

GUJARAT PIPAVAV PORT LIMITED

REFURBISHMENT, REPAIR AND REHABILITATION OF JETTY-1 AND APPROACH-1 & 2, AT APM TERMINALS PIPAVAV

SCOPE OF WORK

Contract Interpretation

This Scope of Works shall be read together with the Conditions of Contract, detailed technical specifications, BOQ, drawings, approved repair drawings and instructions of the Engineer-in-Charge. The Contractor shall include all incidental work necessary for a complete, safe and durable refurbishment.

1. General

The Contractor shall undertake the complete refurbishment, repair and rehabilitation of the existing reinforced concrete marine structures comprising Jetty-1 and Approach-1 & 2 at APM Terminals Pipavav, including all beams, beam projections, slab soffits, piles, pile caps, pile muffs, fender blocks, deck areas, drainage outlets and other associated structural elements identified in the tender documents or subsequently established during joint inspection.

The Works shall be executed on a complete responsibility basis, including detailed pre-repair verification, engineering, temporary access systems, marine logistics, procurement, repair execution, material application, quality control, testing, protection of Port operations, environmental safeguards, completion documentation and making good.

The indicative locations and quantities of distress are based on the condition assessment undertaken between November and December 2025. Actual repair limits shall be confirmed during execution after close visual inspection, hammer sounding and controlled opening-up of distressed areas.

The Contractor shall execute all incidental and ancillary works necessary to provide a complete, safe, durable and serviceable refurbishment, whether or not each incidental activity is separately described in the BOQ.

2. Contractor's Overall Responsibility

The Contractor shall be fully responsible for:

- Verification of site conditions, dimensions, access constraints, tides, work fronts and operational limitations before commencing the Works.
- Preparation of detailed repair methodology, temporary works designs, repair drawings, method statements, Quality Assurance Plan, Inspection and Test Plans, HSE plans and work programmes.
- Design, fabrication, erection, maintenance, relocation and removal of all temporary access arrangements and working platforms.
- Procurement and supply of all approved repair materials, reinforcement, anchors, galvanic anodes, FRP pile liners, underwater grout, protective coatings, consumables, plant and equipment.
- Execution of the Works by competent personnel experienced in marine RCC rehabilitation.
- Coordination with GPPL Operations, Marine, Engineering, Safety, Security, CISF and other stakeholders.
- Protection of existing structures, pipelines, conveyors, cables, utilities, fenders, mooring arrangements, navigation facilities and operational assets.
- Prevention of debris, slurry, chemicals, grout, paint, rust, steel pieces or other contaminants from entering the sea.
- Testing, inspection, rectification of defects, preparation of as-built records and submission of the completion dossier.
- Achievement of the specified workmanship, material performance and durability requirements.

Approval by GPPL, the Engineer, the PMC, the proof-checking consultant or the material manufacturer shall not relieve the Contractor of its responsibility for the adequacy, safety, compatibility, quality or performance of the Works.

3. Detailed Scope of Works

3.1 Pre-Construction Condition Verification

- Verification of member identification and structural grid references.
- Close visual inspection from approved access platforms.
- Hammer sounding and delamination survey.
- Marking of cracks, spalling, exposed reinforcement, corrosion staining, honeycombing, concrete erosion and failed previous repairs.
- Identification of damaged, corroded, loose or de-bonded pile liners.
- Measurement of the approximate area and depth of distress.
- Digital photographs referenced to the member and structural grid.
- Verification of the IRCLASS distress drawings against actual site conditions.
- Identification of deterioration developed after the assessment.
- Verification of the proposed access arrangement for each work zone.
- Joint categorization of repairs as Category-I, Category-II or Category-III.

The Contractor shall prepare a member-wise Repair Register and Repair Mapping Drawing showing the proposed treatment and indicative quantity. No repair area shall be chipped, covered or reinstated without the required joint inspection and approval.

3.2 Repair Detailing

- Typical and member-specific repair details.
- Reinforcement replacement, lap, anchorage and coupling details.
- Chemical anchoring calculations and shear-connector layout.
- Galvanic-anode design and spacing.
- PMM and micro-concrete repair details.
- Formwork, pouring, pumping and venting details.
- FRP pile-liner design, joints and underwater grouting details.
- Crack injection and drainage outlet details.
- Protective-coating system and surface-preparation details.

Preliminary BOQ requirements shall be verified through approved repair design and manufacturer recommendations. Unexpected structural cracks, extensive reinforcement loss, pile core erosion, member deformation, major voids or deterioration beyond the assessed condition shall be treated as hold points.

3.3 Mobilization and Site Establishment

- Qualified and trained manpower, tools, tackles and repair equipment.
- Mixing, pumping and grouting equipment; air compressors and oil-free compressed-air systems.
- Generators and approved electrical distribution.
- Boats, pontoons and marine support craft.
- Emergency rescue boat and trained rescue crew.
- Communication equipment, portable storage, barricades, signs and approved temporary lighting.
- Lifesaving, firefighting and spill-control equipment.
- Debris collection, waste storage, weather protection and curing arrangements.

The Contractor shall obtain and maintain all applicable entry passes, Port clearances, work permits, hot-work permits, work-at-height permits, lifting permits and other approvals.

3.4 Temporary Access and Suspended Working Platforms

- Design, independent proof checking, fabrication, erection, maintenance, relocation and removal of all platforms and access systems.
- Stable framing, non-slip decks, safe ladders, guardrails, toe boards, independent lifelines and fall arrest.
- Safe working-load marking, debris containment, material handling, emergency escape and rescue access.
- Lateral restraint against wind, tide, current and movement, with protective pads at contact points.
- Inspection and certification before use and after relocation, modification, impact or heavy weather.

Platforms shall preferably be supported or anchored from verified sound slab or beam locations. No permanent anchorage, drilling or welding to piles shall be permitted unless specifically designed and approved. Temporary contact with piles for lateral restraint shall use non-damaging pads.

3.5 Controlled Removal of Distressed Concrete

- Joint marking and hammer sounding of repair boundaries.
- Controlled perimeter saw cutting where appropriate.
- Chipping using lightweight approved tools to sound concrete.
- Removal behind reinforcement to allow cleaning and reinstatement.
- Formation of regular edges without feather edging.
- Collection, lowering and disposal of all debris.
- Recording of actual repair dimensions and average depth.

Heavy impact breakers that may damage sound core concrete or induce cracking shall not be used. Work shall stop if opening-up reveals unexpected deep deterioration, extensive reinforcement loss, structural cracking, voids or instability.

3.6 Removal of Corroded Steel Pile Liners

- Survey and marking of removal limits and confirmation that the liner is sacrificial.
- Hot-work permit, fire watch and firefighting arrangements.
- Cutting into manageable pieces without damage to pile concrete or reinforcement.
- Collection of cutting slag and steel pieces.
- Making safe retained liner edges and transport to GPPL-designated location.

No cutting slag, steel piece or debris shall be allowed to enter the sea.

3.7 Reinforcement Cleaning and Assessment

- Cleaning around the full perimeter and behind bars using approved mechanical methods.
- Removal of rust and corrosion scale, fresh-water washing and approved rust-removing treatment where specified.
- Measurement of representative residual bar diameters and recording of section loss.
- Identification of severed, missing or unserviceable bars.

No anti-corrosion coating or repair material shall be applied before inspection and acceptance of cleaned reinforcement.

3.8 Supplementary and Replacement Reinforcement

- Supply and installation where section loss exceeds 20%, bars are severed or missing, or approved repair details require supplementation.
- Fe500D reinforcement unless otherwise shown.
- Cutting, bending, laps, approved couplers, chemical anchorage, chairs, spacers and binding.
- Maintenance of cover, spacing and load path; bar-bending schedules and repair sketches.

Existing reinforcement shall not be cut, heated, bent or welded without written approval. Welding shall not be permitted where grade or weldability has not been established.

3.9 Chemical Anchors and Shear Connectors

- Reinforcement and utility scanning.
- Drilling without damage to existing reinforcement.
- Correct hole cleaning with oil-free air and approved brushes.
- Installation of approved resin, connector or bar and compliance with curing times.
- Pull-out or proof testing and installation records.

Nominal BOQ dimensions and spacing shall be verified against the approved repair design and anchoring-system manufacturer requirements.

3.10 Anti-Corrosion Treatment to Reinforcement

- Approved epoxy zinc-rich primer or compatible cementitious passivation system.
- Required coats and dry-film thickness with continuous coverage.
- Compliance with application and overcoating intervals.
- Compatibility with bonding coat, repair material and galvanic anodes.

Where anodes are installed, coating shall not be applied to the anode, tie wires or immediate electrical connection area.

3.11 Galvanic Sacrificial Anodes

- Review of available chloride and corrosion results.
- Selection of anode type, zinc mass, spacing and design service period.
- Member-wise layout and secure tying to clean reinforcement.
- Electrical continuity or resistance checks and compatible embedding mortar.
- As-built records of installed anodes.

Final installation quantity shall be based on the approved anode design, repair geometry, reinforcement density and exposure, and not automatic adoption of the preliminary BOQ quantity.

3.12 Polymer Modified Mortar Repairs

- Polymer Modified Mortar (PMM) repairs up to 25 mm average thickness and above 25 mm up to 50 mm average thickness.
- Substrate preparation, reinforcement treatment, approved bond coat, compaction behind bars, layered application where required, finishing and curing.
- Hammer-sounding inspection after curing.

PMM shall be fiber reinforced, shrinkage controlled, chloride free and suitable for overhead, vertical and marine repairs, generally achieving at least 45 MPa at 28 days. Feather-edge repairs are not acceptable.

3.13 Micro-Concrete Repairs and Local Jacketing

- Category-I, deep, major bottom-spall and selected Category-II repairs.
- Parent-concrete preparation, reinforcement restoration, anchors, shear connectors and anodes where designed.
- Watertight formwork, pouring and venting arrangements, continuous mixing and pumping, curing and form removal.
- Compressive-strength testing, final sounding and inspection.

Micro-concrete shall be prepacked, flowable, chloride free and shrinkage compensated, generally achieving at least 50 MPa at 28 days. Deck core holes require scanning and written approval and shall be permanently reinstated.

3.14 Watertight Formwork

- Design, supply, installation and removal of sealed formwork.
- Resistance to wet concrete and pumping pressure, with pouring ports, vents and inspection openings.
- Maintenance of member profile, reinforcement cover, stability and acceptable finish.

Head boxes or positive-placement arrangements shall be provided wherever required for complete filling.

3.15 Pile Repairs and FRP Sacrificial Liners

- Removal of damaged liner, repair of concrete and reinforcement, anodes where designed, and restoration of pile profile.
- Survey of actual pile diameter and ovality.
- Design and fabrication of split marine-grade FRP liners with bolted closure and seals.
- Underwater sealing, dewatering where practicable and annular grouting.
- Protection against buoyancy and movement, followed by inspection after cure.

FRP liners shall be minimum 3 mm to 4 mm thick or greater where design requires, use marine-grade resin and corrosion-resistant fasteners, and be grouted with anti-washout non-shrink grout generally achieving at least 40 MPa at 28 days.

3.16 Slab Soffit Repairs

- Repair of corrosion cracks, exposed reinforcement, spalling, honeycombing, outlet distress, failed repairs and leakage marks.
- Treatment using PMM, micro-concrete, crack injection, reinforcement replacement, anodes and protective coating as applicable.

No drilling through the deck slab is permitted without reinforcement scanning and written approval.

3.17 Deck Crack Investigation and Repair

- Classification as screed-only or structural, dormant or active, dry or water bearing.

- Screed removal and reinstatement, routing and sealing, low-viscosity epoxy injection for suitable dormant cracks, or flexible polyurethane for active / leaking cracks.
- Records of nipples, spacing, pressure, material usage and acceptance.

The repair method shall be based on investigation and an approved method statement.

3.18 Drainage Outlet Rehabilitation

- Inspection and cleaning of outlets; removal of distressed concrete and reinforcement treatment.
- Provision of an oversized or extended corrosion-resistant sleeve.
- Annulus sealing, profile restoration, coating and water testing.

The arrangement shall maintain or improve hydraulic capacity and prevent water running across the soffit.

3.19 Protective Coating to Non-Splash-Zone RCC Surfaces

- Removal of dirt, salt, loose coating and biological growth; fresh-water washing and mechanical preparation.
- Repair of pinholes, blowholes and minor cracks; approved primer or fairing coat.
- Application of the required anti-carbonation and chloride-resistant coating coats.
- Wet-film, consumption and adhesion control, curing protection and defect rectification.

The coating shall be UV resistant, crack bridging, resistant to carbon dioxide and chloride ingress, and vapour permeable.

3.20 Protective Coating to Splash-Zone RCC Surfaces

- High-build marine protective system suitable for tidal and splash-zone exposure, saltwater, chlorides, UV and marine chemicals.
- Application within berth-vacant and tidal windows with required cure before wetting.
- Nominal two-coat system to approximately 400 microns WFT and 200 microns DFT where the BOQ system is adopted, unless the approved system requires greater thickness.

The Contractor shall prevent sea spray, rain or vessel operations from contaminating or damaging uncured coating.

4. Mandatory Operational and Berth-Vacancy Conditions

MANDATORY BERTH-FRONT CONDITION

Jetty-1 is an operational berth. All berth-front works shall be carried out only during non-vessel operation days and when the berth is vacant. Work shall commence only after clearance from GPPL Operations, Marine and the Engineer-in-Charge.

4.1 Berth-Front Works

- Installation, use, shifting and removal of berth-front platforms.
- Pile and pile-liner works.
- Works adjacent to fenders, mooring equipment and the berthing line.

- Pontoon and boat operations within the berth pocket.
- Coating at the berth front.
- Any activity that may interfere with vessel approach, berthing, mooring, cargo operation or unberthing.

4. 2 Immediate Suspension and Clearance

- Immediately suspended activity upon GPPL instruction.
- Remove personnel from restricted areas.
- Remove or safely secure platforms and pontoons.
- Clear ropes, hoses, tools, formwork and loose materials.
- Ensure nothing projects beyond the permitted berthing or fender line.
- Restore the area for vessel operations within the approved clearance time.

4. 3 Contractor's Planning Obligation

- Account for intermittent work fronts, vessel schedules, short-notice changes, tides, daylight, permits, monsoon conditions, fragmented quantities and repeated platform relocations.
- Provide adequate resources to maximize progress during berth-vacant periods.
- Maintain alternative work fronts away from the active berth face where permitted.

4. 4 No Idle or Standby Charges

Unless expressly provided otherwise in the Contract, the Contractor shall not be entitled to idle charges, standby charges, loss-of-productivity claims, disruption costs, additional mobilization or remobilization charges, compensation for fragmented work, or additional payment due to berth occupancy, vessel movement, tidal restrictions, permit restrictions or temporary non-availability of an operational work front. The Contractor shall be deemed to have included these constraints in its rates, programme, resources and methodology. This condition shall not automatically relieve the Contractor of its completion obligations.

5. Quality Assurance and Testing

- Joint repair-area inspection and measurement.
- Inspection after concrete removal.
- Reinforcement cleanliness and section-loss measurement.
- Anchor installation records and pull-out / proof testing.
- Galvanic-anode layout and continuity checks.
- PMM workmanship and repair sounding.
- Micro-concrete flow and compressive-strength tests.
- Formwork inspection before placement.
- FRP laminate and dimensional certification.
- Grout flow, density, compressive strength and volume reconciliation.
- Coating ambient-condition, WFT / consumption and pull-off adhesion records.
- Water testing of drainage outlets and final as-built inspection.

All equipment shall be calibrated and laboratories approved or accredited, as applicable. Defective, hollow, cracked, debonded, inadequately filled or otherwise non-compliant work shall be removed and redone at the Contractor's cost.

6. HSE and Environmental Requirements

- Comply with GPPL HSE standards, permits and statutory requirements.
- Provide work-at-height protection, independent lifelines, life jackets, rescue boat and trained rescue personnel.
- Provide safe access, certified lifting gear, firefighting, hot-work control, spill control, relevant PPE and communication.
- Use full containment for chipping, pressure washing and coating.
- Prevent debris, wash water, grout, slurry, paint, chemicals, rust, cutting slag and waste from entering the sea.
- Collect, bring ashore and dispose of all waste at approved locations.

7. Measurement and Quantity Verification

- BOQ quantities are provisional, and actual quantities shall be established through joint inspection and measurement.
- Each measurement shall be referenced to member number and grid location and supported by photographs.
- No payment shall be made for work covered before required hold-point inspection.
- Contractor over-break or unnecessary removal shall not be measured.
- Where the repair method changes after opening-up, the Engineer shall classify the work under the applicable BOQ item.
- The same repair area or volume shall not be measured twice.
- Provisional quantities do not guarantee a minimum quantity.
- Variations shall be administered under the Conditions of Contract.

8. Programme, Work Sequencing and Progress Control

- Prioritize Category-I elements, severely deteriorated piles and liners, Category-II beam and slab defects, followed by Category-III repairs.
- Divide Works into grid-based zones and coordinate access, berth-vacant windows, tides, curing and coatings.
- Submit a baseline programme, three-month programme, monthly programme, two-week look-ahead, daily plan and berth-vacant rapid-clearance plan.
- Do not open more repair areas than can be safely protected and reinstated within the approved period.

9. Contractor's Deliverables

9.1 Before Commencement

- Project Execution Plan and detailed programme.
- Organization chart, manpower and equipment plan.
- Platform designs, calculations and independent proof-check certificate.
- Repair method statements and drawings.
- QAP, ITPs, HSE Plan, marine rescue plan and lifting plans.
- Material submittals, anode design, FRP-liner design and compatibility statements.
- Workfront and berth-vacancy plan.

9.2 During Execution

- Daily, weekly and monthly progress reports.
- Repair register, joint measurements and inspection requests.

- Test reports, batch records, photographs and installation records.
- Anode, FRP, grout and coating records.
- NCRs and updated repair / quantity drawings.

9.30n Completion

- As-built drawings and final repair register.
- Final quantity reconciliation and photographic record.
- Material, laboratory and site test certificates.
- Anchor, micro-concrete, grout, anode, FRP and coating records.
- NCR closeout, warranty certificates, maintenance recommendations and indexed handover dossier in hard copy and editable electronic form.

10. Defects and Making Good

- Debonded or hollow repairs.
- Workmanship-related cracking.
- Honeycombing or voids in micro-concrete.
- Grout voids or joint failures behind FRP liners.
- Loose or corroded liner fasteners.
- Coating blistering, pinholes, peeling or loss of adhesion.
- Corrosion staining through repaired areas.
- Leakage around repaired drainage outlets.
- Any other non-compliance with the Contract.

All such defects shall be rectified at the Contractor's cost during the Defects Notification / Liability Period. Manufacturer warranties shall be additional to, and shall not reduce, the Contractor's obligations.

11. Items Deemed Included in the Contractor's Rates

- Site verification, engineering and repair detailing.
- Manufacturer technical support.
- Temporary access and repeated workfront coordination.
- Normal shifting and handling arising from fragmented repairs.
- Operational and tidal constraints, permits and clearances.
- Marine transportation and rescue arrangements.
- Protection, containment and surface preparation.
- Mixing and application equipment, consumables and wastage.
- Curing, testing, waste disposal and making good.
- As-built records, completion documents and all incidentals necessary for complete acceptance.

The Contractor shall nevertheless coordinate with, protect and work around all existing systems and make good damage caused by its activities. Subsequently instructed excluded work shall be administered under the variation provisions.

12. Contract Closing Requirement

Contractor's Deemed Understanding

The Contractor shall be deemed to have inspected and understood the operational marine environment, condition-assessment findings, access limitations, vessel-operation restrictions, tidal conditions and fragmented nature of the repair works. The Contractor shall execute and complete the refurbishment of Jetty-1 and Approach-1 & 2 in accordance with the Contract, approved repair methodology, technical specifications, drawings, BOQ and instructions of the Engineer, so as to provide complete, safe and durable repaired works fit for their intended service.

Annexure-A: Contractor Scope Compliance Checklist

Tenderers shall complete Columns C and D and submit this checklist with the technical bid. "Complied" shall mean full compliance without qualification. Any deviation shall be clearly described and cross-referenced to the Tenderer's deviation schedule. Silence or an uncompleted row may be treated as non-compliance.

Ref.	Scope Area	Requirement	Compliance	Tenderer's Comments / Document Reference
A1	General	Complete refurbishment of Jetty-1 and Approach-1 & 2, including all identified RCC and associated elements.	☐ Yes ☐ No	
A2	General	All incidental and ancillary works included for a complete, safe and durable refurbishment.	☐ Yes ☐ No	
B1	Survey	Member-wise verification, sounding, marking, measurement, photography and categorisation.	☐ Yes ☐ No	
B2	Survey	Repair Register and repair mapping drawings before execution.	☐ Yes ☐ No	
C1	Engineering	Repair drawings, anchor design, rebar details, anode design, FRP liner and grout design.	☐ Yes ☐ No	
C2	Engineering	Unexpected severe deterioration treated as hold point and referred to Engineer.	☐ Yes ☐ No	
D1	Mobilization	Complete manpower, equipment, marine craft, rescue, communication and site establishment.	☐ Yes ☐ No	
D2	Permits	All Port, security, hot-work, lifting, work-at-height and other permits maintained.	☐ Yes ☐ No	
E1	Access	Suspended platforms designed, proof checked, certified, maintained, relocated and removed.	☐ Yes ☐ No	
E2	Access	No anchorage or drilling to piles unless specifically designed and approved.	☐ Yes ☐ No	
F1	Concrete	Controlled chipping to sound concrete using light approved tools, with regular edges.	☐ Yes ☐ No	
F2	Environment	Full capture of debris and slurry; no discharge to sea.	☐ Yes ☐ No	
G1	Pile liners	Controlled hot-work removal of damaged steel liners with slag and steel recovery.	☐ Yes ☐ No	
H1	Reinforcement	Full-perimeter cleaning, section-loss measurement and inspection before coating.	☐ Yes ☐ No	
H2	Reinforcement	Replacement / supplementation where section loss exceeds 20% or as directed.	☐ Yes ☐ No	

Ref.	Scope Area	Requirement	Compliance	Tenderer's Comments / Document Reference
I1	Anchors	Scanning, drilling, hole cleaning, resin installation, curing records and proof tests.	☐ Yes ☐ No	
J1	Protection	Compatible anti-corrosion reinforcement treatment with anode connection areas left clean.	☐ Yes ☐ No	
K1	Anodes	Project-specific anode design, installation, continuity checks and as-built mapping.	☐ Yes ☐ No	
L1	PMM	PMM repair up to 25 mm and 25-50 mm, including bond coat, compaction and curing.	☐ Yes ☐ No	
M1	Micro-concrete	Deep / Category-I repair with anchors, anodes, watertight formwork and flowable micro-concrete.	☐ Yes ☐ No	
M2	Core holes	Deck core holes scanned, approved, formed without cutting reinforcement and permanently made good.	☐ Yes ☐ No	
N1	FRP liners	Pile-wise survey and marine-grade split FRP liner with bolted closure and seals.	☐ Yes ☐ No	
N2	Grout	Anti-washout, non-shrink annular grout with tests and volume reconciliation.	☐ Yes ☐ No	
O1	Slab soffit	Repair of cracks, spalling, exposed reinforcement, outlet distress and failed previous repairs.	☐ Yes ☐ No	
P1	Deck cracks	Crack classification and approved epoxy / PU / screed repair treatment.	☐ Yes ☐ No	
Q1	Drainage	Extended / oversized corrosion-resistant outlet sleeve, sealing and water test.	☐ Yes ☐ No	
R1	Coating	Non-splash anti-carbonation and chloride-resistant coating with adhesion checks.	☐ Yes ☐ No	
R2	Coating	Splash-zone marine coating applied within suitable tidal and curing windows.	☐ Yes ☐ No	
S1	Operations	All berth-front works executed only when berth is vacant and during non-vessel operations.	☐ Yes ☐ No	
S2	Operations	Immediate suspension / clearance on GPPL instruction within approved response time.	☐ Yes ☐ No	
S3	Commercial	No idle, standby, disruption or loss-of-productivity charges for operational / tidal constraints.	☐ Yes ☐ No	
T1	Quality	Approved QAP / ITP, hold points, calibrated equipment and required testing.	☐ Yes ☐ No	

Ref.	Scope Area	Requirement	Compliance	Tenderer's Comments / Document Reference
U1	HSE	Fall protection, life jackets, rescue boat, fire control and marine emergency arrangements.	☐ Yes ☐ No	
V1	Measurement	Joint member-wise measurements and photographs; provisional quantities accepted.	☐ Yes ☐ No	
W1	Programme	Baseline, rolling programmes, look-ahead and berth-vacant rapid-clearance plan.	☐ Yes ☐ No	
X1	Deliverables	All pre-start, execution and completion records, as-builts and warranties.	☐ Yes ☐ No	
Y1	Defects	Rectification of hollow repairs, cracks, voids, coating failure, liner and outlet defects.	☐ Yes ☐ No	
Z1	Rates	All specified incidental work, constraints, repeated access and documentation included in rates.	☐ Yes ☐ No	
Z2	Exclusions	Tenderer accepts stated interfaces and exclusions and will protect existing systems.	☐ Yes ☐ No	

Annexure-B: Pre-Construction Readiness Checklist

No.	Readiness Requirement	Done	Remarks / Evidence
1	Contract award documents and approved construction programme available.	☐	
2	Required insurance, security, permits and workforce clearances in place.	☐	
3	Approved Project Execution Plan, QAP, ITP and HSE Plan available.	☐	
4	Temporary platform design and independent proof check approved.	☐	
5	Marine rescue plan, boat, crew and drill completed.	☐	
6	Repair materials approved, within shelf life and correctly stored.	☐	
7	Approved repair drawings and member identification system available.	☐	
8	Anode design and FRP-liner details approved.	☐	
9	Joint pre-repair survey and Repair Register initiated.	☐	
10	Calibrated testing equipment and laboratory arrangements available.	☐	
11	Berth-vacant work plan and rapid-clearance plan approved.	☐	

No.	Readiness Requirement	Done	Remarks / Evidence
12	Environmental containment and waste-disposal arrangements ready.	☐	
13	First-work trials / mock-ups scheduled and hold points understood.	☐	
14	Daily communication protocol with Operations, Marine and Engineer established.	☐	

Annexure-C: Execution and Closeout Checklist

No.	Execution / Closeout Requirement	Done	Remarks / Evidence
1	Repair location jointly marked and photographed before opening-up.	☐	
2	Chipped substrate and cleaned reinforcement inspected.	☐	
3	Section loss, supplementary bars, anchors and anodes recorded.	☐	
4	Formwork, ports, vents and cover inspected before micro-concrete.	☐	
5	PMM / micro-concrete / grout batch and test records complete.	☐	
6	FRP liner dimensions, bolt torque, seals and grout volume recorded.	☐	
7	Coating surface condition, ambient records, coverage and adhesion recorded.	☐	
8	Completed repair sounded, inspected and photographed.	☐	
9	Actual quantities jointly measured and entered in Repair Register.	☐	
10	NCRs closed and defective work rectified.	☐	
11	As-built drawings and anode layout updated.	☐	
12	Work area, temporary anchors and platforms removed and surfaces made good.	☐	
13	Waste removed and environmental closeout completed.	☐	
14	Warranty certificates and maintenance recommendations submitted.	☐	
15	Final indexed handover dossier accepted.	☐	