investigation, safety audits, or railway operations. Experience on at least one operational railway system required. Experience on ADB-financed or other MDB-financed projects will be an advantage.	36
17	Testing & Commissioning Specialist (S&T Systems)	Bachelor’s degree in electrical engineering, Electronics Engineering, Telecommunications Engineering, Railway Engineering, or a related field. Minimum 15 years of experience in testing and commissioning of railway signaling and telecommunications systems, including at least 10 years on major railway projects. Experience in system integration testing, trial operations, operational readiness, FAT, SAT, SIT, and commissioning of signaling and telecommunications systems is required. Experience on ADB-financed or other MDB-financed projects will be an advantage.	24
18	International Dynamic Testing Specialist	Bachelor's Degree in Railway Engineering, Civil Engineering, Electrical Engineering, Electronics Engineering, Mechanical Engineering, Systems Engineering, or another relevant engineering discipline. A Master's degree in a relevant field will be an advantage. Minimum 15 years of professional experience, including at least 10 years in railway systems testing, dynamic testing, testing and commissioning, and operational readiness for major railway infrastructure projects. Demonstrated experience as a Lead Testing and Commissioning Specialist, Dynamic Testing Specialist, Systems Integration and Testing Specialist, Testing Manager, Commissioning Manager, Engineer's Representative, or in a similar senior role on at least one major railway project involving integrated testing and commissioning. The expert shall have proven experience in	18

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No.	Position	Education and Qualification Requirements	Expected Inputs (months)
		planning, supervising, and certifying dynamic testing programmes, including verification of track geometry, ride quality, track-vehicle interaction, system integration, operational scenario testing, trial running, and commissioning of integrated railway systems. Demonstrated experience under the FIDIC Conditions of Contract for Construction (Red Book 2017) and/or the FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017) is required, including administration of the Engineer's responsibilities related to testing and commissioning, review of testing procedures, witnessing tests, certification of results, management of non-conformities, corrective actions, re-testing, taking-over, and operational readiness. Experience on ADB-financed or other MDB-financed railway infrastructure projects will be highly desirable.	

G.4 National Non-Key Expert Requirements

219. The Consultant shall also select and engage non-key experts as considered necessary for the Consultant to perform the task in a technically sound and timely manner defined in these TOR. The Non-Key National Experts identified in Table 4 represent the minimum staffing requirements considered essential for the assignment and shall be made available by the Consultant. However, the list is not intended to be exhaustive and shall not relieve the Consultant of its responsibility to assess the full scope, complexity, risks, implementation arrangements, and resource requirements of the Project.

220. The minimum education, qualification, and professional experience requirements for the Non-Key National Experts identified in Table 4 are provided in the following Table-8. The proposed Non-Key National Experts shall meet or exceed these minimum requirements.

221. The CVs of the proposed Non-Key National Experts shall be submitted as part of the Consultant's technical proposal and shall be reviewed on a **Pass/Fail basis** against the minimum education, qualification, and professional experience requirements specified in the table. The Non-Key National Experts shall not be scored individually as part of the technical evaluation.

222. Administrative and clerical support personnel, drivers and other camp support personnel are to be provided as required, and the cost of these is to be clearly included in the Consultant's cost proposals.

Table 8: Requirements for Non- Key National Experts

No.	Position	No. of Experts	Education and Qualification Requirements	Expected Input (Total Person months)
1	Resident Engineers	8	Bachelor's degree in civil engineering, Railway Engineering, or relevant engineering discipline. For REs assigned to S&T/signaling works, a bachelor's degree in electrical, Electronics, Telecommunications, Signaling, Railway Engineering, or a related discipline will also be acceptable. Minimum 15 years of professional experience, including at	360

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			least 8 years in construction supervision of major infrastructure projects. REs assigned to railway works shall have relevant railway construction and supervision experience; those assigned to S&T/signaling works shall have relevant experience in railway signaling and telecommunications systems.	
2	Assistant Resident Engineers	16	Bachelor's degree in civil engineering, Railway Engineering, or relevant engineering discipline. For AREs assigned to S&T/signaling works, a bachelor's degree in electrical, Electronics, Telecommunications, Signaling, Railway Engineering, or a related discipline will also be acceptable. Minimum 10 years of professional experience, including at least 5 years in construction supervision of major infrastructure projects. AREs assigned to railway works shall have relevant railway experience; those assigned to S&T/signalling works shall have relevant experience in railway signalling and telecommunications systems.	720
3	Track Engineers	10	Bachelor's degree in civil engineering, Railway Engineering, or related discipline. Minimum 8 years of professional experience, including at least 5 years in railway track construction, rehabilitation, maintenance or supervision. Experience with track geometry, rails, sleepers, ballast, welding, turnouts and yards is required.	360
4	Claim Experts	8	Bachelor's degree in civil engineering, Quantity Surveying, Construction Management, Law, or related discipline. Minimum 10 years of professional experience, including at least 5 years in construction claims, contract administration, variations, EOT and/or dispute management on major infrastructure projects. Experience with FIDIC contracts is required.	336
5	Railway Operations and Traffic Management Engineers	5	Bachelor's Degree in Railway Engineering, Civil Engineering, Transportation Engineering, or related discipline. Minimum 8 years of professional experience, including at least 5 years in railway operations, railway traffic management, construction under live railway operations, or railway safety/operations interface.	120
6	Railway Embankment Engineers	10	Bachelor's degree in civil engineering, Geotechnical Engineering, Geological Engineering, or related discipline. Minimum 8 years of experience in earthworks, embankments, foundations, ground improvement or related major infrastructure works, including relevant experience on railway or linear	240

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			infrastructure projects.	
7	Structural Engineers	12	Bachelor's degree in civil engineering or Structural Engineering. Minimum 8 years of professional experience in structural design, construction supervision or structural works on major infrastructure projects. Experience in railway structures is desirable.	288
8	Bridge Engineers	10	Bachelor's degree in civil engineering or Structural Engineering. Minimum 8 years of professional experience, including at least 5 years in bridge construction, rehabilitation or supervision on major infrastructure projects. Experience in railway bridges, ROBs, RUBs, culverts and retaining structures is required/desirable according to assignment.	360
9	Surveyors	12	Diploma or bachelor's degree in surveying, Geomatics, Civil Engineering, or related discipline. Minimum 5 years of experience in surveying for major infrastructure or linear infrastructure projects. Experience with total stations, GNSS/GPS, levelling and digital survey data is required.	432
10	Materials Engineers	14	Bachelor's degree in civil engineering, Materials Engineering, Geological Engineering, or related discipline. Minimum 7 years of experience in construction materials, material testing, quality control and construction supervision on major infrastructure projects.	504
11	QA/QC Engineers	14	Bachelor's degree in civil engineering or relevant engineering discipline. Minimum 7 years of experience in QA/QC and construction supervision on major infrastructure projects. Experience in inspection and testing plans, material approvals, NCRs and quality documentation is required.	504
12	Planning Engineers	8	Bachelor's degree in civil engineering, Construction Management, Planning, or related discipline. Minimum 7 years of experience in planning and scheduling of major infrastructure projects. Proficiency in Primavera P6 or equivalent scheduling software is required.	336
13	Environmental Inspectors	6	Bachelor's degree in environmental sciences, Environmental Engineering, Natural Resources Management, or related discipline. Minimum 5 years of experience in environmental monitoring and supervision on major infrastructure projects, preferably linear infrastructure. Experience in ESMP implementation, site inspection, contractor environmental compliance and reporting is required.	252
14	OHS Inspectors	6	Diploma or bachelor's degree in	252

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			occupational health and safety, Engineering, or related discipline, with relevant HSE training/certification. Minimum 5 years of experience in OHS/HSE inspection and supervision on major infrastructure or construction projects.	
15	Social Safeguards Experts	6	Bachelor's or master's degree in Sociology, Social Sciences, Anthropology, Development Studies, or related field. Minimum 7 years of professional experience in social safeguards, stakeholder engagement, resettlement, livelihood restoration and/or social monitoring on major infrastructure projects. Transport/railway experience is desirable.	252
16	Community Liaison and Stakeholder Engagement Officers	2	Bachelor's Degree in Sociology, Social Sciences, Development Studies, Communications, or related field. Minimum 5 years of experience in community liaison, stakeholder engagement, consultation and community-level grievance management on major infrastructure or linear infrastructure projects.	72
17	Land Acquisition/Resettlement Experts	6	Bachelor's or master's degree in social sciences, Sociology, Anthropology, Development Studies, Law, or related field. Minimum 7 years of experience in land acquisition, involuntary resettlement, compensation, asset surveys and/or implementation of resettlement plans on major infrastructure projects.	216
18	Livelihood Restoration Specialists	6	Bachelor's or master's degree in social sciences, Economics, Development Studies, Rural Development, Sociology, or related field. Minimum 7 years of experience in livelihood restoration, economic displacement, income restoration and/or socio-economic programs associated with major infrastructure projects.	216
19	Labour and Working Conditions Experts	6	Bachelor's or master's degree in social sciences, Labour Studies, Human Resources, Occupational Safety, Law, or related field. Minimum 7 years of experience in labour and working conditions, worker welfare, labour-management systems and/or contractor compliance on major infrastructure projects.	216
20	GRM and Social Database Specialists	2	Bachelor's degree in social sciences, Information Management, Data Management, Development Studies, or related field. Minimum 5 years of experience in grievance redress mechanisms, stakeholder databases, social monitoring systems and reporting for major infrastructure projects.	72
21	Gender, Disability	2	Bachelor's or master's degree in Gender	72

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	Inclusion and SEAH Experts		Studies, Social Sciences, Development Studies, Sociology, or related field. Minimum 7 years of experience in gender and social inclusion, disability inclusion, GBV/SEAH risk management and stakeholder/community programs on major infrastructure projects.	
22	Cultural Heritage Specialists	2	Bachelor's or master's degree in Archaeology, Anthropology, Cultural Heritage, History, or related field. Minimum 7 years of experience in cultural heritage management, archaeological monitoring, chance-find procedures and/or cultural heritage assessment on major infrastructure projects.	72
23	Biodiversity Experts	2	Bachelor's or master's degree in environmental sciences, Ecology, Biology, Natural Resources Management, Forestry, or related field. Minimum 7 years of experience in biodiversity/ecological assessment, monitoring and mitigation on major infrastructure projects, preferably linear infrastructure.	72
24	Security Experts	2	Bachelor's degree in security management, Law, Risk Management, Criminology, or related discipline. Minimum 7 years of experience in security risk assessment, security management and/or site security arrangements for major infrastructure projects with geographically dispersed work fronts.	72
25	Signalling Engineers	2	Bachelor's Degree in Electronics Engineering, Electrical Engineering, Signalling Engineering, Railway Engineering, or related discipline. Minimum 8 years of experience, including at least 5 years in railway signalling systems, installation, testing, commissioning or supervision.	84
26	Testing Engineers, including S&T	6	Bachelor's Degree in relevant engineering discipline. Minimum 7 years of experience in testing and commissioning of major infrastructure systems. For S&T assignments, at least 5 years of relevant railway signalling/telecommunication testing and commissioning experience is required.	144
27	Interface Engineers	8	Bachelor's degree in civil, Railway, Electrical, Electronics, Systems Engineering, or related discipline. Minimum 8 years of professional experience, including at least 5 years in multidisciplinary interface/coordination management on major infrastructure projects. Railway systems interface experience is desirable.	336
28	Hydrology & Drainage Specialists	6	Bachelor's degree in civil engineering, Water Resources Engineering,	108

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			Hydrology, Hydraulic Engineering, or related discipline. Minimum 8 years of experience in hydrology, drainage, flood protection and/or water management for major infrastructure projects. Railway/linear infrastructure experience is desirable.	
29	Electrical Systems Design Experts	6	Bachelor's degree in electrical engineering or related discipline. Minimum 8 years of experience in electrical systems design, construction supervision, testing or commissioning for major infrastructure projects. Railway electrical systems experience is desirable.	108
30	Senior Planning Engineers	2	Bachelor's degree in engineering, Construction Management, Planning, or related discipline. Minimum 10 years of experience in planning and scheduling of major infrastructure projects, including at least 5 years in railway or transport infrastructure projects. Advanced proficiency in Primavera P6 is required.	72
31	Station Building Architects	5	Bachelor's degree in architecture. Minimum 8 years of professional experience in building, station, transport infrastructure or major public-building projects. Railway/metro station experience is desirable.	90
32	Site Inspectors (Civil & MEP etc.)	30	Diploma or bachelor's degree in civil, Mechanical, Electrical or relevant engineering/technical discipline. Minimum 5 years of experience in construction inspection and supervision on major infrastructure projects.	1260
33	HSE Inspectors	10	Diploma or bachelor's degree in occupational health and safety, Engineering, or related discipline, with relevant HSE training/certification. Minimum 5 years of experience in HSE inspection and supervision on major infrastructure/construction projects.	420
34	CAD Engineers	24	Diploma or bachelor's degree in civil engineering, Architecture, CAD/BIM, or related discipline. Minimum 5 years of experience in preparation and management of engineering drawings for major infrastructure projects. Proficiency in relevant CAD/BIM software required.	1008
35	Railway Safety Inspectors	12	Bachelor's Degree or Diploma in Railway Engineering, Civil/Electrical/Mechanical Engineering, Safety Engineering, or related discipline. Minimum 7 years of experience, including at least 5 years in railway safety, railway construction under operational conditions, or railway operations.	432
36	PMIS Experts	6	Bachelor's degree in engineering,	216

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			Information Technology, Project Management, Information Management, or related discipline. Minimum 7 years of experience in PMIS, project controls, document management, reporting systems or information management on major infrastructure projects.	
37	GIS Specialists	2	Bachelor's Degree in GIS, Geomatics, Geography, Civil Engineering, or related discipline. Minimum 5 years of experience in GIS applications, spatial databases and mapping for major infrastructure or linear infrastructure projects.	48
38	Laboratory Technicians	24	Diploma in Civil Engineering, Materials Testing, Laboratory Technology, or related technical discipline. Minimum 5 years of experience in construction materials testing and laboratory operations on major infrastructure projects.	1008
39	Telecom Engineers	4	Bachelor's Degree in Telecommunications Engineering, Electronics Engineering, Electrical Engineering, Railway Engineering, or related discipline. Minimum 8 years of experience, including at least 5 years in railway telecommunications or comparable transport communication systems.	168
40	Signalling & Telecom System Supervisors	4	Diploma or bachelor's degree in Electronics, Electrical, Telecommunications, Signalling, Railway Engineering, or related discipline. Minimum 7 years of experience, including at least 5 years in railway signalling and/or telecommunications installation, supervision, testing or commissioning.	168

G.5 E&S Code of Conduct Requirement

223. Prior to negotiations, the E&S Code of Conduct provided in the Supplementary Information shall be filled out and signed by each expert to indicate that they have:

- Received a copy of the code;
- had the code explained to them;
- acknowledge that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

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H. CONSULTANT'S PERFORMANCE MONITORING

224. The Consultant's performance shall be monitored by the Client throughout the Assignment against the requirements of the Contract, approved staffing plan, deliverables, service standards, and the Key Performance Indicators (KPIs) specified in Table 9 below.

225. The Consultant shall establish and maintain appropriate management systems, records, schedules, registers, monitoring tools, and reporting mechanisms necessary to demonstrate compliance with the Contract and achievement of the Project objectives.

226. The Client may undertake periodic performance assessments, including monthly and quarterly reviews, and the Consultant shall provide all information and documentation reasonably required for such assessments.

227. Where the Client identifies a performance deficiency or failure to achieve any KPI target, the Client may issue a Notice of Performance Deficiency specifying the deficiency and required corrective actions. If the deficiency remains uncorrected for a period of two weeks from the date of such notice, the Client may apply performance deductions in accordance with this Section.

228. Performance deductions shall accrue progressively following expiry of the correction period until the deficiency is rectified. The Consultant shall be provided a reasonable opportunity to explain the deficiency and demonstrate any circumstances beyond its reasonable control prior to the application of any performance deduction.

229. Performance deductions shall be applied only in relation to deficiencies that are attributable to the Consultant's failure to perform its contractual obligations and shall not be applied for events or circumstances beyond the Consultant's reasonable control.

230. The total performance deductions applied under any interim invoice shall not exceed five percent (5%) of the amount otherwise payable under that Interim invoice to the Consultant.

231. The aggregate cumulative performance deductions applied during the entire Contract period shall not exceed five percent (5%) of the total Contract Value.

232. The application of performance deductions shall not relieve the Consultant of its obligation to perform the Services in accordance with the Contract, nor shall it prejudice any other rights or remedies available to the Client under the Contract.

233. For avoidance of doubt, the Consultant shall not be held responsible for delays, disruptions, cost overruns, claims, utility relocation delays, land acquisition delays, force majeure events, Contractor defaults, or other matters beyond the Consultant's contractual responsibilities. Performance assessments shall be limited to evaluating whether the Consultant has properly discharged its professional obligations, exercised due diligence, provided timely advice, maintained appropriate management systems, and performed the Services in accordance with the Contract.

Table 9: KPI and Performance Measurement

Sr. No.	KPI Description	Performance Measurement	Applicable Deduction / Penalty
1	Staffing Availability and Deployment	Availability of approved Key Experts and Non-Key Experts in accordance with the approved staffing schedule and actual construction activities. Indicator: Person-Weeks found missing	0.10% of monthly invoice per missing expert-week after expiry of correction period; maximum 1.0% per month.
2	Construction Supervision and Site Coverage	Critical construction, testing, commissioning, inspection, safety-critical, and hold-point activities supervised by appropriate personnel. Indicator: Per occurrence	0.25% of monthly invoice per occurrence where required supervision was not provided; maximum 1.0% per month.
3	Contract Administration and Technical Review Performance	Timely review of contractor submissions, designs, shop drawings, method statements, claims, variations, EOTs, and payment certifications within contractual timeframes. Indicator: Percentage of agreed submissions	0.10% of monthly invoice for every 5% below the target of 95%; maximum 1.0% per month.

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Sr. No.	KPI Description	Performance Measurement	Applicable Deduction / Penalty
4	Quality Assurance, Testing and Commissioning Management	Timely management of NCRs, inspections, testing activities, quality audits, commissioning activities, and defect resolution processes. Indicator: a) Percentage of NCRs actioned and closed within contractual timelines/ month. b) Percentage of inspections/tests completed in accordance with the approved inspection/test plan and schedule. c) Percentage of audit findings closed within agreed corrective action deadlines.	0.10% of monthly invoice for every 5% below the target of 90%; maximum 0.5% per month.

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I. CLIENT'S INPUT AND COUNTERPART PERSONNEL

234. Existing data: The Client shall make existing reports and data related to the Project available to the Consultant. The Client will consider making available other data and reports necessary for executing the assignment as and if requested by the Consultant.

235. Mian Office Facilities: The Consultant shall establish, operate, and maintain a fully functional Main Project Office in Karachi, Sindh, or at another suitable location approved by the Client. The Main Office shall serve as the central coordination and management hub for project implementation, contract administration, construction supervision, safeguards management, reporting, stakeholder coordination, and communication activities under the Assignment. The Main Office shall remain operational throughout the duration of the Consultant's Contract. All costs associated with establishing, operating, maintaining, and demobilizing the Main Project Office, including office premises, furniture, equipment, utilities, communication facilities, information technology systems, administrative support, and other associated costs, shall be deemed included in the Consultant's Financial Proposal. The Consultant shall also be solely responsible for arranging and financing accommodation, transportation, subsistence, office support, computers, software, inspection equipment, and all related facilities required for its experts, representatives, and staff deployed under the Assignment, whether at the Main Office, field offices, project sites, or any other location required for the performance of the Services, and all associated costs shall be deemed included in the Consultant's Financial Proposal.

236. Field Offices: Site supervision offices and associated facilities for the Engineer and the Consultant's site supervision personnel shall be provided by the respective Contractors in accordance with the requirements of the Works Contracts. The Consultant shall utilize such facilities for the performance of the Services and shall deploy adequate supervision personnel to ensure effective monitoring, inspection, testing and commissioning, contract administration, stakeholder coordination, and supervision of the Works. Where additional offices, facilities, equipment, or resources are considered necessary for the proper performance of the Services beyond those provided under the Works Contracts, the Consultant shall arrange such facilities at its own cost, subject to the approval of the Client

237. Vehicles: Vehicles together with drivers shall be provided by the respective Civil Works Contractors for site supervision, inspections, testing and commissioning, contract administration, stakeholder coordination, and other activities related to the supervision of the Works throughout the construction period of the respective Works Contracts. The Contractors shall be responsible for all associated costs, including fuel, maintenance, repairs, insurance, licensing, and replacement of vehicles.

238. Prior to contratcor mobilization and following demobilization of the respective Works Contractors, the Consultant shall be responsible for arranging and financing all vehicles, drivers, and transportation resources required for the performance of the Services, and the associated costs shall be deemed included in the Consultant's Financial Proposal.

239. Security: The Client will advise on the general security situation. The Consultant shall be responsible for the security of its own personnel and property.

240. Counterpart personnel: The Client will nominate a dedicated Project Director and supporting technical staff from Pakistan Railways to act as counterparts. The Consultant shall integrate these counterparts into the project team for the purpose of on-the-job training and capacity building, without relieving the Consultant of its contractual responsibilities.

241. Assistance and exemptions: The Client shall use its best efforts to ensure that the assistance and exemptions will be provided to the Consultant where applicable, in relation to:

    a. Work permits and such other documents;
    b. Entry and exit visas, residence permits, exchange permits and such other documents;
    c. Clearance through customs;
    d. Instructions and information to officials, agents and representatives of the Borrower's Government;
    e. Exemption from any requirement for registration to practice their profession; and
    f. Support for Project-related communications with another organizations.

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J. SUPPLEMENTARY INFORMATION

242. The table below identifies the content of the Supplementary Information appended to these TOR:

1	Project location map showing the Karachi-Rohri corridor.
2	Executive summary of the DED for ML-1.
3	Environmental and Social Code of Conduct for Consultant's Personnel (see following page).
4	List of available background reports and data.

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ENVIRONMENTAL AND SOCIAL CODE OF CONDUCT
FOR CONSULTANT'S PERSONNEL

We are the Consultant, [enter name of Consultant]. We have signed a contract with [enter name of Client] for [enter description of the Works]. These Works will be carried out at [enter the Site and other locations where the Works will be carried out]. Our contract requires us to implement measures to address environment and social risks including health, safety and security (HSS) and sexual exploitation, abuse and harassment (SEAH) related to the Works.

This E&S Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, laborers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each JV Partner, Sub-Consultant and any other personnel assisting us in the execution of the Works. All such persons are referred to as "Consultant's Personnel" and are subject to this E&S Code of Conduct.

This E&S Code of Conduct identifies the behavior that we require from all Consultant's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Consultant's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this E&S Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Consultant's Personnel and any other person;
3. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on HSS matters and SEAH
4. maintain a safe working environment including by:
    (a) ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
    (b) wearing required personal protective equipment;
    (c) using appropriate measures relating to chemical, physical and biological substances and agents; and
    (d) following applicable emergency operating procedures.
5. report work situations that he/she believes are not safe, healthy or secure and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
6. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
7. uphold the rights and welfare of colleagues and project communities;
8. read thoroughly, promote, and raise awareness of all SEAH-related policies;
9. aware of reporting mechanisms available to them and report any issues or causes for concern;
10. report violations of this E&S Code of Conduct;
11. maintain confidentiality regarding concerns and report concerns using the reporting mechanisms provided only protecting the dignity and identity of the alleged survivor and the alleged wrongdoer; and
12. not retaliate against any person who reports violations of this E&S Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism for Consultant's Personnel or the project's Grievance Mechanism.

Consultant's Personnel shall not:

1. engage in sexual exploitation, which means any actual or attempted abuse of position of vulnerability, differential power, or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially, or politically from the sexual exploitation of another;
2. engage in rape, which means physically forced or otherwise coerced penetration. The attempt to do so is known as attempted rape. Rape may be perpetrated by two or more perpetrators;

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3. engage in sexual Assault, which means any form of non-consensual sexual contact that does not result in or include penetration. Examples include attempted rape, as well as unwanted kissing, fondling, or touching;
4. engage in any sexual activity with children according to the legal framework of the country. Mistaken belief regarding the age of a child is not a defense;
5. engage in any sexual activity with anyone who is unable to provide informed consent;
6. exchange money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading or exploitative behavior;
7. engage in any other form of sexual exploitation or abuse;
8. engage in sexual harassment of any form, including but not limited to actions such as sexually suggestive gestures, comments on a worker's appearance, age or private life, sexual comments, stories and jokes, unwanted sexual advances or revealing or discussing a person's sexual orientation or gender-identity without their express permission;
9. openly display pictures, posters, graffiti, written materials, emails, or digital media which might be offensive to some including sexually explicit or suggestive materials;
10. place phone calls or send messages on voicemails or electronic mail or computer networks which are demeaning, threatening, abusive, humiliating, or offensive to staff;
11. engage in any form of sexual relationship with a person that they line manage or supervise;
12. Neglect or choose not to declare, in the soonest time, romantic and/or sexual relationships with other staff to respective line manager, even if the relationship is at an early stage and may not continue;
13. Use offensive, derogatory language or intimidating actions or behaviors;
14. Insult or use threatening gestures, language (overt or implied);
15. Be physically or emotionally abusive in any way;
16. Persistently follow or stalk within the workplace, or to and from work, or in other places even outside of working hours;
17. Retaliate against any person who reports violations of this Code of Conduct;
18. Engage in Sexual Harassment, which means unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with another Consultant's or Employer's Personnel;
19. Engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
20. Engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
21. Engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage

If working with children present, Contractor's Personnel shall:

1. Not work alone with children and plan their work so that at least two adults are present at any time;
2. Behave appropriately; make sure that language is moderated in their presence and refrain from adult jokes or comments that may cause discomfort or offense;
3. Avoid inappropriate physical contact with a child. Using common sense, this does not limit physical contact with a child or adult at risk if they are hurt or distressed. In this circumstance, a child may be comforted or reassured without compromising his/her dignity;
4. Be sensitive to local norms and standards of behavior towards children. Where local norms and standards of behavior contravene this code of conduct the contractor's policies and standards take precedence;
5. Never act in a way that may be abusive or may place child at risk of abuse;
6. Not expose children to materials with sexual content;
7. Not condone, nor participate in, behavior against a child that is illegal, unsafe, abusive;
8. Never hit or otherwise physically assault, harm or abuse them;
9. Not develop physical/sexual relationships with a child;
10. Never verbally or physically act in a manner that is inappropriate or sexually provocative;
11. Not develop relationships with them that could in any way be deemed exploitative or abusive;
12. Not use language, make suggestions, or offer advice that is inappropriate, offensive, or abusive;

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13. Never act in ways intended to shame, humiliate, belittle, or degrade children, or otherwise perpetrate any form of emotional abuse, discriminate against, show differential treatment, or favor particular children to the exclusion of others;
14. Never allow allegations made by a child or concerns expressed by others about their welfare, to go unrecorded or not acted upon;
15. Not have a child stay overnight at your home or other personal accommodation in which you are staying;
16. Never use computer or other electronic device to view, download, distribute or create indecent or inappropriate images of children or adults at risk; and
17. Never engage in any commercially exploitative activities with children including child labor or trafficking.

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this E&S Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done by call [ ] to reach the Consultant's assigned personnel or hotline (if any) and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

CONSEQUENCES OF VIOLATING THE ENVIRONMENT AND SOCIAL CODE OF CONDUCT

Any violation of this E&S Code of Conduct by Consultant's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONSULTANT'S PERSONNEL

I have received a copy of this E&S Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this E&S Code of Conduct, I can contact [enter name of Consultant's contact person(s) with relevant experience)] requesting an explanation.

Name of Consultant's Personnel: [insert name]
Signature: _____
Date: (day month year): _____

Countersignature of authorized representative of the Consultant:
Signature: _____
Date: (day month year): _____

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