



# **PHILIPPINE BIDDING DOCUMENTS**

## **DESIGN AND BUILD OF PNR TRACK RELOCATION WORKS INCLUDING POCKET TRACKS, STATIONS, RCC BOX CULVERTS & OTHER CIVIL WORKS – SOLIS TO SUCAT (TRP-4A)**

*PNR-BAC Bid Doc. No. 2021-07-Infra*

Government of the Republic of the Philippines

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# *Glossary of Terms, Abbreviations, and Acronyms*

**ABC** – Approved Budget for the Contract.

**ARCC** – Allowable Range of Contract Cost.

**BAC** – Bids and Awards Committee.

**Bid** – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender*. (2016 revised IRR, Section 5[c])

**Bidder** – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

**Bidding Documents** – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

**BIR** – Bureau of Internal Revenue.

**BSP** – Bangko Sentral ng Pilipinas.

**CDA** – Cooperative Development Authority.

**Consulting Services** – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

**Contract** – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for Supply and Delivery of Mini Excavator(Rebid) and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

**Contractor** – is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

**CPI** – Consumer Price Index.

**DOLE** – Department of Labor and Employment.

**DTI** – Department of Trade and Industry.

**Foreign-funded Procurement or Foreign-Assisted Project** – Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

**GFI** – Government Financial Institution.

**GOCC** – Government-owned and/or –controlled corporation.

**Goods** – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term “related” or “analogous services” shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

**GOP** – Government of the Philippines.

**Infrastructure Projects** – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

**LGUs** – Local Government Units.

**NFCC** – Net Financial Contracting Capacity.

**NGA** – National Government Agency.

**PCAB** – Philippine Contractors Accreditation Board.

**PhilGEPS** - Philippine Government Electronic Procurement System.

**Procurement Project** – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

**PSA** – Philippine Statistics Authority.

**SEC** – Securities and Exchange Commission.

**SLCC** – Single Largest Completed Contract.

**UN** – United Nations.

***Section I. Invitation to Bid***



**Invitation to Bid for**  
**DESIGN AND BUILD OF PNR TRACK RELOCATION WORKS INCLUDING**  
**POCKET TRACKS, STATIONS, RCC BOX CULVERTS & OTHER CIVIL WORKS**  
**– SOLIS TO SUCAT (TRP-4A)**

1. The **Philippine National Railways**, through the Department of Transportation downloaded fund sourced from **General Appropriations Act (GAA) for CY 2019 and 2020**, intends to apply the sum of **One Billion Six Hundred Two Million One Hundred Three Thousand Eighty-Five and 60/100 Pesos (₱1,602,103,085.60)**, being the Approved Budget for the Contract (ABC) to payments under the contract for *Design and Build of PNR Track Relocation Works Including Pocket Tracks, Stations, RCC Box Culverts & Other Civil Works – Solis To Sucat (TRP-4A)*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **Philippine National Railways** now invites bids for the above Procurement Project. Completion of the Works is required within **Eight Hundred Fifty (850) Calendar Days**. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary “*pass/fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested bidders may obtain further information from **Philippine National Railways** and inspect the Bidding Documents at the address given below from **8:00 am to 5:00 pm**.
5. A complete set of Bidding Documents may be acquired by interested bidders on **16 November 2021** from given address and website/s below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Fifty Thousand Pesos (Php 50,000.00)**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person or through electronic means.
6. The **Philippine National Railways** will hold a Pre-Bid Conference on **23 November 2021; 1:00 PM** at **PNR Board Room, 4<sup>th</sup> level, PNR Executive Bldg., Mayhaligue St. Tutuban, Tondo, Manila** and/or through videoconferencing/webcasting *via Zoom*, which shall be open to prospective bidders.

<https://us02web.zoom.us/j/87569118816?pwd=QUlqTDVWVmplaklMem5taWlzVVV4UT09>



Meeting ID: 875 6911 8816  
Passcode: 288234

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **28 December 2021; 10:00AM**. Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.
9. Bid opening shall be on **28 December 2021; 10:00AM** at the given address below **PNR Board Room, 4<sup>th</sup> level, PNR Executive Bldg., Mayhaligue St. Tutuban, Tondo, Manila** and/or through **Zoom**. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

<https://us02web.zoom.us/j/83271203400?pwd=V293bUV5S0FQN1J0dW9ObWY3cGNKUT09>

Meeting ID: 832 7120 3400  
Passcode: 326529

10. The **Philippine National Railways** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

***OFFICE OF THE BAC SECRETARIAT***  
***PNR Bids and Awards Committee***  
*4th level, Legal Division*  
*PNR Executive Building*  
*Mayhaligue Street, Tutuban, Tondo, Manila*  
*bacsecretariat@pnr.gov.ph*  
*(02) 319-0166; (02) 319-0041 loc. 338 or 150*

12. You may visit the following websites:

For downloading of Bidding Documents: <https://pnr.gov.ph>

16 November 2021

(SGD)

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**ENGR. EMMANUEL L. TOLENTINO**  
Chairman, PNR BAC

## ***Section II. Instructions to Bidders***

## 1. Scope of Bid

The Procuring Entity, **Philippine National Railways** invites Bids for the **Design and Build of PNR Track Relocation Works Including Pocket Tracks, Stations, RCC Box Culverts & Other Civil Works – Solis To Sucat (TRP-4A)** with Project Identification Number *PNR-BAC Bid Doc. No. 2021-07-Infra*.

The Procurement Project (referred to herein as “Project”) is for the construction of Works, as described in Section VI (Specifications).

## 2. Funding Information

2.1. The GOP through the source of funding as indicated below **for CY 2019 and 2020**, in the amount of **One Billion Six Hundred Two Million One Hundred Three Thousand Eighty-Five and 60/100 Pesos (₱1,602,103,085.60)**.

2.2. The source of funding is:

Department of Transportation downloaded fund sourced from the General Appropriations Act.

## 3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manual and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or invitation to bid by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

## 4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and

obstructive practices defined under Annex “P” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

## 5. Eligible Bidders

- 5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.
- 5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA’s CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

A contract is considered to be “similar” to the contract to be bid if it has the major categories of work stated in the **BDS**.

- 5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184, **with the exceptions stated in the BDS**.

## 6. Origin of Associated Goods

There is no restriction on the origin of Goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN.

## 7. Subcontracts

- 7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than fifty percent (50%) of the Project.

The Procuring Entity has prescribed that:

- a. Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS**, which shall not exceed fifty percent (50%) of the contracted Works.
- 7.2. The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criterial stated in ITB Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.
- 7.3. The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary

requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

- 7.4. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

## **8. Pre-Bid Conference**

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address and/or through videoconferencing/webcasting as indicated in paragraph 6 of the **IB**.

## **9. Clarification and Amendment of Bidding Documents**

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

## **10. Documents Comprising the Bid: Eligibility and Technical Components**

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents.**
- 10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.
- 10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.
- 10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

- 10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

## **11. Documents Comprising the Bid: Financial Component**

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents.**
- 11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

## **12. Alternative Bids**

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

## **13. Bid Prices**

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

## **14. Bid and Payment Currencies**

- 14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 14.2. *Payment of the contract price shall be made in:*

Philippine Pesos

## 15. Bid Security

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security shall be valid until *one hundred twenty (120) calendar days from the date of opening of bids*. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

## 16. Sealing and Marking of Bids

Each bidder shall submit **one (1)** copy of the first and second components of its Bid.

**To facilitate evaluation of the bids, additional three (3) hard copies and one (1) electronic copy in USB of the bid proposal is requested. Each and every page of the Bidding Documents submitted by the Bidder must be certified as True Copies of the original and signed by the Bidder's Authorized Representative.** However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission to the given website or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

## 17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB**.

## 18. Opening and Preliminary Examination of Bids

- 18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

- 18.2. The preliminary examination of Bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184. For design and build projects, Sections 10 and 11 of Annex G of the IRR of RA9184 shall govern.

## 19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184. For design and build projects, the detailed bid evaluation procedure shall as stated under Section 11, Annex G of the IRR of RA9184 (See **BDS**).
- 19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 16 shall be submitted for each contract (lot) separately.
- 19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

## 20. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**.

## 21. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.



### *Section III. Bid Data Sheet*

# Bid Data Sheet

ITB Clause	
5.2	<p>For this purpose, contracts similar to the project refers to any of the following:</p> <ol style="list-style-type: none"> <li>1. Design and Build of a Railway Track Formation in Cutting &amp; Embankment; or,</li> <li>2. Design and Build of Minor Concrete Bridges and / or Box Culverts; or,</li> <li>3. Design and Build of Railway Stations</li> </ol> <p>In the technical requirements, the design and build contractor (as solo or in joint venture/consortia) should be able to comply with the experience requirement under the IRR of R.A. 9184, where one of the parties (in a joint venture/consortia) should have at least one similar project, both in design and construction, with at least 50% of the cost of the ABC. (Section 9.2.ii.a, Annex G of the IRR of RA9184).</p> <p>A design and build project is an infrastructure project awarded as a single contract for architectural design and construction. As such, it involves two (2) components, i.e., a design component, (architectural/engineering aspect of the project, and a construction component (infrastructure aspect of the project), both of which are to be carried out by the winning bidder. Consequently, the bidders are required to have experience both in the architectural/engineering and construction aspects of the project.</p> <p>The phrase both in design and construction, as mentioned above, should be interpreted to mean that the bidder participating in a bidding for an infrastructure project that will be implemented through a design and build scheme is required to submit, as technical requirement, either at least one (1) similar contract for design and build that is at least fifty percent (50%) of the cost of the Approved Budget for the Contract (ABC) for the project; or at least one (1) contract for design and at least one (1) contract for construction, each of which should be at least fifty percent (50%) of the cost of the ABC. (GPPB NPM 081-2013)</p>
5.4	<p>Joint ventures/consortia among Filipino contractors and consultants or among Filipino contractors and foreign consultants shall be allowed subject to pertinent laws and the relevant provisions of the IRR of R.A. 9184. The joint venture/consortia shall be jointly and severally responsible for the obligations and the civil liabilities arising from the design and build contract: Provided, however, That Filipino ownership or interest thereof shall be at least seventy five percent (75%): Provided further, That joint ventures/consortia in which Filipino ownership or interest is less than seventy-five percent (75%) may be eligible where the structures to be built require the application of techniques and/or technologies which are not adequately possessed by Filipinos and that Filipino ownership or interest shall not be less than twenty-five percent (25%): Provided, finally, that when the design services in which the joint venture wishes to engage involve the practice of professions regulated by law, all those who will actually perform the services shall be Filipino citizens and registered professionals authorized by the appropriate regulatory body to practice those</p>

	<p>professions and allied professions and where foreign designers are required, the foreign designer must be authorized by the appropriate Philippine Government professional regulatory body to engage in the practice of those professions and allied professions. (Section 9.2.ii.c., Annex G of the IRR of RA9184)</p>
7.2	<p>Subcontracting is allowed only up to fifty percent (50%) of the total contract price for the following works:</p> <ol style="list-style-type: none"> <li>1. Construction of RCC Box Culverts</li> <li>2. Construction of Stations Platforms</li> <li>3. Ballast Spreading and Track Laying</li> <li>4. Demolition of Concrete / Steel Structures</li> <li>5. Drainage works</li> <li>6. Tree Cutting</li> </ol> <p>For the nominated Subcontractor during the bid, the bidder shall submit documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in <b>ITB</b> Clause 5.</p>
10.3	<p>The minimum PCAB registration required for this project: <b>Category AAA (Large B)</b></p> <p>For joint venture bidders, a Special PCAB License issued by the PCAB pursuant to Section 38 of RA4566, and not a PCAB license and registration individually issued to each joint venture partner must be submitted. Failure of the joint venture bidder, to submit a Special PCAB License shall be a ground for disqualification despite the submission of the individual licenses of each joint venture partner.</p> <p><i>Note: Any special license application for joint venture or consortium license must be filed with PCAB at least five (5) working days before the bidding (per Board Resolution No. 186 series of 2014 issued by Department of Trade and Industry).</i></p>
<b><u>10.4</u></b>	<p>A list of the contractor's personnel to be assigned to the project shall be prepared for the design and construction phases of the project, respectively.</p> <p>The Bidder shall submit filled-out CV using Format of Curriculum Vitae (CV) for all proposed key personnel to be assigned to the project. Bidder shall attach the following:</p> <ul style="list-style-type: none"> <li>• Photocopy of Valid PRC License (applicable only to professionals with PRC License).</li> <li>• Photocopy of Certificate of Completion of Occupational Health and Safety Training (applicable only to Safety Officer)</li> </ul> <p>The key personnel must meet the required minimum years of experience set below:</p>

Key Position	Minimum Qualifications	Relevant Experience
Team Leader/Project Manager	Graduate in Engineering; Professionally Qualified Licensed Civil Engineer.	<ul style="list-style-type: none"> <li>- 20 years minimum working experience with 15 years experience in similar position</li> <li>- Experience in construction of at least three (3) comparable passenger railway transport infrastructure projects (light rail, commuter rail, freight rail)</li> </ul>
<b>DESIGN</b>		
Principal Design Engineer Railway Track, Construction & Maintenance	Bachelor Degree; Professionally Qualified Licensed Civil Engineer	<ul style="list-style-type: none"> <li>- 15 years minimum working experience with 10 years experience in similar position</li> <li>- Design experience of at least one (1) Railway project of 10 km length within the past 10 years</li> </ul>
Principal Design Engineer Bridge, Culvert and other concrete structures Design	Post Graduate Master's Degree (Structures); Professionally Qualified Civil Licensed Engineer	<ul style="list-style-type: none"> <li>- 20 years minimum working experience with 15 years experience in similar position</li> <li>- Design experience of RCC Box Culverts, Bridges and other civil structures within the past 10 years</li> </ul>
<b>CONSTRUCTION</b>		
Senior Geotechnical Engineer	Post Graduate Master's Degree (Geotech) Professionally Qualified Licensed Engineer	<ul style="list-style-type: none"> <li>- 15 years minimum working experience with 10 years experience in similar position</li> </ul>
Senior Resident Engineer – Track Construction	Bachelor's Degree; Professionally Qualified Licensed	<ul style="list-style-type: none"> <li>- 15 years minimum working experience with 15 years</li> </ul>

		Civil Engineer	<p>experience in similar position</p> <ul style="list-style-type: none"> <li>- Construction experience of Railway Project having different types of civil structures, Track, Stations etc</li> </ul>
	Senior Civil Engineer	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	<ul style="list-style-type: none"> <li>- 15 years minimum working experience with 10 years experience in construction of Railway project having different types of structures &amp; in similar position</li> </ul>
	Senior Track Expert	Bachelor's Degree in Civil Engineering; Professionally Qualified Licensed Civil Engineer	<ul style="list-style-type: none"> <li>- 15 years minimum working experience with 10 years experience in construction of Railway Track having different types of Systems &amp; in similar position</li> </ul>
	Quality Control Manager	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer;	<ul style="list-style-type: none"> <li>- 20 years minimum working experience with 10 years experience in similar position conversant with all testing, quality assurance and control methods, Laboratory Management.</li> <li>- Construction project experience of quality assurance systems in at least one (1) Railway project of 20 km length within the past 10 years</li> </ul>
	Health and Safety	Bachelor's Degree;	<ul style="list-style-type: none"> <li>- 15 years minimum</li> </ul>

	Officer	Professionally Qualified Licensed Engineer; DOLE Accredited	working experience with 10 years experience in similar position
	Senior Planning and Scheduling Engineer	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	- 15 years minimum working experience with 10 years experience in similar position
	Contract / Risk Manager	Bachelor's Degree; Professionally Qualified Licensed Engineer	- 15 years minimum working experience with 10 years experience in similar position
	Senior Quantity Surveyor	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	- 10 years minimum working experience in similar position
	Environmental Specialist	Post Graduate Degree in Environmental Science / Environmental Planning; Bachelor's Degree	- 10 years minimum working experience in similar position
<p><b><i>*Note: In case the bidder will bid for both Track Relocation Works packages TRP-04a and TRP-04b, a separate and dedicated set of Key Personnel must be nominated for each package.</i></b></p>			
10.5	The minimum major equipment requirements are the following:		
	<b>S.No.</b>	<b>NAMES OF TOOLS/EQUIPMENT</b>	<b>MINIMUM QUANTITY</b>
		<b>TOOLS</b>	
	1	Rail Drilling Machine	<b>SUFFICIENT NUMBER OF TOOLS SHOULD BE AVAILABLE TO MEET THE TARGET DATE OF COMPLETION</b>
	2	Abrasive Rail cutter	
	3	Track Jacks	
	4	Hydraulic Rail Tensor	
	5	Rail Bender	
	6	Hydraulic Rail Bender Heavy Duty	
	7	Hydraulic Rail Joint Straightener	
	8	Rail Creep Adjuster	
	9	Hydraulic Sleeper Spacer	
	10	Concrete Sleeper Breaker and angle grinder	
	11	Concrete Sleeper Drilling Machine	
	12	Portable D.C. Welding Generator	
	13	Heavy Duty Hydraulic Extractor for Jammed ERCs	
	14	TRALIS (Portable lifting and slewing device)	

15	Hand held Off Track tampers with generator and or Ontrack Small Tie-Tampers	
16	Double Action Weld Trimmer for AT Welder (Power pack version)	
17	ERC Extractor/applicator	
18	Rail tongues	
19	De-stressing roller	
20	Ballast Profile Template	
<b>S.No.</b>	<b>EQUIPMENT</b>	<b>QUANTITY</b>
1(a)	Back Hoe (0.6 Cum Bucket & 1.8 Cum Loader Bucket)	3
1(b)	Motor Grader(165 Hp, 1.7 m Blade)	2
2(a)	Concrete Mobile Batching Plant(15 Cum/hr Capacity)	2
2(b)	Transit Mixers (6 cum.)	4
3	Field Lighting Arrangement	As required
4	Trailer(Long Bed – 20 – 30 Tonne Capacity)	2
5	Dump Trucks(6.5 – 7.5 Cum Capacity)	10
6	Vibratory Compactors (8-10 tonne Capacity))	2
7	Water Tankers with Sprinklers (3000-4000 lts)	2
8	Excavators(0.9 Cum Bucket Capacity)	3
9	Field testing Equipment	As required
10	USFD testing Equipment	As required
11	Bar Bending and Cutting Equipment( Up to 50mm Dia)	2
12	Centralised Quality Control Laboratory with all equipment	1
13	Lifting Hydra(Max Lifting capacity 40 Tonne)	2
14	Pickup/vans (2-3 Tonne Capacity)	2
15	Concrete Vibrator & Needle Sets	As required
16	Material Trolley	6
17	Inspection Trolley	2
18	Electronic Total Station, complete set (w/ tripod, 2 prism), 30X telescope magnification with 2x plug-in camcorder NIMH GEB 111, GKL 111 charger, RS 232 interface cable for data transfer, GDF 111 Tribrach, laser plummet incorporation	2
19	Automatic Level complete with tripod 3x magnification, +/- 0.80 mm standard deviation, erect image telescope, 0.50m shortest focusing distance, with built-in compensator of less than 0.3" setting accuracy, fully waterproof and dust resistant with a horizontal circle that can be in grads or degrees and aluminium tripod.	2

	<p>Note: The above equipment &amp; units which are either owned, leased and/or under purchase agreements must be supported by the documents.</p> <p>The above list is not final and Contractor has to mobilize all equipment with required numbers to complete the project in agreed time.</p> <p><b><i>*In case the bidder will bid for both Track Relocation Works packages TRP-04a and TRP-04b, a separate and dedicated set of Major Equipment must be nominated for each package.</i></b></p>
15.1	<p>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</p> <ul style="list-style-type: none"> <li>a. The amount of not less than <b>Thirty-Two Million Forty-Two Thousand Sixty-One and 71/100 Pesos (₱32,042,061.71)</b> [<i>Two percent (2%) of ABC</i>], if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</li> <li>b. The amount of not less than <b>Eighty Million One Hundred Five Thousand One Hundred Fifty-Four and 28/100 Pesos (₱80,105,154.28)</b> [<i>Five percent (5%) of ABC</i>] if bid security is in Surety Bond.</li> </ul>
19.1	<p>For the detailed evaluation of the design and build proposals a two-step procedure shall be adopted by the BAC, which may be undertaken with the assistance of the Design and Build (DBC).</p> <p><b>First-Step Procedure:</b></p> <ul style="list-style-type: none"> <li>i. The first step of the evaluation shall involve the review of the preliminary conceptual designs and track record submitted by the contractor as indicated in the Bidding Documents using a non- discretionary "pass/fail" criteria that involve compliance with the following requirements: <ul style="list-style-type: none"> <li>a. Adherence of preliminary design plans to the required performance specifications and parameters and degree of details;</li> <li>b. Concept of approach and methodology for detailed engineering, design and construction with emphasis on the clarity, feasibility, innovativeness and comprehensiveness of the plan approach, and the quality of interpretation of project problems, risks, and suggested solutions;</li> <li>c. Quality of personnel to be assigned to the project which covers suitability of key staff to perform the duties of the particular assignments and general qualifications and competence including education and training of the key staff;</li> </ul> <p><i>*Note: The bidder shall comply with the minimum requirements found in Annex A - Technical Evaluation Criteria</i></p> </li> <li>ii. For complex or unique undertakings, such as those involving highly specialized or advanced engineering technology, eligible bidders may be</li> </ul>



	<p>required, at the option of the agency concerned, to make an oral presentation within fifteen (15) calendar days after the deadline for submission of technical proposals.</p> <p><b>Second-Step Procedure:</b></p> <p>Only those bids that passed the above criteria shall be subjected to the second step of evaluation.</p> <p>The BAC shall open the financial proposal of each “passed” bidder and shall evaluate it using non-discretionary criteria - including arithmetical corrections for computational errors - as stated in the Bidding Documents, and thus determine the correct total calculated bid prices. The BAC shall automatically disqualify any total calculated bid price which exceeds the ABC. The total calculated bid prices (not exceeding the ABC) shall be ranked, in ascending order, from lowest to highest. The bid with the lowest total calculated bid price shall be identified as the Lowest Calculated Bid (LCB).</p> <p>(Section 11, Annex G of the IRR of RA9184)</p>
19.2	No further instructions.
20	<p>Within a non-extendible period of five (5) calendar days from receipt by the bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the bidder shall submit the following documents:</p> <p>1. Income Tax Return for CY 2020 duly received by the BIR or its authorized agent banks; OR Quarterly Income Tax Returns for the <b>First Quarter and Second Quarter of 2021 duly received by the BIR or its authorized agent banks pursuant to BIR RR No. 3-2005.</b></p> <p>2. Latest Business Tax Returns: VAT Return (Form 2550M and 2550Q) or Percentage Tax Returns (2551M) for the six (6) month period preceding the submission and opening of bids with any of the following as proof of payment:</p> <ol style="list-style-type: none"> <li>a. Electronic Filing and Payment System (EFPS) confirmation receipt</li> <li>b. bank-issued payment confirmation receipt</li> <li>c. BIR payment confirmation receipts/status</li> </ol> <p><i>*Bidders must submit tax returns through the Electronic Filing and Payments System (EFPS).</i></p> <p><i>NOTE: The latest income and business tax returns are those within the last six months preceding the date of bid submission.</i></p>
21	<p>Additional contract documents relevant to the Project that shall be required by existing laws and/or the Procuring Entity, such as:</p> <ul style="list-style-type: none"> <li>• Design and Construction Schedule and S-curve;</li> <li>• Time Chainage Diagram;</li> <li>• Updated Contractor’s Organizational Chart for this project;</li> <li>• Manpower Schedule;</li> <li>• Construction Methods;</li> </ul>

- |  |  |
|--|--|
|  | <ul style="list-style-type: none"><li>• Equipment Utilization Schedule;</li><li>• Payment Schedule showing the Detailed Cash Flow estimate;</li><li>• Design Submittal and Design Review Program;</li><li>• Planned Monthly Quantity for Major Items (rebar, concrete, structural steel); and</li><li>• Construction Safety and Health Program approved by the DOLE, and other acceptable tools of project scheduling.</li></ul> |
|--|--|

## ***Section IV. General Conditions of Contract***

## 1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

## 2. Sectional Completion of Works

If sectional completion is specified in the **Special Conditions of Contract (SCC)**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date shall apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

## 3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC**, which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

## 4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, to carry out the supervision of the Works.

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

## **5. Performance Security**

- 5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.
- 5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

## **6. Site Investigation Reports**

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the SCC supplemented by any information obtained by the Contractor.

## **7. Warranty**

- 7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.
- 7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the SCC.

## **8. Liability of the Contractor**

Subject to additional provisions, if any, set forth in the SCC, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

## **9. Termination for Other Causes**

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in ITB Clause 4.

## **10. Dayworks**

Subject to the guidelines on Variation Order in Annex “E” of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor’s Bid shall be used for small additional amounts of work only when the Procuring Entity’s Representative has given written instructions in advance for additional work to be paid for in that way.

## **11. Program of Work**

11.1. The Contractor shall submit to the Procuring Entity’s Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC**.

11.2. The Contractor shall submit to the Procuring Entity’s Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC**. If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity’s Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

## **12. Instructions, Inspections and Audits**

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor’s accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

## **13. Advance Payment**

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex “E” of the 2016 revised IRR of RA No. 9184.

## **14. Progress Payments**

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity’s Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

## **15. Operating and Maintenance Manuals**

- 15.1. If required, the Contractor will provide “as built” Drawings and/or operating and maintenance manuals as specified in the **SCC**.
- 15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity’s Representative’s approval, the Procuring Entity’s Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

## *Section V. Special Conditions of Contract*



# Special Conditions of Contract

GCC Clause	
1	<p>As a rule, contract implementation guidelines for the procurement of infrastructure projects shall comply with Annex “E” of this IRR. The following provisions as stated in Section 13, Annex G of the IRR of RA9184 shall supplement these procedures:</p> <ol style="list-style-type: none"> <li>a. No works shall commence unless the contractor has submitted the required documentary requirements and the procuring entity has given written approval. Work execution shall be in accordance with reviewed and approved documents.</li> <li>b. The contractor shall be responsible for obtaining all necessary information as to risks, contingencies and other circumstances which may affect the works and shall prepare and submit all necessary documents specified by the procuring entity to meet all regulatory approvals as specified in the contract documents.</li> <li>c. The Contractor shall submit a detailed program of work within fourteen (14) calendar days after the issuance of the Notice to Proceed for approval by the procuring entity that shall include, among others:               <ol style="list-style-type: none"> <li>i. The order in which it intends to carry out the work including anticipated timing for each stage of design/detailed engineering and construction;</li> <li>ii. Periods for review of specific outputs and any other submissions and approvals;</li> <li>iii. Sequence of timing for inspections and tests as specified in the contract documents;</li> <li>iv. General description of the design and construction methods to be adopted;</li> <li>v. Number and names of personnel to be assigned for each stage of the work;</li> <li>vi. List of equipment required on site for each major stage of the work; and</li> <li>vii. Description of the quality control system to be utilized for the project.</li> </ol> </li> <li>d. Any errors, omissions, inconsistencies, inadequacies or failure submitted by the contractor that do not comply with the requirements shall be rectified, resubmitted and reviewed at the contractor’s cost.</li> </ol>

If the Contractor wishes to modify any design or document which has been previously submitted, reviewed and approved, the contractor shall notify the procuring entity within a reasonable period of time and shall shoulder the cost of such changes.

- e. As a rule, changes in design and construction requirements shall be limited only to those that have not been anticipated in the contract documents prior to contract signing and approval. The following guidelines shall govern approval for change or variation orders:
  - i. Change Orders resulting from design errors, omissions or non-conformance with the performance specifications and parameters and the contract documents by the contractor shall be implemented by the contractor at no additional cost to the procuring entity.
  - ii. Provided that the contractor suffers delay and/or incurs costs due to changes or errors in the procuring entity's performance specifications and parameters, he shall be entitled to either one of the following:
    - a. an extension of time for any such delays under Section 10 of Annex "E"; or
    - b. payment for such costs as specified in the contract documents, provided, that the cumulative amount of the variation order does not exceed ten percent (10%) of the original contract price.
- f. The contract documents shall include the manner and schedule of payment specifying the estimated contract amount and installments in which the contract price will be paid.
- g. The contractor shall be entitled to advance payment subject to the provisions of Section 4 of Annex "E".
- h. The procuring entity shall define the quality control procedures for the design and construction in accordance with agency guidelines and shall issue the proper certificates of acceptance for sections of the works or the whole of the works as provided for in the contract documents.
- i. The contractor shall provide all necessary equipment, personnel, instruments, documents and others to carry out specified tests.
- j. All design and build projects shall have a minimum Defects Liability Period of one (1) year after contract completion or as provided for in the contract documents. This is without prejudice, however, to the liabilities imposed upon the engineer/architect who drew up the plans

	<p>and specification for a building sanctioned under Article 1723 of the New Civil Code of the Philippines.</p> <p>k. The contractor shall be held liable for design and structural defects and/or failure of the completed project within the warranty periods specified in Section 62.2.3.2 of the IRR.</p>																						
<u>2</u>	<i>No further instructions.</i>																						
3.1	<p><i>The Procuring Entity shall give possession of all parts of the Site to the Contractor upon the latter's receipt of Notice to Proceed.</i></p> <p><i>The PNR requires the contractor to have the railway line always open to train operations during the execution of the Work. Contractor shall see to it that trains are not delayed nor endangered while the work activities along the line are ongoing.</i></p>																						
6	<p>The site investigation reports are:</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Description (DATA)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>List of Level Crossings to be Relocated</td> </tr> <tr> <td>2</td> <td>List of Pocket Tracks to be Constructed</td> </tr> <tr> <td>3</td> <td>List of Stations where Temporary Platforms &amp; Prefab Structure Required</td> </tr> <tr> <td>4</td> <td>List of Stretches where Existing Track to be Retained</td> </tr> <tr> <td>5</td> <td>List of Trees to be Cut</td> </tr> <tr> <td>6</td> <td>List of Utilities being shifted by others</td> </tr> <tr> <td>7</td> <td>Preliminary Survey and Geotechnical Investigation Data</td> </tr> <tr> <td>8</td> <td>Hydrology Report</td> </tr> <tr> <td>9</td> <td>Topographic Survey Details</td> </tr> <tr> <td>10</td> <td>List of affected structures for demolition</td> </tr> </tbody> </table> <p>Note: These data are for reference only. The Client does not guarantee to the contractor that the data provided are correct, free from error, and applicable to the project at hand. The Contractor is responsible for the accuracy or applicability of any data that he will use in his design-build proposal and services.</p>	S.No.	Description (DATA)	1	List of Level Crossings to be Relocated	2	List of Pocket Tracks to be Constructed	3	List of Stations where Temporary Platforms & Prefab Structure Required	4	List of Stretches where Existing Track to be Retained	5	List of Trees to be Cut	6	List of Utilities being shifted by others	7	Preliminary Survey and Geotechnical Investigation Data	8	Hydrology Report	9	Topographic Survey Details	10	List of affected structures for demolition
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7.2	Fifteen (15) years (Section 62.2.3.2 of the IRR of RA 9184)																						
10	Dayworks are applicable at the rate shown in the Contractor's original Bid.																						
11.1	<p>The Contractor shall submit the Program of Work to the Procuring Entity's Representative within <i>ten (10) calendar days</i> of delivery of the Notice of Award.</p> <p>Within fourteen (14) calendar days from the Commencement Date, the Contractor shall submit to the Engineer an initial Three-Months Rolling Program.</p>																						

	The Contractor shall submit a “Detailed Works Program (DWP) to the Engineer within fourteen (14) calendar days from the Commencement Date incorporating the Key Dates as outlined in the Annex B – Summary of Key Dates.
11.2	The amount to be withheld for late submission of an updated Program of Work is <i>1% of every progress billing until such time as the update has been received.</i>
13	The amount of the advance payment <i>shall not exceed 15% of the total contract price and schedule of payment.</i>
14	Materials and equipment delivered on the site but not completely put in place shall <i>not</i> be included for payment.
15.1	<p>The following documents shall be submitted by the Contractor, and it shall include the submission of complete and final “As-built Drawings”:</p> <ol style="list-style-type: none"> <li>1. One (1) set of original copy in 30” x 40” sheets (printed on a white sheets) signed and sealed by appropriate professional structural engineers;</li> <li>2. Four (4) sets of duplicate copies in 30” x 40” signed and sealed by appropriate professional structural engineers;</li> <li>3. Complete set of electronic files in USB Thumb Drive of “As-built Drawings” in pdf and cad format;</li> <li>4. Complete set of electronic and printed copies of colored photos in jpeg-format with date and stamp demonstrating before, during, and after construction of works;</li> <li>5. <b>Manuals / brochures with Technical Specifications and manufacturer’s printed Product Installation Instructions;</b> and,</li> <li>6. Warranty Certificate of at least five (5) years against poor workmanship and one (1) year against defects traceable to materials.</li> </ol> <p>Refer to SCC Clause 12.5 for Warranty against Structural Defects / Failures, when applicable.</p> <p>The period, by which above-cited documents are required to be submitted, shall be <b><u>within fifteen (15) calendar days prior to the issuance of Certificate of Completion.</u></b></p>
15.2	The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required is equivalent to final collection/billing and/or 10% of the final Contract Cost whichever is higher.

## *Section VI. Specifications*

## TERMS OF REFERENCE (TOR)

### Design and Build of PNR Track Relocation Works Including Pocket Tracks, Stations, RCC Box Culverts & Other Civil Works – Solis to Sucat (TRP-4a)

#### under the PNR TRACK RELOCATION PROJECT

#### 1.0 GENERAL INFORMATION

##### 1.1 Background of the Project

The proposed NORTH SOUTH COMMUTER RAILWAY EXTENSION (NSCR-EX) PROJECT was conceptualized to address the deteriorating public transport system, the rapid urbanization experienced in Metro Manila and her neighbouring provinces, hence, implementing NSCR-EX Project from Solis to Calamba in Manila will provide a more convenient access to commuters to Metro-Manila and vice versa. For this purpose, the Government of the Philippines (GOP) has entered into an agreement for the implementation. Towards this, it was planned to employ excellent expertise of foreign and local Contractors in the successful development program of upgrading the Rail Transport services.

NSCR-EX project will provide a high standard double-track commuter rail connecting Solis Station in the Manila City to Calamba in southern part. The project will be approximately 56.5 km using the existing right of way (ROW) of the Philippine National Railways (PNR) and will run on mostly elevated railway viaduct structure that will implement standard gauge track that is superior in safety, higher speeds, and reliability. Please see Project Map – SCRP Alignment and Stations. After the implementation of the NSCR-EX Project, the trains run up to design speed of 120 kmph to which reduce the travel time and increase the line capacity compared to present track system.

##### 1.2 Brief Description of the Proposed PNR Track Relocation Project

As the above NSCR-EX project Implementation is developing, the existing operation of PNR is greatly affected by the construction of the NSCR-EX Project. The existing PNR line will be relocated to a single track to give way and implement the new NSCR EX Project. Before the actual NSCR EX Project works commences at the ground, most of the existing PNR tracks which is servicing south of Solis Station must be shifted/relocated, and operation strategy shall be developed during construction. Accordingly, the PNR Track is proposed to be relocated as a single track within the PNR ROW, and planned procurement is staged as follows:

- I. Procurement of Long-Lead Materials (under TRP-01)
- II. Design and Build of New PNR Pandacan Railway Bridge (under TRP-02)

- III. Design and Build of Thirteen (13) Steel Bridges (under TRP-03)
- IV. Design and Build of PNR Track Relocation Works Including Pocket Tracks, Stations, RCC Box Culverts & Other Civil Works – Solis to Sucat (under TRP-04a)
- V. Design and Build of PNR Track Relocation Works Including Pocket Tracks, Stations, RCC Box Culverts & Other Civil Works - Sucat to Calamba (under TRP-04b)

The establishment of a new alignment intended for the continued operation of PNR in replacement of the existing Single/Double tracks to be shifted/relocated by NSCR EX Project implementation. Aside from the affected bridges and box culverts, track relocation works will also need to design / construct/reinstall affected steel bridge crossing Pasig River, intended to be double-track to accommodate the shifted PNR track and facilitate the existing bridge to be dismantled and construct a new bridge for new double track alignment. This TOR focuses on **Design and Build of PNR Track Relocation Works Including Pocket Tracks, Stations, RCC Box Culverts & Other Civil Works – Solis to Sucat (under TRP-04a)**

### 1.3 Contractual Framework

The contractual arrangement to be used for the project is the Design and Build Scheme. Under this scheme the procuring entity awards a single contract for the Engineering design and construction to a single firm, partnership, corporation, joint venture or consortium

### 1.4 Existing PNR Track & Proposed Relocated Track Details & Operation

The background of existing track from Solis to Sucat to Calamba and the proposed track relocation and operation is given in the table below:

Item		Existing Track	Proposed Relocated Track	Remarks
Tutuban-Solis(Km 1.349) – Sucat-Alabang (Km. 28.498)	Tracks	Double Track	Single Track	With pocket tracks
	Frequency (One direction)	2 train operation/hour (30 min interval)	3 train operation/hour (20 min interval)	
	Pocket Tracks	1 (at Sucat)	11(new including shifted pocket track at Sucat)	Average interval is 2.5 km (Approx)
	Stations	15 (Excluding Tutuban & Alabang)	15	Locations may change slightly.
Alabang - Calamba Km. 28.498 km-55.6km	Tracks	Single Track	Single Track	New track construction, detouring and slewing will be necessary.
	Frequency (One direction)	2 train operation/day	2 train operation/day	
	Stations	10	10	Locations may change slightly.
ROW		Within ROW	Within ROW	No additional land acquisition is basically planned for PNR relocated track

## 1.5 Current Site Conditions:

Almost all the relocated track alignment is parallel to the existing track and within the PNR right of way, and the land is available. Relocation of informal settlers and families (ISF) and demolition of structures in some locations will be done prior to commencement of works. In case any such locations where additional land acquisition is involved due to unavoidable circumstances, which shall be made available during the progress of works.

There are certain Utilities which are being coordinated with utility owners and Govt Departments for shifting/relocation. The list of such utilities is attached as **Appendix Ap-7**. Every endeavor is made to shift/relocate the utility so as to progress the work without any hindrance. However, the contractor shall plan the works in such a way that the works in all free areas shall progress to achieve the targets.

NLEX-SLEX Connector Road Project is approximately overlapping from 1km400m to app. 6km430m (Blumentritt to SantaMesa Area, L= app.5km30m). The contractor is required to have a close coordination with the agencies working for NLEX and SLEX Connector road contractors while planning and execution of PNR Track relocation works.

The relocated track shall be constructed with the track materials available in PNR's designated store which are to be collected by the contractor. The list of material that are supplied by the employer are attached at **Appendix-Ap-1**. Contractor shall collect the materials from the designated store to their works. The material used/consumption statement shall be submitted as and when required by Employer/Engineer in the required format approved.

## 2.0 SCOPE OF THE CONTRACT

### 2.1 General

The existing operation of PNR is greatly affected by the construction of the NSCR-EX Project. The existing PNR line will be relocated as a single-track to implement the new NSCR-EX Project. Before the actual NSCR-EX Project works commence at the ground, **the existing PNR operation which is servicing south of Solis Station must be temporarily shifted/relocated, and operation strategy shall be developed during construction**. Accordingly, the following package is a part of total PNR Track Relocation Project implementation.

- a) **Design and Build of PNR Track Relocation Works Including Pocket Tracks, Stations, RCC Box Culverts & Other Civil Works – Solis to Sucat (under TRP-04a)**

### 2.2 Obligations of the Contractor

- i) Undertake Detailed Engineering Design (DED) including Detailed Design Estimate (DDE) with the corresponding Detailed Unit Price Analysis (DUPA) per item (subject to evaluation and acceptability of the DOTr/PNR/Engineer), the conduct of topographic, hydro-graphic, and cross-section surveys, geotechnical and geological investigation and hydrologic investigation which conforms with the performance specifications (minimum design standards) prescribed in this TOR and following International Standards for Railways such as AREMA, JIS, UIC etc. Only upon the submission and acceptance of these documents will the Contractor be allowed to proceed with the construction of the project.
- ii) The project shall be constructed according to the DED prepared by the winning Bidder and approved by the DOTr/PNR/Engineer, and in compliance with the Minimum Performance Specifications and Parameters



(MPSP) for Construction herein prescribed. The said MPSP for construction includes conformance to the provisions pertaining to PNR –Requirements and Specifications appended to this document. The provisions made in AREMA, JIS, UIC, AASHTO, American Society for Testing and Materials (ASTM), and ACI, among other standards shall be applicable

iii) The contractor shall have interface meetings & coordination with other agencies, contractors, utility owners, Govt. Departments, LGUs etc. as and when required for smooth execution and progress of works during project implementation

iv) **Traffic Management During Construction.**

Traffic Management Plans for Construction (if applicable)

The winning Bidder must submit to the DPWH for approval, detailed Traffic Management Plan for Construction based on the preliminary Traffic Management Plan submitted as part of the Technical Proposal in its bid. The detailed Traffic Management Plan must provide for the following:

- a) The minimum disruption set out below
- b) The proposed timing of road or lane closures for existing roads to facilitate the construction of the bridge structure and road approach, having regard to the minimum disruption obligations. The winning Bidder shall ensure that, during the Construction of the bridge structure, the minimum number of lanes on detour road is kept open and passable. Construction activities shall be so scheduled as to cause the least congestion during peak hours
- c) The roads in and around the Construction Area that are to be used as alternate or detour routes by motor vehicles during construction, to reduce traffic congestion.
- d) The arrangements for the clearing of obstructions and patching and repair of pavements along the alternate routes as well as along the at-grade, roads, in coordination with the DPWH and local government units (LGUs)
- e) The setting up of directional and informative signs leading to and along the alternate routes to aid motorists. A map of the alternate routes shall be provided to LGUs, including barangays, and communities affected
- f) The personnel of the winning Bidder /Contractor and their qualifications who will be managing and providing the traffic enforcement and management services. The Plan shall also include their proper training and orientation on these services.
- g) The consultations and coordination with the Police, LGUs, community leaders, residential and business establishments affected. Before the traffic Management Plan is finalized, the consultations will inform them of the Project and proposed Plan including the alternate routes, obtain their views and suggestions as inputs in finalizing the Plan, and seek their cooperation to effectively carry it out. The Plan shall include arrangements for the agencies mentioned to deploy additional traffic enforcers as needed.
- h) The information, education and communication program to advise the motorists, residents, business, and general public on the above. This program shall involve the use of media –print, radio, TV and internet –including flyers and billboards to inform the public on the Traffic Management Plan before and during Construction. It shall include a mechanism to give updates on the traffic situation, to receive complaints on traffic and road conditions, accidents and emergencies, and to respond to these incidents so as to ease traffic congestion in the Construction Area and on the alternate routes.

v) Soil Investigation using Core Penetration Test (CPT) and same tests.

vi) **Utility Locations in the Project:**

The project may affect due to existing utility locations in the alignment during construction. There may be existing street-lights/lamp posts & traffic lights that have to be removed & reinstalled during the construction of works. Although it is the responsibility of the Client to coordinate for its removal/relocation with the concerned utility office and the local residents who will be affected by such removal/relocation, the contractor should consider the existence of these utilities in their construction schedule, specifically, time necessary for its removal in order not to affect any project activity. The list of utilities in the project is attached as **Appendix-7**.

**vii) No Disruption to Existing PNR Train Operations due to Contractor's Works**

No work that shall in any way adversely affect train operations. Operation shall be started until adequate provision, satisfactory to the Engineer, has been made to allow trains to operate safely and punctually. No train operations shall be hampered by the Contractor except by written permission from the Engineer.

The contractor shall ensure that the active lines are clear from any obstructions that might cause accidents/derailments. The contractor will be liable for any untoward incidents that might occur during the project implementation caused by these obstructions during the daytime and/or night-time works.

**viii) Environmental Protection and Management Plan**

Waste Disposal

The Contractor shall;

- a) Be responsible for management of all wastes generated during construction.
- b) Inspect the building to determine the presence of hazardous material such as asbestos, CFC's, lead etc. These shall be removed and disposed of as required by law.
- c) Manage hazardous waste generated by construction activities and place such wastes in properly designated and segregated areas prior to their disposal to the designated hazardous waste disposal facility that is accredited and approved by DENR. Have adequate oil spill response materials and equipment on site in case such oil spills occur on site.
- d) Have a Spill Response Plan and conduct training of personnel for spill prevention and containment measures.
- e) Implement a Waste Management Program for proper handling, collection and disposal of solid and liquid wastes, and, shall adopt a waste management hierarchy of waste avoidance, waste reuse, waste recycling, and waste disposal.
- f) Create a waste management plan that will provide a practical guide designed to identify all the wastes that will be generated throughout the construction of the Project, and to define all the options for their reuse or management.
- g) Separate inert materials for appropriate disposal or recycling.
- h) See to it that no burning, burying or dumping of wastes shall be done within the temporary depositing area, or construction sites and other non-designated areas.
- i) Sewage from sanitary facilities of workers and offices shall be directed to septic tanks adequately designed and constructed for the purpose.

**ix) Pollution Prevention**

**Protection of Drains**

The contractor shall;

- a) Locate and disconnect disused drain connections.
- b) Permanently seal drain connections within the site.
- c) Protect drains and fittings still in use and keep free of debris.

### **Prevention of Dust**

The contractor shall;

- a) Prevent/ reduce dust by periodically spraying with water.
- b) Protect site operatives and general public from dust.

### **Prevention of Fumes**

The contractor shall;

- a) Prevent fire or explosion caused by gas or vapor.
- b) Protect site operatives and general public from dangerous fumes.

### **Prevention of Vibration**

The contractor shall;

- a) Prevent vibration.
- b) Protect site operatives and general public from vibration.
- c) Monitor vibration in adjacent properties.

### **Prevention of Noise**

The contractor shall;

- a) Only permit nighttime working will with the permission of the Engineer and with any required notifications to local communities and mitigation measures.
- b) Minimize noise by keeping all equipment in good working order, properly maintained and lubricated, equipped with noise abatement devices and silencers. Implement ways to minimize noise and vibration resulting from work activities.
  - i. Carry out work shall be out to keep the levels of noise and vibration within acceptable limits, particularly where this would otherwise create inconvenience to nearby residents. Plant and equipment will be kept at a high standard of maintenance, and relevant National and Local Noise Control Regulations complied with at all times.
  - ii. Should noise, or vibration levels exceed the acceptable levels; measures shall be taken immediately. So far as is reasonable and practicable, its action must be in line with the reduction levels to the acceptable limits.
  - iii. Practicable methods of noise and vibration control on construction work sites may include:
  - iv. Fitting the engines of plant and equipment with noise suppressers, and the correct exhaust mufflers;
  - v. Imposing a striker speed limit on site vehicles at particular some location;
  - vi. Erecting billboard at selected locations;
  - vii. Keeping doors of the engine compartments of compressor, generators, etc. closed when running;

- viii. Keeping engine enclosure panels, when fitted, closed;
- ix. Keeping air lines leak free;
- x. Prohibiting the unnecessary dropping of material and controlling loading and unloading to minimize noise and vibration;
- xi. Scheduling any construction activities that may generate vibration levels when carried out in the day time;
- xii. Scheduling any construction activities that may generate vibration levels which could affect nearby residents, to be carried out in the day time as much as practicable; and
- xiii. Locating items of fixed plant to minimize any possible disturbance.

#### **Prevention of silt demolition dust runoff (Protection of Water)**

- a) The Contractor shall prevent or minimize soil erosion by compacting loose soil as soon as possible after excavation, grading or filling.
- b) The Contractor shall manage silt and demolition dust runoff during construction and use silt fences, temporary riprap and other measures to prevent the movement of erosion especially into water bodies.
- c) The Contractor shall construct temporary drainage structures such as ditches, culverts and pipe drains to divert surface and run-off water; and ensure that all existing waterways in the construction sites are maintained and not obstructed.
- d) The Contractor shall see to it that effluents shall be disposed of in properly designed and constructed systems to prevent contamination of surface water bodies.
- e) Unforeseen hazards
- f) Give notice of Unrecorded voids, tanks, chemicals, etc. discovered during demolition

#### **Fire Prevention**

The contractor shall;

- a) Carry all necessary inspections
- b) Obtains permits where necessary

#### **x) Environmental Impact Monitoring**

Upon award, the winning Bidder shall coordinate with the Procuring Entity to secure an Environmental Compliance Certificate (ECC) from the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources regarding the requirements during Multi-partite Monitoring Team's (MMT's) activities during construction and preparation/ submittal of monitoring reports.

#### **xi) Environmental, Safety and Health Programs\*\***

The successful Bidder shall set out the details of the Environmental, Safety and Health Program for the Project and provide the documents to show that it has in place sufficient environmental awareness and protection measures in accordance with Philippine Environmental Laws, and safety policy documents and safety awareness to be able to perform their responsibilities in a safe and workmanlike manner.

- a) Environmental Plan illustrating the intended means of compliance with the Procuring Entity's Requirements including noise standards. This shall form the basis for the development of the more detailed document to be submitted, if awarded the contract. The Environmental Plan shall contain

sufficient information to demonstrate clearly the proposed method of achieving the Bidder's environmental objectives with regard to the requirement of the Contract.

The Bidder may be requested to amplify, explain or develop his Environmental Plan prior to the date of acceptance of the Bid and to provide more details with a view to reaching provisional acceptance of such a plan.

b) The Contractor shall include in his staff on Site for the duration of the Contract a designated Environmental Officer qualified to promote and maintain sound environmental management during construction and specifically the implementation of the approved Environmental Protection Plan. This officer shall have authority to issue instructions and shall take precautionary measures to prevent environmental damage, including but not limited to the establishment of environmentally-sound working practices and the training of staff and labor in their implementation.

c) Site Safety Plan with sufficient information to demonstrate clearly the Bidder's proposal for the safety of Plant/Equipment and personnel as the site. On the basis of this information, the Contractor shall develop a Detailed Site Safety Plan for the project approved by the Department of Labor and Employment (DOLE).

d) Health Program for the workers approved by the Department of Labor and Employment (DOLE).

The successful Bidder will be required to design and carry out the Works in accordance with the Site-specific Health and Safety Plan to be developed by it following Contract award, and approved by the Procuring Entity's Representative.

#### ***I) Environmental Management and Monitoring***

The Contractor is required to perform his contractual obligations to undertake the Works in such a manner that it will prevent any adverse effect to the environment and to conform to the requirements of the Environmental Compliance Certificate (ECC) issued by the Environmental Management Bureau (EMB) and the Department of the Environment and Natural Resources (DENR). In particular, the Contractor shall perform his operations and activities in accordance with the latest Philippine Environmental Rules and Regulations.

The periodical monthly reports and all the monitoring test results and parameters shall be submitted along with monthly project reports. All parameters shall be monitored as per the regulations at periodical intervals as per the program submitted and approved by Engineer.

### **2.3 Obligations of the DOTr/PNR**

- i) Undertake Environmental Impact Study (EIS) and secure Environmental Compliance Certificate (ECC) from the DENR/ EMB (if applicable)
- ii) Approve the Contractor's design without diminishing the Contractor's full and sole responsibility for the quality and integrity thereof
- iii) Supervise and monitor the implementation of the project

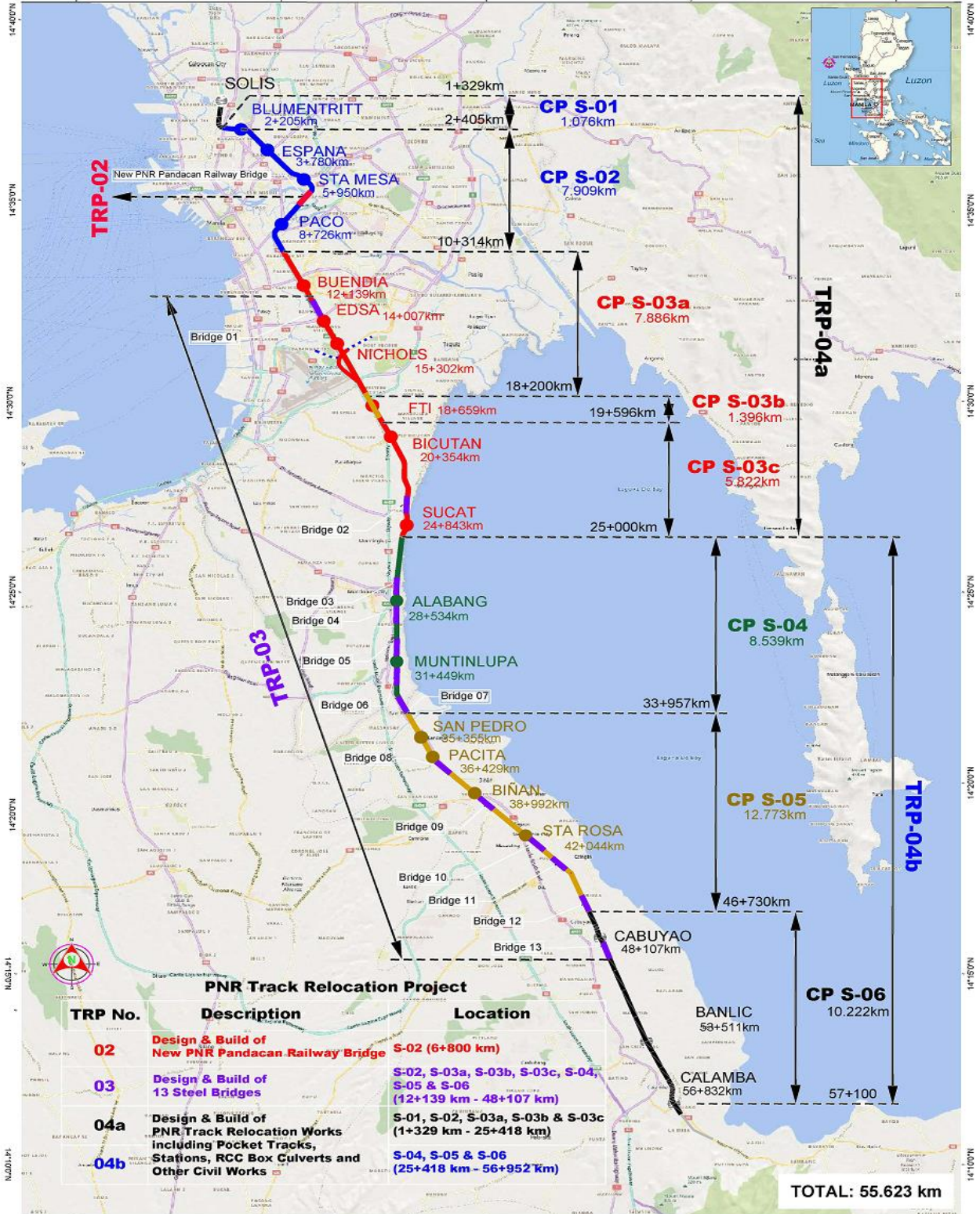
- iv) Pay the accomplishment accepted in conformance with the minimum performance specification included under the Design and Build Contract

## **2.4 Contract Terms of Reference**

The Standard Bidding Documents in the approved Government Procurement Policy Board (GPPB), 6<sup>th</sup> Edition, including Form of Contract, shall be used, with appropriate modifications to incorporate pertinent provisions of Annex "G" of the Revised IRR of RA 9184

2.5 PNR Track Relocation Map

# PNR Track Relocation Project Map





## 2.6 Salient Features of PNR Track Relocation under TPR-04a

<b>SALIENT FEATURES OF THE PNR TRACK RE-LOCATION PROJECT</b>									
S.No	Chainage	Sections----->		TRP- S1	TRP- S2	TRP- S3a	TRP- S3b	TRP- S3c	TOTAL
		From	KM	1.349	2.405	10.314	18.200	19.596	
		To	KM	2.405	10.314	18.200	19.596	25.000	
		Length	KM	1.056	7.909	7.886	1.396	5.404	
Description of Item		Unit							
1	Track(NEW)	KM	0.174	0.826	5.550	1.396	4.781		12.727
2	Track(NEW) due to NLEX	KM	-	2.434	-	-	-		2.434
3	Track (NEW) in Place of Slewing	KM	-	2.329	2.336	-	-		4.665
4	Existing Track(To Retain)	KM	0.882	2.320	-	-	0.623		3.825
5	New Pocket Tracks	Nos	-	4	4	-	2		10
6	Pocket Track Length	KM	-	0.800	0.800	-	0.400		2.000
7	T/os # 10 for Pocket Track	Nos	-	8	8	-	4		20
8	# 10 Climbing-up Derailment T/o for Pocket Track	Nos	-	4	4	-	2		10
9	# 8 Climbing-up Derailment T/o for Pocket Track	Nos	-	4	4	-	2		10
10	No of Level Xings(To be Relocated)	Nos	-	20	8	-	5		33
11	Ballast Mound and Dead End	Nos	-	8	8	-	4		20
12	Stations(Platform + Station Office etc)	Nos	-	6	6	1	2		15
13	Track System	-	37 kg Rail on Narrow Gauge PSC Sleepers & Elastic Fastening System						-
	a) Joints		SWR with 6 rail panels with Thermit Welding						
	b) Rail Connections of SWR Panels		Fish Plated Joint suitable for 37 Kg Rail						
	c) Rail Connections of Existing 37 Kg Rail Track & New 60 Kg Rail Track		Fish Plated Joint suitable for 37 Kg Rail						
	d) Track Gauge		Narrow Gauge						
14	Embankment/Cutting Profile	-	Standard Gauge(SG) profile for all new track areas						-
15	Minimum Track centres in case of Double Track for design purpose of Bridges/ Double Track	-	4.0 m						-
16	Ballast Cushion Thickness	Metres	0.35	0.35	0.35	0.35	0.35		-
17	Sub-Ballast Thickness	Metres	0.30	0.30	0.30	0.30	0.30		-
18	RCC Box Culverts(Single Track for S1 to S3c-SG) & Double Track for S4 to S6	Nos	-	4	3	3	2		12
19	New Bridges with Steel Super Structure	Nos	-	1	1	-	1		3
	Sub-Structure	-	Single Track(Standard Gauge Width)						
	Super-Structure	-	Single Track(Suitable for Standard Gauge)						
20	Track on Steel Super Structure Bridges	-	Synthetic SG Sleepers with Base Plate and Elastic Fastenings System ( Narrow Gauge Track Initially)						-
21	Retaining Walls	SqM	-	3,000	-	2,976	-		5,976
22	Bridges Retained	Nos	-	4	-	-	2		6
23	Culverts Retained	Nos	-	-	-	-	-		-
Note: 1) The above quantities are for guidance only									
2) Item No. 19 in the above table will be executed by other contractor									



## 2.7 Core Definitions:

- a. "Approval" means any and all, duly signed, written confirmations of events and protocols, with which the legal, safety, authority, technical or operational compliance of any individual aspect, state, action, milestone, documentation, calculation or other feature have been verified;
- b. "Commissioning" means the load testing by designed loaded train, checking & verifying the obtained deflections & parameters and submission of report stating the bridge has been constructed as per design requirements and fit for traffic. This bridge is part of total PNR Track Relocation Project which shall also be commissioned as a whole.
- c. "Construction Phase" means the detailed design and engineering, procurement, financing, construction and Commissioning phase of the PNR Railway Track Relocation Project;
- d. "Independent Consultant" or PMC means an independent external consultant appointed by the PNR in relation to certain certifications and verification to be undertaken in relation to the PNR Track Relocation Project; the Independent Consultant shall have the necessary education, expertise, competence, international experience and the knowledge of the Railway Technical Standards;
- e. "Key Personnel" means Individuals who are considered by the Engineer to be critical for the execution and completion of Works in accordance with the Contract as listed as such in the Contractor's Organization
- f. "PNR" means the Philippines National Railway or Administrator of infrastructure, the entity responsible for managing the Railway network, preparing and executing the investment plans for the Railway infrastructure, supervising the Railway Project activities in respect of the Railway, managing network capacity and timetables for the Railway network.
- g. "Rev. IRR of RA9184" or the Procurement Law of the Philippines refers to the 2016 Revised Implementing Rules and Regulations of the Republic Act No. 9184, otherwise known as the Government Procurement Reform Act.
- h. "Railway Contractor/Contractor" means the contractor (or contractors) responsible for the implementation of the Railway Project (including the detailed design, construction, Commissioning of the Railway during the Construction Phase).
- i. "Railway Operator/Operators" shall mean the Philippine National Railway (PNR)
- j. "Railway Project" means the design and engineering, procurement, repair, rehabilitation, construction, and Commissioning of the PNR Track Relocation Project.
- k. "Railway Project Completion" means the date on which the PNR confirms in writing that Project is completed:
- l. "Technical Standards" means the standard that is the basis to the Railway Project and any other recognized international technical standard which allows generating a specific solution, in all these cases, the PNR must approve the use of a determined technical standard.

## 2.8 Scope of works under TRP-04a

### 2.8.1 Preamble:

The scope of works enumerated below is very brief and only indicated the main items in PNR Track Relocation works to facilitate the construction of NSCR-Ex project whose alignment is mostly overlapping /infringing with existing PNR Tracks. The existing track from Solis to Sucat is double track and Sucat to Calamba is single track. The relocated track will be single track and the alignment is identified in such a way considering a) operation of existing running traffic is not disrupted and b) to facilitate the construction of NSCR-Ex elevated project.

### 2.8.2 Brief Details of Scope of Works

- i) Under **TRP-04a**, Contractor shall Design and Build the permanent way of the PNR Track Relocation Project from Solis to Sucat, approximately 23.700 km in total length. This will include construction of embankment,

cutting, formation, installation and laying of tracks, including installation of track on the Steel Super Structure Bridges (Construction of Steel Super Structure Bridges by other contractors under other packages), earthen drains, pocket tracks, relocation of level crossings, platforms & stations and other miscellaneous works. Released track materials (Please see the list of Materials at **Appendix Ap-1**) will be supplied by the Employer to be collected by Contractor from designated store/yard. Any other material if any shall be provided by the contractor. The quantities required against each of the material items listed in **Appendix Ap-1** shall be submitted by the contractor.

*All of these will be carefully planned and carried out without disruption to the PNR train operations.*

### **2.8.3 Section from Solis to Sucat (Km. 1.349 to Km. 25.000)**

One of the tracks in double track section from Solis to Sucat will be realigned/ relocated with new track and retaining existing track at locations depending upon the field conditions & ROW while the traffic on the other track is running. The track will be with 37 kg rails for narrow gauge on Narrow gauge sleepers and the formation to be constructed (up to Sub-ballast) will be for Standard Gauge profile. Some new bridges are constructed with steel super structure (by other contractor). The track on the new bridges shall be laid in this package with 60 kg rails on dual gauge synthetic sleepers and fastening system shall be supplied by employer.

**There will be shifting and switching of the new relocated alignment at some locations from east to west side & west to east side crossing the existing track under operation, this aspect to be kept in view while planning the works. While executing the construction works adjacent to running tracks & crossing the running track, all construction activities shall be executed under the block period allotted by PNR/DOTr and following all safety protocols and guide lines.**

Schematic Track Layout Plan of PNR Track Relocation Project is attached as **At-13**

### **2.8.4 Design and Build of the Works**

The contractor shall design, plan and execute all the works in this package in such a way that there will not be any disruption to the running traffic of PNR and following all safety norms and protocol. Time is essence of the contract. Therefore, the contractor is required to plan and mobilize the resources to meet the scheduled target of completion.

### **2.8.5 Main Items of Work**

**The following list is not exhaustive and main items are only indicated below:**

- Alignment and all works in scope shall be designed following the latest codes and specifications
- While working adjacent to running tracks & crossing the running track, all construction activities shall be executed under the block allotted by PNR/DOTr and following all safety protocols and guide lines. The safety fencing as per standards shall be installed before starting the work in particular segment.
- For proper execution of works, the contractor shall mobilize minimum tools & equipment to meet the target date of completion (The list is given in foregoing para)
- Tree Cutting & Earth Baling – The trees and earth baling in the entire section including Bridge portions from Km 1.349 to KM 25.000 need to be cut as part of the Site Clearing (List & Location attached as **Appendix Ap-6**). Further, Contractor's scope covers the cutting & earth-balling of affected trees etc. including disposal in accordance with the conditions set-forth in the secured permits / clearances and new plantation of saplings in replacement of cut trees as per Forest Dept Guidelines.
- Earthwork in Embankment and Cutting/at garde with suitable selected soil and compaction to the required density as specified in technical requirement. The formation shall consist of Embankment, Sub-grade, Sub-Ballast. At locations as decided by the engineer shall be layed with Geo-textile and Geogrid above the sub-

grade in cuttings/at grade. The unsuitable material in subgrade in cutting/at grade shall be removed as per direction of engineer. The sub-grade shall be prepared both on embankment and cutting/at grade. **Typical Cross Section of Track on Embankment, Cutting/Grade at Attachment-At-2 (This attachment contains typical cross sections along with Track Works Drawings).**

- Culvert Crossings (12) – These culvert crossings need to be designed and built for 25 tonne axle loading and for SINGLE TRACK. The total number may reduce keeping in view of the existing stream and site conditions. List of RCC Box Culverts is given below. Contractor is required to propose and integrate with RCC Box Culverts proposed for the same stream/road by NSCR Ex contractor for their Road adjacent to the PNR Relocated Track alignment. Typical RCC Box Culvert Drawings attached as **At-14.**
- Sub-ballast (Blanketing), Sub-grade and Embankment Works (Typical Cross Section of Track on Embankment, Cutting/Grade attached as **Attachment At-2(This attachment contains typical cross sections along with Track Works Drawings)**)
- Supply of Track Ballast and Laying in different stages to complete profile when completed
- Track Laying for Mainline and Pocket Tracks – (Release/new Track Materials to be supplied by Employer and contractor to collect from designated store/yard- List of materials supplied by employer is attached (**Appendix Ap-1**). Contractor to arrange all other materials for proper execution of the works in this contract. List of pocket tracks is attached as **Appendix Ap-3**. There are certain stretches where the existing track shall be retained as per the plan & profile attached for guidance. The list of such stretches of existing track to be retained is attached as **Appendix Ap-5**. The layout drawings of Turnout #10, and Derailment Turnouts # 10 & # 8 are attached as **Attachments At-6, At-7 & At-8.**
- Track welding to 6 rail panels with Thermit Welding (SKV Process) – (Welding Portions and Mould Kits only will be supplied by the employer and are to be collected by the contractor from designated store). The welded joints are tested for USFD test and passed as per specifications.
- Track Laying Works on Bridges (**3 bridges**) with Synthetic Bridge Sleepers Base Plates (Rails, Fish Plates & Bolts, Synthetic Bridge Sleepers, Base Plates & Rail Screws only be supplied by Employer and material to be collected by contractor from designated stores/yard) (Construction of Bridge/s to be done by other contractors). Contractor to provide all other fixtures as needed to fix the sleepers & track on the Steel super structure. The joining track between 60kg and 37 kg rails shall be done with compromise rail of 54 kg and compromise fish plates. The bridge New Pandacan PNR Railway Bridge constructed by others shall be for double track and track shall be constructed by TRP-04a contractor for double track and for other steel bridges constructed by others, track shall be constructed by TRP-04a contractor for single track.
- Relocate Stations (no. of stations 11) – Temporary Platform (1.5 mX 140 or 3 mX 140 m) and Prefab Office with Comfort rooms (20 Sqm Approx) (List Stations Attached as **Appendix Ap-4**). Typical drawing for Temporary platform and Prefab Station are attached as **Attachment At-4 & At-5**. The station shall be provided with all facilities and Name Boards, Sign Boards etc. All platforms shall be designed and materials supplied for a length of 140 mts. However, the length of platform to be provided at the location restricts to lesser length as per site conditions, the material unused shall be handed-over to PNR's designated store with marking the material for which location so as to use the same by PNR in future extension at those locations/in shifted location. The existing systems such as communication, display boards, lighting, CCTV system, power connection and water connection etc on existing stations & platforms shall be relocated to the new platforms & station as per directives of employer/engineer. Platform length of existing, San Andres and Dela Rosa(Buendia) stations are less than 140m and the Contractor shall design and build for extension works for the stations so that total length of platform shall be 140 mts.
- Pocket Tracks (10 pocket tracks) (Typical Layout Drawing Attached as **Attachment At-9**). Pocket track no. 3 shall be done in future. Ballast Mounds and Buffer Stops shall be constructed as per approved drags (Typical Drg for Ballast Mound and Buffer Stop is attached at **At-15**)
- Relocating Level Crossings (Only rails will be provided by employer other materials such as blocks, fittings & Slabs etc shall be provided by the contractor) (Typical Layout of Level Crossing **Attachment At-3**) and List of Existing Level Crossings to be Relocated is given in **Appendix Ap-2**. Level Crossings shall be relocated with all existing fixtures in the same condition such as CCTVs at level crossings, level crossing manual barriers and

- electronic barriers including cabins (Gate lodge), level crossing signage and communication facilities etc.
- Drainage (Earthen Side Drains in Cutting/at grade and Other Drains)
- Dismantling and demolition of different structures located in the PNR Track Relocation Alignment, including Bridge portions from Km. 1.329 to Km.25.000 such as Retaining walls, Chainlink fence, Concrete pavements, Billboards, Existing stations, Road Bridge, Drainage, Concrete Drain, Crossing waterway, Houses and Office structures etc. The structures shall be dismantled /demolished following all safety norms and local applicable procedures to clear the area for construction of relocated track as per the specifications. **The list of affected structures for demolition is attached as Appendix-Ap-17. The contractor shall ascertain the actual quantities depending on their final alignment design and verification as required.**
- Retaining walls are required to be constructed wherever necessary depending upon the design of the alignment by the contractor keeping in view of the ROW and adjacent highway and land profile etc. It is for guidance that retaining walls may be required particularly at one side at certain locations between Km 14.00 to Km 20.00 as adjacent land is slopping down and SLEX High Way is running parallel to TRP alignment. These retaining walls shall be designed to suit the alignment without encroaching in to SLEX highway and following all requirements for Railway parameters.
- Retaining Walls, Safety fencing and Concrete Drains shall be installed as part of requirement during construction in the project. However, the safety concrete fencing is required to be provided & installed at suitable locations as per design and approved drawings between Km. 14.00 and Km. 20.00 on SLEX Highway side wherever the existing concrete fence demolished. This concrete safety fence shall be retained till the end of project or as decided by Engineer.
- Concrete drains(Ditch) between PNR Track Relocation alignment and adjacent SLEX Highway are required to be provided & installed at the suitable location as per design and approved drawings between Km. 18.00 and Km. 24.00 wherever the existing concrete drains(Ditch) is demolished. This safety fence shall be retained till the end of project or as decided by Engineer.
- Miscellaneous works like dismantling/ demolition of track if required (released materials to be handed over to employer at designated store/yard), construction of Retaining walls, Protection works, Pitching, Provision of Sign Boards, Provision of Ballast Mound and Buffer Stops etc. (Typical Drg. for Ballast Mound and Buffer Stop – **Attachment At-15**)

### 2.8.6 Priority Sections:

The priority section from Km 18+300 – Km 20 +500, which is required to NSCR Contractor by 30<sup>th</sup> June 2022 for construction of D-Wall. Therefore, the contractor shall complete the track relocation works in this section as a priority over other sections.

## 3.0 CONCEPTUAL DESIGN

### 3.1 Alignment, Track and Other Allied works

Relocation of PNR Track meeting the technical requirements as per the following criteria indicated for different parts. The contractor shall submit the report on the conceptual design of Alignment, Civil & Track infrastructure meeting the requirements detailed in foregoing paras following the technical standards. The Track shall be designed for Axle Load of 25 T for Formation and Track (Narrow Gauge with 37 Kg Rails) with Design speed of 80 Km/h. All Design drawings reports shall be submitted to Engineer and Employer and approved by Engineer & Employer

### 3.2 Conceptual Drawings:

The conceptual drawings for guidance are attached and the list indicated in para 11.3 (List of Reference Drawings). However, the contractor shall submit the proposed drawings following the technical standards. The Track

shall be designed for Axle Load of 25 T for Formation and Track (Narrow Gauge with 37 Kg Rails) with Design speed of 80 Kmph

#### 4.0 PRELIMINARY SURVEY, INVESTIGATIONS & ALIGNMENT

Site Investigation information -The Contractor shall be deemed to have acquired and considered the information critical during the preparation of his bid and have carried out such further tests as he may consider necessary. No claims for additional payment will be considered from the Contractor on the grounds as per site conditions and actual quantities eligible after verification

**The following shall be carried out to form the basic design and drawings. The Plan and profile attached with this document are for guidance and the detailed analysis and submission of final alignment drawing shall be submitted for approval of Engineer & Employer.**

- a) Site investigation
- b) Reconnaissance
- c) Topographic survey
- d) Track Relocation alignment to suit the relocation to give way for NSCR-EX project works
- e) Soil Data (confirmatory boring test shall be included in the proposed contract)

**The Plan & Profile drawing is attached for guidance in Para 13.3 (List of reference drawings) attached as At-1**

The technical criteria for design of alignment for PNR Track Relocation is attached as Appendix Ap-9

**Note: The Horizontal and vertical alignment of PNR Track Relocation shall be designed by Design & Build(D&B) Contractor in close coordination with other Bridge D&B contractors (TRP-02 & TRP-03) who are designing the Bridge Structures so as to accurately match the interface between the Bridges and Formation of the alignment for both horizontal and vertical alignments following the specifications.**

#### 5.0 PERFORMANCE SPECIFICATIONS, AND PARAMETERS

**(Please see Appendix-Ap-9 for Performance Specification etc for guidance)**

##### 5.1 Design Requirements & Criteria

##### 5.1.1 Track Structure Dimension from KM. 1.349 to 25.000

Description / Axle Load	15.0 tonnes	Remarks
Thickness of Rail (mm)	122	37 E Rails compliant to EN13674-1 or JIS E1101-2017, JIS E 1120:2007 or equivalent
Thickness of rail pad (mm)	6	Min Required
Thickness PC Sleeper at railseat (mm)	200	Min Required [Sleeper Density: 1430 Sleeper/Km]
Ballast Thickness (mm)	350	
Total Thickness (mm)	678	

##### 5.1.2 Track Structure

Following technical parameters in respect of track structure corresponding to 25 tonne axle load as will be adopted:

**i) Technical Parameters of Track Structure from Km 1.349 to Km 25.000**

S. N	Technical Parameter	Value
1.0	Gauge	1076 mm (Narrow Gauge)
2.0	Spacing of Tracks	4.0 Meter
3.0	Points & Crossings - Main Line and running Loops.	# 10 Type using 37 A Rail meeting JIS E1301, 1303,1304,1305,1306 and 1307 standard units, or equivalents
4.0	Check Rail Clearances at Level Crossings	
4.1	Minimum	51 mm
4.2	Maximum	57 mm
5.0	Minimum depth of space for wheel flange from Rail Level	38 mm
6.0	Ballast Cushion below Rail Seat	350 mm
7.0	Sleeper	PSC Mono block sleeper for Narrow 1067 mm
9.0 Sleeper Density- Main Line	Sleeper Density per Km	1430
10.0	Fastening	Elastic
11.0	Formation Width- Embankment	7520 mm (Single Track)
12.0	Formation Width – Cutting Excluding Side drains	7520 mm (Single Track)

**5.1.3 Earthwork Design**

The geometric parameters and design principles are described in terms of earthwork structure as follows:

- Formations comprises of Granular layer (Sub-ballast) over prepared sub-grade and embankment fill. (The compaction for earthwork shall achieve 90% of MDD)
- Cross fall slope to be at least 1:30 or 3% with tolerance of 0.5%
- In all cuttings, below the Sub-ballast, Geo-Grid and Geo-textile shall be laid as per the typical cross section in the stretches as decided by the Engineer. This Geo-grid & Geo-textile layer shall act as a separator between the sub-grade soil and Sub-ballast and protect the sub-ballast from contamination from soil particles and pumping action in case of sub-grade soil may tend to be wet/ flooded due to drainage water & other conditions particularly in cutting. The Geo-grid & Geo-textile as available in PNR Store shall be collected by the contractor and used in the works. The balance quantity of geo-Grid & Geo-Textile shall be provided by the contractor as per the requirement.

The technical specifications for Geo-grid and Geo-Textile shall be as below:

- Geo –Grid shall be 40kN Polypropylene Bi-axial Geogrid (punched & extruded)
- Geo-textile shall be 200g non-woven Geo-textile

The geo-textile & Geogrid shall be required in approximately for a length of 10.5 Kms(Approx.). The Geogrid & Geo-textile material of only 32000 Sqm will be supplied by employer and the contractor shall collect the same from designated store. Balance Geotextile and Geo-grid as required shall be supplied and installed by the contractor of TRP-04a.

**For detailed specifications please see Appenix-Ap-9**

- Parameter of Sub-ballast thickness 30 cm and sub-grade 60 cm are specified as mandatory provisions to be adopted. Typical Cross Section of Track on Embankment, Cutting/Grade is attached as **Attachment At-2(This attachment contains typical cross sections along with Track Works Drawings)**.

### Parameters for Embankment

Formation of Road Bed		Depth	Width of Walk Way	Slope	Reaction Force Coefficient 【K30】	1) Compaction Density Ratio	2) Reference CBR Value(%)	Note	
Sub-Ballast	Cobble,Gravel	300 mm	800 mm	1:2.0	150 MPa/m	0.95	12.4	New Crushed Stone	
Sub grade	Top Layer	600 mm	-----		130	0.93	10.6	If Specified value is satisfied, Natural Ground will be used as it is. If not satisfied, Subgrade layer shall be reinforced by Cement or replaced with new material.	
	Sand				100		8.0		
Bottom Layer	Boulder	1900 mm	-----		130	0.90	10.6		
	Cobble,Gravel				110		8.9		
	Sand etc.				80		6.3		
Natural Ground									

1) Compaction Density Ratio = Dry Density+Maximum Dry Density

2) CBR Value =  $(K30/14.16)^{1.0661}$  : Regression Equation has been validated in past Study

### Parameters for Cutting

Formation of Road Bed		Depth	Width of Walk Way	Slope	Reaction Force Coefficient 【K30】	1) Compaction Density Ratio	2) Reference CBR Value(%)	Note	
Sub-Ballast	Cobble,Gravel	300 mm	800 mm	1:2.0	150 MPa/m	0.95	12.4	New Crushed Stone	
Sub grade	Top Layer	600 mm	-----		130	0.93	10.6	If Specified value is satisfied, Natural Ground will be used as it is. If not satisfied, Subgrade layer shall be reinforced by Cement or replaced with new material.	
	Sand				100		8.0		
Bottom Layer	Boulder	1900 mm	-----		130	0.90	10.6		
	Cobble,Gravel				110		8.9		
	Sand etc.				80		6.3		
Natural Ground									

1) Compaction Density Ratio = Dry Density+Maximum Dry Density

2) CBR Value =  $(K30/14.16)^{1.0661}$  : Regression Equation has been validated in past Study

- To allow for increased width of ballast on account of super elevation, additional necessary toe-wall may be provided to ensure a cess width.
- The construction drawings including longitudinal and cross sections based on their final design shall be prepared by the contractor. The drawings shall be reviewed by the Engineer and accepted.
- The following two tables indicates the geometric parameters and designprinciples with regards to Earthwork Structure of PNR Track Relocation Project.

### Geometric Parameters of Earthwork

S. No.	Parameter	Value	Reference
--------	-----------	-------	-----------

1-1	Formation Width		
1-1(a)	Embankment	7.520 m	Cross section of Earthwork Structure (Embankment)
1-1(b)	Cutting	7.520 m (excluding Side Drains)	
1-2	Slope Gradient for Embankment	2H : 1V	Cross section of Earthwork Structure (Embankment)
1-3	Slope Gradient for Cut	1H : 1V	Typical Cross section of Earthwork Structure (Cut)
1-4	Thickness of Sub-ballast	300mm	Cross section of Earthwork Structure
1-5	Thickness of Prepared Sub-grade	600 mm (If the existing soil conditions satisfy the conditions of prepared sub-grade for Cutting the same shall be treated as sub-grade.)	Cross section of Earthwork (Embankment)
1-6	Width of Berm	1,500mm(Minimum)	Cross section of Earthwork Structure (Embankment height > 6 m)
1-7	Cross Slope at Top of Sub-ballast	1 : 30 or 3.0% with tolerance of 0.5%	Cross section of Earthwork Structure (Embankment)
1-8	Cross Slope at Top of Prepared Sub grade	1 : 30 or 3.0% with tolerance of 0.5%	Cross section of Earthwork Structure (Embankment)
1-9	Cross Slope at Top of Embankment Fill	1 : 30 or 3.0% with tolerance of 0.5%	Cross section of Earthwork Structure (Embankment)
1-10	Cross Slope at Berm	1 : 30 or 3.0% with tolerance of 0.5%	Cross section of Earthwork Structure (Embankment Height > 6 m)

#### 5.1.4 Design of RCC Box Culverts

**For detailed Design Criteria please refer to Appendix-Ap-9**

- i) **RCC Box Culverts to be Constructed in this package (Typical Drawings Are Attached as At-14)**



LIST OF RCC BOX CULVERTS IN TRP-04a						
Section Stretch	Section	S. No.	NSCR Chainage	River / Stream/Road Name	Tentative Opening Size (m)	Length (m)
					Width x Depth	
CP S-2 (10+314 TO 2+405)	S2	1	7+325	Beata	2 Cells W 2.0 x D 2.0	8.50
	S2	2	8+080	Kahilum (Estero de Pandacan)	2 Cells W 3.0 x D 2.0	7.60
	S2	3	8+560	Estero de Pandacan (concordia)	3 Cells W 3.5 x D 2.0	8.40
	S2	4	9+400	Estero de Paco	3 Cells W 3.5 x D 3.0	7.60
CP S-3a (10+314 to 18+200)	S3a	5	11+355	-	2 Cells W 3.0 x D 2.0	8.44
	S3a	6	15+060	-	2 Cells W 3.8 x D 3.2	7.60
	S3a	7	15+400	-	2 Cells W 4.6 x D 3.0	7.60
PNR-CP S-3b (18+200 TO 19+596)	S3b	8	18+420	-	W 3.0 x D 1.5	7.60
	S3b	9	18+800	-	W 2.5 x W 2.5	7.60
	S3b	10	19+580	-	W 2.5 x W 2.5	7.60
PNR-S-3c (19+596 TO 25+000)	S3c	11	23+810	-	2 Cells W 2.0 x D 1.0	7.60
	S3C	12	23+860	-	W 3.0 x D 1.5	7.60

### 5.1.5 Track on Steel Bridges

- i) On Steel Bridges (to be constructed by other contractor), Only track to be laid on steel super structure by TRP-4a contractor on synthetic sleepers (dual gauge sleeper size but track shall be constructed for narrow gauge now), elastic fastening system with base plates & rails(60 Kg) shall be supplied by employer, other fixtures as required shall be arranged by TRP-04a contractor . On New Pandacan Railway Bridge the track shall be constructed for double track. The approach track with 37 Kg rails shall be joined with transition rail of 54 Kg and compromise fish plates as fastening system as per approved drawings.

LIST OF BRIDGES WITH STEEL SUPER STRUCTURE TO BE CONSTRUCTED BY OTHERS						
TRP-	Bridge Name	Origin and END of Chainage for Bridge and		Length		Note
		Approach Section	Approach Section	Bridge Length (M)	Total Length (M)	
		Origin of TRP02/ 03	END of TRP02/ 03			
A	B	G	D-C	G-B		
TRP-02	New PNR PANDACAN RAILWAY BRIDGE(Double Track)	6+430	7+300	145.0	870.0	From Maui Underpass to North side of Beata Street
TRP-03	Br-1	13+224	13+336	12.0	112.0	
TRP-03	Br-2	23+048	23+172	24.0	124.0	
<p>Note 1) The Bridge Contractor shall construct the Bridge and Approaches as shown above. In the approaches the scope under bridge contractor shall be the embankment, Formation, Sub-grade and Sub-Ballast(The works shall be done as per the approved cross section. The retaining walls and drains in the approaches shall also be done by Bridge contractor.</p> <p>2) Track works on Bridges shall be done by Contractor of TRP-04a on bridges and approaches as per approved track cross section. On bridges the track shall be with 60 kg rails on synthetic sleepers of standard gauge( at present narrow gauge track with elastic fastening system). On new Pandan Bridgethe Super structure shall be double track and the track shall constructed for double track.</p>						

- ii) The Scope of Bridge & approaches on either side for above 3 brides (constructed by other contractor) are shown in above table. The bridge contractor shall construct the earthwork in embankment/cutting in approaches, sub-grade, sub-ballast and retaining walls if any within the

**said approaches. All other works from bottom of Ballast to Track etc shall be done in TRP-04a(this Contract)**

#### **5.1.6 Retaining Structures**

Earth retaining structure if required at any location where the sufficient space within the ROW is not available shall be proposed by the Contractor and shall be subject to consent of the Engineer and approval of the Employer.

The earth retaining structures shall be designed as per the following criteria:

- In case the location of the earth retaining structure is within Axle Load Impact Line, it shall be designed suitable for 25 Tonne axle load.
- In case the location of the earth retaining structure is beyond the Axle Load Impact Line, it shall be designed suitable for retaining the earth.

Typical Cross section of Retaining wall is attached as **Attachment At-11**

#### **5.1.7 Station Buildings**

The Temporary Station Building shall be of Prefab structure about 20 Sqm with all facilities including Electricity, all electrical fixtures, 2 nos. comfort rooms, ticketing office with comfort room, water tank and all water supply connections, furnishing, etc. All proposals shall be approved by Engineer & Employer. Typical Layout & details of prefab modular station building is attached as **Attachment At-4**. The Specifications for guidance are attached as **Appendix- Ap-9**

#### **5.1.8 New Temporary Steel Platforms**

Temporary platform shall be 140 mts X 3 mts or 140 m X 1.5 m with shade as per the drawing approved. Typical Drawing is attached for guidance – **Attachment At-5**). The contractor shall propose suitable design as per the requirement. The design & Drgs shall be approved by Engineer & Employer. The platforms shall be provided with proper ramps following all safety norms, including facilities such as lighting, sitting arrangement, sign boards, name boards etc etc. All platforms shall be designed and materials supplied for a length of 140 mts. However, the length to be provided at the location restricts to lesser length, the material unused shall be handed-over to PNR designated store duly marking the material for which location. Platform length of existing, San Andres and Dela Rosa(Buendia) stations are less than 140m and the Contractor shall design and build for extension works for the stations so that total length of platform shall be 140 mts. The existing systems such as communication, display boards, lighting, CCTV system, power connection and water connection etc on existing stations & platforms shall be relocated to the new platforms & stations as per directives of employer/engineer. The technical requirements and parameters are enclosed as **Appendix- Ap-9**

The tentative list of existing systems to be relocated from existing stations to new stations is given below:

TENTATIVE LIST OF EXSTING SYSTEMS IN EXISTING STATIONS TO BE RELOCATED TO NEW STATIONS(TRP-04a)										
S.No	Station	Chainage	CCTV Camera		TETRA System		Station PAS			Station Clock
			CCTV Camera (Dome)	CCTV Camera (Thermal)	Mobile Antenna	Tetra Radio	Amplifier	Micro Chime	Speakers	Digital Wall Clock
	Unit----->		Nos	Nos	Nos	Nos	Nos	Nos	Nos	Nos
1	Blumentritt	1km946m	6	2	1	1	1	1	4	1
2	Laon-Laon	3km343m	4	2			1	1	4	1
3	Sta Mesa	6km057m	8	3	1	1	1	1	4	1
4	Pandacan	7km434m	4	1	1	1	1	1	4	1
5	Paco	9km172m	6	2			1	1	4	1
6	Vito Cruz	10km425m	4	2	1	1	1	1	4	1
7	EDSA	13km677m	6	2	1	1	1	1	4	1
8	Nichols	15km624m	4	2			1	1	4	1
9	FTI	18km334m	6	2	1	1	1	1	4	1
10	Bicutan	20km581m	6	2	1	1	1	1	4	1
11	Sucat	24km540m	6	2	1	1	1	1	4	1

Note: The contractor has to ascertain from site verification the total quantity and any other systems to be relocated

#### 5.1.9 Drainage:

The side drains in cutting and other drains indicated in the section for proper discharge of rain water etc, shall be as per cross section. The side drains in the cutting shall be earthen channel section for proper flow of water from sub-ballast/ballast in cuttings. For reference typical cross section of cutting is attached as **Attachment At-2 (This attachment contains typical cross sections along with Track Works Drawings)**

#### 5.1.10 Level Crossings:

The Existing Level Crossings shall be relocated with same parameters to the new location. Only Rails will be supplied by the employer. All other materials shall be provided by the contractor. Typical Layout is attached as **Attachment At-3. All level crossings shall be relocated with existing fixtures such as CCTV cameras and connection, barriers, sign boards, gate lodge etc.**

#### 5.1.11 Approach Roads to Stations and Relocated level crossing approaches:

The approach roads for stations and level crossings shall be designed and constructed following DPWH standards. A typical cross section of the Road is attached for reference only as **Attachment At-10.**

#### 5.1.12 Miscellaneous items

Retaining walls, Protection works, Pitching, Sign Boards etc. shall be provided and installed as per directives of engineer as per the requirement and standards. Typical Drawings are attached for the following:  
 Gradient Post, Curve Board, KM & Hectometer Post  
 Transition Curve Post and Fouling Mark etc **Attached as At-12**

#### 5.1.13 Project Completion Schedule

The PNR Track Relocation is considered as priority and fast track project that needs to be completed on a tight schedule, the Contractor shall complete the design & build services under the contract within a period of Eight hundred Fifty (850) days from date of effectivity of the Contract. Tentative schedule for completion of works is attached as **Appendix Ap-8**.

#### **5.1.14 Warranty**

##### **VI.**

- 1) The Contractor shall guarantee the completed relocated track and associated culverts and other works against all design defects, structural defects & failure for its satisfactory performance vis-à-vis the prescribed minimum performance specifications during the lifetime of the structure, reckoned from the final acceptance of the project in accordance with the provisions set forth under Section 62.2.3.2 (a) of the Revised IRR of RA 9184. For this purpose, the Contractor shall be required to post a Warranty Security in the form and amount prescribed in Section 62.2.3.3.
- 2) The defects liability period for infrastructure projects shall be one (1) year from the completion of contract or as provided for in the contract documents. All repair works of any damage incurred due to materials of inferior quality must be completed by the Contractor at his own expense within ninety (90) days. In case of failure, the Procuring Agency shall undertake such repair works and shall be entitled to a full refund by the Contractor. This is without prejudice, however, to the liabilities imposed upon the engineer/architect who drew up the plans and specification for a building sanctioned under Article 1723 of the New Civil Code of the Philippines. (Section 13.10 of Annex G of the Revised IRR)”.
- 3) The Contractor warrants that it shall conform strictly to the terms and conditions of these Terms of Reference.
- 4) The Contractor warrants, represents and undertakes reliability of the service and that their manpower complements are hardworking, qualified/reliable and dedicated to do the service required to the satisfaction of the Procuring Agency. It shall employ well behaved and honest employees with IDs displayed conspicuously while working within the compound. It shall not employ Procuring Agency employees to work in any category whatsoever.
- 5) The Contractor shall comply with the laws governing employees’ compensation, Philhealth, Social Security and/or labor standards and other laws, rules and regulations applicable to its personnel employed by the Contractor on account of contracted services. The Contractor shall pay its personnel not less than the minimum wage and other benefits mandated by law.
- 6) The Contractor in performance of its services shall secure, maintain at its own expense all registration, licenses or permits required by National or Local Laws and shall comply with the rules, regulations and directives of Regulatory Authorities and Commissions. The Contractor undertakes to pay all fees or charges payable to any instrumentality of government or to any other duly constituted authority relating to the construction project.
- 7) The Contractor's personnel shall take all necessary precautions for the safety of all persons and properties at or near their area of work and shall comply with all the standard and established safety regulations, rules and practices.
- 8) The Contractor shall coordinate with the Procuring Agency and or any of her authorized representatives in the performance of their jobs.

- 9) The Contractor shall be liable for any loss, damage, or injury as may be due directly through the fault or negligence of its personnel. It shall assume responsibility thereof and the Procuring Agency shall be specifically released from any responsibility arising there from.
- 10) The Contractor shall be responsible for disposing all waste generated on the duration of the contract and shall remove all debris and unwanted materials on-site before the final acceptance of the structure.
- 11) The Contractor shall neither assign, transfer, pledge any part nor interest therein; however, sub-contracting may be allowed provided that the main Contractor shall be responsible for the full compliance of all applicable provisions of this TOR by the subcontractor.
- 12) After the final acceptance of the Procuring Agency, the Contractor shall be held responsible for any structural defects i.e., major flaws in key structural elements that may lead to a collapse or unusable structure and/or may endanger the safety of end-users and/or general public.

## **6.0 DETAILED ENGINEERING REQUIREMENTS**

### **6.1 Engineering Design Submissions**

- i) The contractor shall design the works following the technical criteria mentioned above with highest standards and engineering practices with latest international codes agreed and accepted by Engineer and Employer. The detailed engineering study shall include but will not be limited to the following works:
- ii) Review the current design and standards proposed for the project, taking into consideration such factors as economics, potential for stage construction, right of way availability and constraints (where relevant), social environmental impact and costs, among others.
- iii) The following surveys/investigation/study should be undertaken including preparation of plans, drawings and program of work:
  - a) Topographic survey plans
  - b) Geotechnical and geological investigation report
  - c) Hydrology, hydraulic and drainage design report
  - d) Railway geometric and formation design report
  - e) Culverts condition survey report
  - f) Structural analysis and calculations & design for RCC Retaining walls and other structures
  - g) Foundation analysis
  - h) Drainage design
  - i) Slope stability analysis where applicable
  - j) Detailed specifications
  - k) Detailed quantity calculations
  - l) Value engineering studies
  - m) Environment Impact Assessment Studies (As applicable)
  - n) Electrical/Lighting Design
  - o) Protection works survey for embankment and stream training
  - p) Protection works like Retaining walls, Pitching, Slope Turfing, Hydroseeding etc.
- iv) Technical reports in electronic files and hard copies for the work prepared must be submitted by the Build-Design Contractor to Engineer & Employer for review and approval.

v) The documents shall be submitted in the following manner

**General:**

1. Cover Sheet
2. General Index
3. Vicinity and Key Map
4. Locations Plan/Lay out/Topographic Survey Plan
5. Legend, Abbreviation and Symbols
6. General Notes (Railway and Bridges)

**Alignment Plans:**

1. Typical Railway Section
2. Summary of Quantities
3. Soils and Materials Investigation Maps/Plans
4. Grading Quantities
5. Drainage Schedule/Quantities
6. Plan and Profile with the final alignment incorporated in the Topographic/ Hydro-graphic Plans
7. Detailed Cross Sections
8. Detailed Drainage Plans, Profile and Cross Sections
9. Geometric Formation Design Elements and Standards
10. Railway Design Standards and Details
11. Formation Layers Details
12. Slope Protection Details
13. Drainage Standards and Details
14. Schedule Listing of Signs at Level Crossings, Protection Works, Road Signs in approach of Level Crossings and Other miscellaneous works
15. Formation, Drainage and Slope Protection Design Parameters
16. Bore Logs and Location of Boreholes/Auger Logs and Soil Profile
17. Reference of Horizontal and Vertical Control
18. Table of Coordinates and Elements of Curves
19. Road Design & Cross sections of the connecting Roads to Stations and Level Crossings
20. Standard drawings of miscellaneous structures (Road Signs, Pavement Markings on roads, Culvert Numbering & Signs on the Railway Alignment, Curves, Grade posts, Station Name Boards Fouling Marks etc.)
21. Lighting at Platforms, Plan, Layout, Details
22. Prefab station building drawings and details

**Other Plans:**

1. Bank/Abutment Protection Works and Scour Protection Works
2. Construction Sequence and Methodology
3. Temporary work such as diversion of streams, roads, detours, support system for jacking operation if any etc
4. Traffic Management Plan during Construction at Relocation of Level Crossings and Approach Road connections to Platforms

- vi) Technical reports in electronic files and hard copies for the work prepared must be submitted by the Build-Design Contractor to Engineer & Employer for Approval.
- vii) The Railway alignment, appurtenance/structure and all the proposed improvements are to be traced in layout at scale of 1: 1,000m, together with all watercourses, which require structural work. Cross sections at intervals not exceeding 20.0m including intermediate breaks on the ground and at the bridge approaches and reaching at least 10.0m wide on both sides of the centre-line, are to be surveyed and plotted at a scale 1:100m. The detailed cross-sections shall show but are not necessarily limited to the following: formation and shoulder & side drains including super elevations where required, new pavement thickness, slope of embankments and cuts including slope protection structures where required, cross-falls of formation and shoulders, existing ground and finished grade elevations, including quantities of all works items involved.
- viii) Separate cross-sections shall be prepared, if necessarily, for road alignment sections outside and inside level crossings and approach roads to platforms etc.
- ix) Whenever there is a need for the relocation of utilities such as telephone, telegraph and electricity poles, etc. as well as buildings, fences and major trees to be removed, such details shall be indicated in the drawings and a separate list shall be prepared. In order to facilitate the process of design review by PNR of the concepts of the proposed structures/facilities and review of the design estimate by DOTr/PNR the following activities shall be undertaken:
  - a) Presentation to and discussion with Engineer & Employer of Inception Report
  - b) Clearance with Engineer & Employer of Design Criteria and Specifications
  - c) Presentation to and discussion with Engineer & Employer of the Preliminary Designs
  - d) Presentation to and discussion with Engineer & Employer of the Draft Final Designs
  - e) Presentation to and discussion with Engineer & Employer) of the Preliminary Design Estimate
  - f) Presentation to and discussion with Engineer & Employer of the Final Design Estimate

**Note: Presentation of documents shall include computer programs/software.**

## **6.2 Specification for the Works**

### **6.2.1 General**

The contracts for the works is on the basis of DESIGN & BUILD, therefore the contractor shall propose and follow the specifications to meet the technical requirements outlined in the documents and shall meet the latest international standards

The Specifications define the general requirements for the quality and control of materials and workmanship for the satisfactory completion of the work herein described in the following Sections.

Detailed Outline Specifications for Guidance are attached as **Appendix Ap-9**.

### **6.2.2 Coordination of specifications with other contract documents**

These Specifications shall be read in conjunction with the other contract documents. In case of ambiguities or discrepancies, the Specifications shall have precedence over the Drawings and/or as instructed/resolved by the Engineer. Any specifications for the works not specified herein shall be referred to a standard specification and/or

approved by the Engineer.

### 6.2.3 Site Investigation Information

The Contractor shall be deemed to have acquired and considered the information critical during the preparation of his bid and have carried out such further tests as he may consider necessary. No claims for additional payment will be considered from the Contractor on the grounds that the information acquired from the Engineer is incorrect or misleading. Site investigation details for guidance are attached as **Appendix Ap-10**

### 6.2.4 Reference to Specification

Reference to standard specifications such as AREA, ASTM or AASHTO shall in every case be deemed to include the latest edition or issue of such specifications. Such specifications are referred to by abbreviations, for example AASHTO T 193 means the Standard Specifications for concrete aggregates.

References to parts, items, clauses or paragraphs which appear in the following text, but which have no title, shall be parts, items, clauses or paragraphs in the Specifications.

### 6.2.5 Testing

The testing methods and procedures shall be in accordance with ASTM unless otherwise specified in the particular Section of this Specification or as shown on the Drawings and as may be directed by the Engineer in writing. When samples of materials are to be taken for testing, the methods to be utilized are fully described in the ASTM and shall be followed unless described in this Specification or referred to in this Specification to other standards or as directed in writing by the Engineer.

Any material which does not conform to the requirements of these Specifications will be rejected whether in place or not. Such material shall be removed immediately from the Site at the Contractor's expense.

### 6.2.6 Standards

In the specifications, references are made to the standards issued by the following organizations and referred to by abbreviations shown.

AREA	- American Railway Engineering Association
AASHTO	- American Association of State Highways and Transportation Officials
ANSI	- American National Standards Institute
ASTM	- American Society for Testing and Materials
AWS	- American Welding Society
AISC	- American Institute of Steel Construction
AISI	- American Iron and Steel Institute
ACI	- American Concrete Institute



JIS	-	Japanese Industrial Standard
PS	-	Philippine Standard
SSPC	-	Steel Structure Painting Council
NBC	-	National Building Code of the Philippines
NSC	-	National Structural Code of the Philippines

Where one of the above standards is referred to the corresponding other standards listed above it shall be considered to be equally applicable, provided that performance and functions of materials, or workmanship or methods of tests, etc., are equal to or better than those specified in the referred standards and provided that the quantity of the works will not be increased on account of the compliance to with the new standard.

The Contractor shall submit proof that, when a standard other than that specified is proposed, it is in fact equal to or better than the specified standard. Such reference shall in every case be considered to be made to the latest edition of the said references.

### 6.3 Quality Management

The Authorised Consultant/Engineer shall develop and implement a quality management system. The Contractor shall develop, implement and certify a quality management system which is based on standard practice in Major Railway projects. The Contractor shall modify its processes and procedures and cooperate with the Employer/Engineer. The Contractor shall be responsible for the training of its staff based on regulations.

The contractor shall setup a project laboratory with all equipment for day to day testing the material and works. Mobile Field quality testing equipment shall also be arranged as per the requirement for testing of Embankment compaction, aggregate gradation, ballast gradation, testing of all material and concrete at Batching plant etc. A separate setup of required lab connected with batching plant is required for day to day testing during production of concrete.

In case any specific test is required to be done as per specifications, the same shall be done in the accredited testing laboratory with specific endorsement by the supervising engineer of PNR/Consultant.

All quality formats and reporting shall be followed as per the requirements of the Engineer/ consultant.

## 7.0 APPROVED BUDGET FOR THE CONTRACT (ABC) & BOQ

### 7.1 Approved Budget to the Contract:

The Approved Budget for the Contract (ABC) is **One Billion Six Hundred Two Million One Hundred Three Thousand Eighty-Five Pesos and Sixty Centavos (Php 1,602,103,085.60)**. This is the ceiling for acceptable bids. Bids higher than ABC shall be automatically rejected.

## 7.2 BOQ:

The Bill of quantities attached as **Appendix- Ap-12** is for guidance and the contractor to indicate the quantities against each as per their design and also indicate additional items which shall be part of the measurable quantities if any.

This is a design and build contract and the contractor is supposed to include all activities in delivering the project as per requirements indicated above and as per the approved drawings & specifications.

## 8.0 ELIGIBILITY CRITERIA FOR BIDDERS

**8.1** The eligibility requirements shall comply with the applicable provisions of Section 23 to 24 of the IRR, and the additional documents and criteria as prescribed under Section 9 of Annex G of the IRR.

**8.2** In the technical requirements, the design and build contractor (as solo or in joint venture/consortia) should be able to comply with the experience requirement under the IRR of R.A. 9184, where one of the parties (in a joint venture/consortia) should have at least one similar project, *both in design and construction*, with at least 50% of the cost of the ABC. (Section 9.2.ii.a, Annex G of the IRR)".

The Contractor shall have experience in the Design and Construction of Railway Permanent Way and Track Foundation including installation of tracks and accessories, that has been completed within the last ten (10) years and that is similar to the proposed Contractor services by physical size, nature of works, complexity, methods and technology.

**8.3** If the bidder has no experience in design and build projects on its own it may enter into subcontracting, partnerships, or joint venture with design or engineering firms for the design portion of the contract.

**8.4** The relevant provisions under Section 23.4.2 of the IRR of R.A, 9184 on eligibility requirements shall be observed, with the following exceptions:

Joint ventures/consortia among Filipino contractors and consultants or among Filipino contractors and foreign consultants shall be allowed subject to pertinent laws and the relevant provisions of the IRR of R.A. 9184. The joint venture/consortia shall be jointly and severally responsible for the obligations and the civil liabilities arising from the design and build contract: Provided, however, That Filipino ownership or interest thereof shall be at least seventy five percent (75%): Provided further, That joint ventures/consortia in which Filipino ownership or interest is less than seventy-five percent (75%) may be eligible where the structures to be built require the application of techniques and/or technologies which are not adequately possessed by Filipinos and that Filipino ownership or interest shall not be less than twenty-five percent (25%): Provided, finally, that when the design services in which the joint venture wishes to engage involve the practice of professions regulated by law, all those who will actually perform the services shall be Filipino citizens and registered professionals authorized by the appropriate regulatory body to practice those professions and allied professions and where foreign designers are required, the foreign designer must be authorized by the appropriate Philippine Government professional regulatory body to engage in the practice of those professions and allied professions".

## 9.0 CONTENTS OF THE BID

For purposes of determining the eligibility of bidders using the eligibility criteria set for this project, only the documents enumerated in Section 23.1 of the IRR, and the following documents shall be submitted:

- a) Relevant statements of all on-going, completed, awarded but not yet started design/design and build related contracts, curriculum vitae of key staff, partners or principal officers; and
- b) Valid licenses issued by the Professional Regulatory Commission (PRC) for design professionals.”

### **9.1 Technical Proposal –In the First Envelope**

In the submission of bids, the first envelope (Technical Proposal) shall contain all the required documents for infrastructure projects under Section 25.2(b) of the IRR of R.A 9184 and the following additional documents:

- i) Preliminary Conceptual Design Plans in accordance with consisting of the following;
  - 1. Location Plan/Vicinity Map
  - 2. General Notes on Design Parameter and Construction Procedures
  - 3. Plans, Profile and Cross Sections
  - 4 Boring Data and Borehole Location (If available)
  - 5. Typical Details of Formation
  - 6. Typical Details of RCC Box Culverts
  - 7. Typical Details of Foundations
  - 8. Typical Details of Protection Works
  - 9. Typical Details of Miscellaneous works such as Level Crossings, Platforms, Prefab Station Buildings, Drainage, etc.
  - 10. Construction Sequence and Methodology
  - 11. Summary of Quantities
  - 12. Typical Road Cross Sections for Level Crossing Approach Roads, and Other roads
  - 13. Traffic Management at Level Crossings during Relocation/ Construction
  - 14. Other related structures
- ii) Design and construction methods;
- iii) List of design and construction personnel, to be assigned to the contract to be bid, with their complete qualification and experience data; and
- iv) Value engineering analysis of design and construction method (optional).

### **9.2 Financial Proposal – In the Second Envelope**

The second envelope (Financial Proposal) shall contain all the required documents for infrastructure projects under Section 25.3 of the IRR of R.A 9184 and the following additional documents:

- i) Lump sum bid prices, which shall include the detailed engineering cost, in the prescribed Bid Form;
- ii) Detailed estimates including a summary sheet indicating the unit prices of construction materials, labor rates and equipment rentals used in coming up with the bid; and
- iii) Cash flow by the quarter and payments schedule.”

### **9.3 Responsibility of the Bidder**

It is the responsibility of the Bidder to ensure that all the necessary tasks and associated costs required for the successful completion of the Works, in conjunction with this Terms of Reference (TOR) and the minimum Design

requirements and Performance Specifications and Standards, considered in his technical and financial proposals.

The bidder, by submitting his bid, represents that:

- a. He has thoroughly read, carefully examined and fully understands all the bid documents and his bid will be in accordance therewith.
- b. His bid is based upon the conditions and requirements of the bid documents without exception.
- c. He has visited and inspected the site of the Works and its surroundings and satisfied himself as to all matters pertaining to the Project. This includes the following:
  - location and the nature of the Work; climatic conditions;
  - the nature and condition of the terrain;
  - geological conditions at the site;
  - transportation and communication facilities;
  - the requirement and the availability of materials, labor, water, electric power and roads;
  - the locations and extent of aggregates sources, and other factors that may affect the cost, duration and execution of the Work;
  - that he has determined the general characteristics and conditions of the Project.
- d. He has acquainted and familiarized himself with all conditions, local or otherwise, affecting the carrying out of the Work and has arrived at an estimate of the facilities available and the facilities needed for the Project.
- e. He is aware that the Procuring Entity shall not assume any responsibility regarding erroneous interpretations out of any data furnished by the Procuring Entity.

He has familiarized himself with all laws, decrees, and regulations of the Philippines, and the local government where the Demolition Works are located which affect or apply to the operations and activities of the Bidder.

## **10.0 CONTRACTOR'S PROJECT ORGANIZATION AND MANAGEMENT**

### **10.1 Contractor's Competent Staff**

The Contractor shall have at all times a competent team of managers, engineers, technical staff, experts and support staff etc. so as to complete the Contract Works with all reasonable skill and care that would be exercised by any competent Contractor and in a manner and compliance with the requirements of the Contract.

In order to provide for the top-level performance of the assigned task, the Contractor shall mobilize the qualified staff (key personnel as well as the support staff). All the specialists shall be well-recognized professionals in their respective fields in the similar work environment. In cases where the key personnel listed must be replaced, the proposed replacement must have equal or greater qualifications and abilities.

### **10.2 The Employer's Acceptance of Key Personnel**

The Contractor is required to provide his Organization Chart with Key Personnel, during the kick off meeting. He should subsequently give details of his full Project Organization with the schedule of their mobilization and demobilization, list of Subcontractors, suppliers etc. the reporting structure should also be mentioned in the Project Organization. No changes or replacements in the Organization Chart should be made without the prior approval of the Engineer.

The Engineer will have the right to review and accept or otherwise the Contractor's organization Key Personnel and other expert staff before the commencement of the design and Execution of the Contract Works.

Minimum Qualifications and Experience for Key Personnel is given below:

Key Position	Minimum Qualifications	Relevant Experience
Team Leader/Project Manager	Graduate in Engineering; Professionally Qualified Licensed Civil Engineer.	· 20 years minimum working experience with 15 years experience in similar position
		· Experience in construction of at least three (3) comparable passenger railway transport infrastructure projects (light rail, commuter rail, freight rail)
<b>DESIGN</b>		
Principal Design Engineer Railway Track, Construction & Maintenance	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	· 15 years minimum working experience with 10 years experience in similar position
		· Design experience of at least one (1) Railway project of 10 km length within the past 10 years
Principal Design Engineer Bridge, Culvert and other concrete structures Design	Post Graduate Master's Degree(Structures); Professionally Qualified Civil Licensed Engineer	· 20 years minimum working experience with 15 years experience in similar position
		· Design experience of RCC Box Culverts, Bridges and other civil structures within the past 10 years
<b>CONSTRUCTION</b>		
Senior Geotechnical Engineer	Post Graduate Master's Degree (Geotech) Professionally Qualified Licensed Engineer	· 15 years minimum working experience with 10 years experience in similar position
Senior Resident Engineer – Track Construction	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	· 15 years minimum working experience with 15 years experience in similar position
		· Construction experience of Railway Project having different types of civil structures, Track, Stations etc
Senior Civil Engineer	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	· 15 years minimum working experience with 10 years experience in construction of Railway project having different types of structures & in similar position
Senior Track Expert	Bachelor's Degree in Civil Engineering; Professionally	15 years minimum working experience with 10 years experience in construction of

	Qualified Licensed Civil Engineer	Railway Track having different types of Systems & in similar position
Quality Control Manager	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	· 20 years minimum working experience with 10 years experience in similar position conversant with all testing, quality assurance and control methods, Laboratory Management.
		· Construction project experience of quality assurance systems in at least one (1) Railway project of 20 km length within the past 10 years
Health and Safety Officer	Bachelor's Degree; Professionally Qualified Licensed Engineer DOLE accredited	· 15 years minimum working experience with 10 years experience in similar position
Senior Planning and Scheduling Engineer	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	· 15 years minimum working experience with 10 years experience in similar position
Contract / Risk Manager	Bachelor's Degree; Professionally Qualified Licensed Engineer	· 15 years minimum working experience with 10 years experience in similar position
Senior Quantity Surveyor	Bachelor's Degree; Professionally Qualified Licensed Civil Engineer	· 10 years minimum working experience in similar position
Environmental Specialist	Post Graduate Degree in Environmental Science / Environmental Planning; Bachelor's Degree	· 10 years minimum working experience in similar position

### 10.3 Mobilization Requirements

Mobilization shall consist of all necessary preparatory works and operations, including but not limited to those required for the provision and safe movement of personnel, equipment, supplies, materials and incidentals to, in and around the work Site.

It shall include the establishing, equipping and staffing of offices, buildings, storage areas, medical facilities, fire-fighting facilities, site security arrangements and the like, together with the necessary provisions for communications, power, water and sanitation.

It shall also include the construction of any necessary temporary roads, signage, hoardings, fencing, gates, guard houses and other security provisions needed to safeguard the Works and protect the Public.

It shall also include the obtaining of all necessary licenses, permits and approvals as may be required by the Contract or by the Laws of the Philippines, prior to Commencement of the Works and for any and all other works or operations which must be performed before the Works may commence in a lawful, safe and secure manner.

As soon as an award has been made for the project, the contractor shall post a tarpaulin signboard suitably framed for outdoor display at the project location. The locations (approx- 6 nos) will be as instructed by the

Engineer. The design and format of the tarpaulin shown below shall have the following specifications: (as per COA Circular No. 2013- 004).

Tarpaulin, white, 8ft x 8ft Font Size: Main Information - 3" Resolution: 70 dpi Sub-information – 1" Font: Helvetica Font Color – Black.

## **10.4 Contractor's Temporary Facilities**

### **i) Temporary Facilities**

Temporary Facilities shall be strategically located and shall include all necessary infrastructure that is required to be provided by the Contractor for the Works. These facilities shall include, but are not limited to the provision, operation and maintenance of the following:

- 1) Site offices, site storage areas, casting yards, huts, workshops, warehouses and stores;
- 2) Temporary utilities, i.e. water, electricity, sanitary and mobile telephones and fixed telephones;
- 3) Sanitation facilities;
- 4) Medical and emergency facilities;
- 5) Enclosures, access roads and security fencing;
- 6) Separation of the Site from the public by fencing;
- 7) Health and safety facilities for the Contractor's Personnel in compliance with the requirements of the Contract and Government Health and Safety Regulations;
- 8) All necessary police, LGU, utility agency and other approvals or authorizations necessary prior to establishment of the Temporary Facilities;
- 9) Material transportation and materials handling facilities inside the Contractor's Site storage areas and yards, i.e. cranes, erection gantries, lifting plant and machinery, complete with any necessary foundations, rooms etc., and certification (where required) by relevant agencies for specialized equipment such as cranes and gantries;
- 10) Other facilities related to Site transportation for staff and workers;
- 11) Road vehicles for material transportation, Site transportation and works vehicles;
- 12) All equipment to be assigned to the Temporary Works including requirements for any plant such as ladders, planks, hoists, formwork, scaffolding, etc. as required.

The Contractor shall maintain all Temporary Facilities in a proper and safe condition throughout the progress of the Works.

The Contractor shall remove all Temporary Facilities from the Site or elsewhere on completion of the Works and ensure that all areas are left in a safe and tidy condition, free of debris, excess materials and obstructions to the satisfaction of the Engineer.

The Contractor shall be responsible for sourcing land or property suitable for all of its Temporary Facilities and for making any necessary arrangements related to its legal occupation and use with the property owner(s) concerned, including the payment of all necessary fees, deposits, rentals and the like.

The Contractor shall construct and maintain adequate access roads, footpaths and parking facilities as required, to, and at all Temporary Facilities.

### **ii) The Principal Temporary Facilities**

The principal Temporary Facilities, which are broadly described without limitation below, shall all be indicated on the plan to be provided by the Contractor.

**iii) The Contractor's Site Offices**

The Contractor shall be responsible for providing suitable structures to accommodate the Contractor's office requirements within or in the vicinity of the work site, as approved by the Engineer.

The Contractor's Site offices shall be provided with all necessary facilities including furniture, office equipment, consumable supplies, utility services, sanitary system, vehicle parking, etc.

**iv) Contractor's Labor Accommodation Camps**

The Contractor shall supply, equip and maintain facilities as necessary for the living accommodation, feeding and welfare of its employees by providing, servicing, and maintaining a camp at the Contractor's Main Site Office or other sites as necessary.

The contractor shall make best efforts to locate all construction camps or the items likely to create an environmental impact at least 300m away from sensitive receptors such as residential housing, hospitals, schools, religious and cultural sites.

The accommodation facilities shall comply with the appropriate Government Regulations and Standards including the National Building Code of Philippines.

All buildings shall be adequately equipped, furnished, and kept clean at all times.

Temporary living accommodation for the use of watchmen and a limited number of workers and/or emergency personnel may, subject to the approval of the Engineer, be provided by the Contractor within the Site.

All living accommodation units and buildings shall be always available for inspection by the Engineer and officers of the public health authorities and the Contractor shall immediately comply with any instruction given for the proper sanitation, cleaning, disinfecting and general maintenance of those buildings.

**v) Medical Facilities**

As a part of the Site Establishment, the Contractor shall provide a medical station with unobstructed access and egress to the public highway. The facility shall be prominently signposted and illuminated.

The location of this station shall be shown on the layout plan provided with the Contractors Mobilisation Programme.

The station shall be complete with all equipment necessary to administer both first aid and first response treatment and shall be staffed at all times by qualified personnel. It shall have an independent power back-up system and at least one dedicated telephone line.

It shall be provided with an ambulance with a full-time driver.

All aspects of the provision, the location, the equipping and staffing of this station shall be subject to the confirmation and approval of the Engineer.



**vi) Contractor's Site Storage Areas and Yards**

The Contractor's Site storage areas and yard shall be utilized for, among other things, materials and equipment storage, casting of precast structural elements, workshops, warehouses and secure storage.

The Contractor shall be responsible for determining the extent to which such areas will require security and protection from the elements, however as a minimum he shall erect a 2.0-meter-high chain link security fence around all storage areas and yards, complete with lockable gates.

The location(s), details and function of each site storage area or yard shall be shown on the site layout plan.

**vii) Wheel Washing Facilities**

The Contractor shall provide at each Site storage area and yard, wheel and under vehicle washing facilities to enable vehicle wheels and vehicle under-bodies to be cleaned when entering and leaving the storage areas and yards.

Wheel washing facilities shall also be provided at every point where site traffic can enter or exit onto the public highways.

Wheel washing facilities shall be provided with suitable grids and baffles to prevent mud and silt from entering the public drainage system.

**viii) Vehicles**

The Contractor shall provide and properly maintain all necessary motor vehicles for his transportation requirements including trucks with or without cranes, trailers, busses, cars and motor cycles, whenever necessary. Where such vehicles will be used on public highways, the Contractor shall ensure that they are suitably licensed and registered.

Only competent drivers with appropriate valid licenses shall be permitted to operate such vehicles.

**ix) Utilities**

**1) Water**

The Contractor shall supply all raw water that is required for and in connection with the Works, including those Temporary Facilities as detailed in this Section. Drinking water in a quantity to be agreed by the Engineer shall be provided for all offices.

**2) Power and Lighting**

The Contractor shall provide adequate power and lighting for all operations including, but not limited to, the following:

- a. Site offices and facilities.
- b. Living accommodation and camp facilities
- c. Site storage areas, casting yards, huts, workshops, warehouses and stores
- d. Area and Task lighting for roads, compounds and construction operations

- e. Power distribution points for all construction operations

Where satisfactory mains power is available, the Contractor shall coordinate and arrange with the utility company to provide the services required. The Contractor shall be responsible for the payment of all deposits, connection fees and recurring charges for such supply.

### **3) Emergency Generators**

The Contractor shall provide and maintain generator sets with suitable capacity to facilitate the Works should any mains power supply failure occur. The Contractor shall conduct regular testing of the generator sets to ensure efficient operation should it be required. Generators shall be soundproofed, have functioning silencers and comply with all environmental and LGU regulations including permits.

### **4) Communications**

The Contractor shall provide all landline and/or mobile telephones, FAX, internet, radio or other communication systems that are required for the Works.

The Contractor shall be responsible for the installation and maintenance of all such communications systems and shall pay all connection charges, license fees, recurring charges or other fees as may be required.

A Contractor's project site office with round the clock radio communication or telephone switch board links with all safety officers, Contractor's work sites, site offices, batching plants, casting yards' workshops, fabrication yard, off-site offices, the Engineer site office shall be maintained and manned by the Contractor's nominated representatives on a twenty-four-hour basis. Vehicles for emergency use should be on stand-by twenty-four hours.

### **5) Sanitation**

The Contractor shall provide all temporary sanitary facilities at the Sites for the needs of all employees and other workers that undertake any works or provide services on the Site.

Sanitary facilities shall be of adequate capacity, properly cleaned and maintained throughout the construction period, and obscured from public view to the greatest practical extent.

The Contractor shall be responsible for enforcing the use of such sanitary facilities by all personnel at the Site.

### **6) Temporary Drainage**

The Contractor shall design, construct, and maintain, at his own cost, an effective system of surface drainage and wastewater disposal for the Temporary Facilities.

All horizontal surfaces shall be suitably graded such that surface water will fall toward the drainage system. All channels, gullies and gratings shall be kept clear of debris and leaves.

The drainage design shall be such as to minimize the possibility of flooding, however it shall also allow for emergency pumping and dewatering in the event it does occur.

The drainage design shall conform with the requirements of the Environmental Management Plan in all parts. (i.e., with respect to the prevention of soil erosion and siltation of watercourses).

## **7) Fire protection and Fire Fighting Equipment**

The Contractor shall construct, equip and maintain fire control points at such locations and of sufficient sizes, as are required to provide adequate protection against fire for all buildings, stores, accommodation units and all other risk areas throughout the Site.

These fire control points shall contain appropriate fire-fighting equipment to be used by suitably trained and qualified individuals as first response in the control of any conflagration. The location and content of all such points shall be shown on the layout plan provided with the Contractors Mobilisation Programme (item iib) and shall be subject to the confirmation and approval of the Engineer.

The Contractor shall ensure that all fire control points are clearly visible and that access to them is always kept free from obstruction.

The Contractor shall also provide and maintain an adequate fire alarm system to enable audible warnings to be given.

All equipment provided for fire control including the alarm system, shall be routinely inspected and properly maintained, with a specific control log, kept by the Contractors Safety Manager for that purpose, being available for inspection by the Engineer at all times.

## **8) Waste Management**

The Contractor shall establish a process for managing and legally disposing of all solid and liquid waste arising during the course of construction operations.

The Contractors Waste Management Plan is part of the Contractor's Environmental Management and Monitoring Plan (CEMMP) which is more fully detailed under G.S.118.

Food wastes arising from canteens, kitchens or accommodation areas shall be removed on a daily basis as a minimum and shall not be permitted to accumulate on site.

Where space permits, packaging materials, boxes, pallets, crating and the like may be stored temporarily in designated areas prior to disposal, however under no circumstances shall any such materials be burned on the site.

## **10.5 Maintenance of Temporary Facilities**

The Contractor shall provide all necessary maintenance for the Temporary Facilities and shall keep them and any other areas set up for the Works, in a clean, tidy and litter free condition.

The Contractor shall be responsible for dealing with all forms of vermin at the Site, and any part thereof during the Contract to the satisfaction of the Engineer.

The Contractor shall maintain all existing security fences required for the Works until completion of the Works. Existing fences which interfere with construction operations, shall not be relocated or dismantled without prior written permission having been obtained from the fence owner.

## **10.6 Damage to Existing Property**

The Contractor shall be responsible for any and all damage that occurs to any existing structure, works, materials, equipment, roads, railway infrastructure, curbs, sidewalks, highways, shoulders, embankment, ditches, drains, culverts, bridges, or other public or private property, which may be caused by construction operations carried out by the Contractor or by any of its Sub-Contractors.

The Contractor shall, at his own cost, repair or replace any such damage to the satisfaction of the Engineer and the property owner.

The Contractor is therefore strongly advised to ensure that the Condition Survey that is to be produced in accordance with the requirements and agreed with the Engineer prior to commencement, carefully and faithfully records the existing condition of all buildings or other structures, previously damaged, potentially vulnerable or otherwise.

## **10.7 Additional Working Areas For Construction Purposes, Detours, Plant or Other Uses**

The Contractor, at its own expense, shall provide any additional working areas in the vicinity of the Works or elsewhere for its Temporary Facilities and any additional areas it may require for other uses.

Before entering into any additional working areas, the Contractor shall obtain and forward to the Engineer, a copy of all written consent letters from the owners or authorities who have charge over that land, which state the purposes for which such land may be used. The Contractor shall define the extent and periods of occupation for which such consent has been granted.

Before the Contractor carries out any work whatsoever on such additional land, he shall obtain the prior express approval of the Engineer.

Prior to placing any facilities in any area, all clearing and grubbing operations shall be to the satisfaction of the Engineer.

If any existing utilities (water, electricity, telephones, drainage, etc.) pass through any location of the temporary sites and will be affected, the Contractor at his own expense, shall provide for realignment or protection works to the satisfaction of the owner of the utility and the Engineer.

Prior to the removal or relocation of any existing utilities, a Utility Protection and Relocation Plan shall be submitted to the Engineer for his review and consent.

Prior to the issue of the Taking Over Certificate under GCC Clause 10.1, or earlier if so directed by the Engineer, all Temporary Facilities shall be dismantled and removed, utilities shall be reinstated (if required), any damage shall be repaired and the site and lands used shall be properly cleaned. Any outstanding fees, charges, rents taxes and the like shall be paid in full.

## **10.8 Environmental Clearance for Temporary Facilities**

The contractor shall secure the necessary ECCs for the temporary facilities such as workers camps, warehouses for materials, stockpiling areas etc. from the appropriate DENR-EMB offices where they are located.

Where these facilities are located in public or private lands, the Contractor shall enter into Lease Agreements and should there be need for temporary involuntary resettlement or compensation for affected structures and improvements, the Contractor shall comply with the provisions of RA10752 (An Act Facilitating the Acquisition of Right of Way Site or Location for National Government Infrastructure Projects), and the Resettlement Action Plan for the Project.

### **10.9 Vehicles Employer/Engineer**

The Contractor shall provide all necessary road vehicles for site transportation of staff and workers, like large buses and sedans etc.

5 (Five) New cars (SUVs) shall be purchased/hired by the Contractor for Engineers' staff. In case the vehicles are purchased, these cars shall be handed over to the Employer after the Defect Notification Period subject to Office of the President Administrative Order No. 14 (10 December 2018) or the Consolidation and Rationalizing the Rules on the Acquisition of Government Motor Vehicles, Adopting a Centralized System of Procurement Therefore, and for other purposes, particularly the restrictions on type of vehicle for government use.

All running expenditure & up-keeping of vehicles shall be done by the contractor. Competent Drivers shall be appointed for all the vehicles and the vehicles shall be well maintained throughout the Contract, till the completion of the Defect Notification Period.

### **10.10 Office to Employer & Engineer**

1. Contractor shall provide the site office along with furniture and office equipment + Internet to the PNR staff and Engineer/Consultant staff for day to day works in connection with track relocation works. The office shall be of temporary structure of 2X100 Sqm with toilets etc. and parking area lawn etc. The area shall be fenced properly and security arranged. The furniture, equipment and other provisions shall be provided as per the list below. Water supply including drinking water and Power supply, Emergency Generator, Sanitary System, Telephone (Fixed line) Telephone(Mobile) Internet shall be provided and well maintained with all consumables and operating expenses during construction and completion of works.
2. **List of Furniture Office Equipment & Provisions for Employer and Engineer's Offices.**

**Furniture and equipment for the Employer and Engineer**

Item	Description	Unit	Quantity
<b>Site Office</b>			
<b>&gt; Furniture</b>			
Executive type Desk with 2 drawers	double drawer	no.	2
Standard single desk with 1 drawer	single drawer	no.	26
Reception desk and chair		no.	1
Side tables (3.70m x 1.60m)		no.	2
Side table with 2 drawers (2.80m x 1.60m)		no.	1
Conference Table	16person	no.	1
Conference Table	8person	no.	1
Conference room chair		no.	20
Standard office chair		no.	26
Metal Bookshelf		no.	11
Metal Filing Cabinet		no.	6
3 pc Upholstered sofa set with table	at director's room	no.	1
3 seater Upholstered Sofa	at rest room	no.	1
Pantry sink unit with drawers and cupboards		no.	1
Pantry Wall Cabinet		no.	1
<b>&gt; Office Equipment</b>			
Metal Drawing Rack	Best hanging racks	no.	2
White Board	4 ft x 8 ft, (1.20m x 2.40m)	no.	1
White Board	2 ft x 4 ft, (0.60m x 1.20m)	no.	2
Air Conditioner - split type inverter type	1.5 HP or Equivalent	no.	5
Printer/copier/scanner - all in one type - similar	Colour Multifunctional for A4/A3 Format	no.	1
Printer/CAD Plotter		no.	1
LCD Projector with pointer		no.	1
PBX Telephone System - 2 incoming Trunk and 8 internal lines with headsets		set	1
Internet Wifi - Router		set	1
Desktop computer with Intel Quad Core i7-8565U CPU, 32 GB RAM, 256 G SS Drive and Nvidia GTX 950 GPU with 30" 1080p LCD Monitor		set	1
Digital Camera - with 50mm EF lens.	Dedicated planning computer	no.	1
18cf refrigerator with top freezer compartment		no.	1
Countertop Micro Wave oven		no.	1
Hot and Cold Water Dispenser		ea	2
Crockery and Cutlery sufficient for 50 persons		set	1
Consumables		month	27.00

### 10.11 Requirement of Minimum Tools & Equipment for the works

S.No	NAME OF TOOL /EQUIPMENT	MINIMUM QUANTITY
<b>TOOLS</b>		
1	Rail Drilling Machine	<b>SUFFICIENT NUMBER OF TOOLS SHOULD BE AVAILABLE TO MEET THE TARGET DATE OF COMPLETION</b>
2	Abrasive Rail cutter	
3	Track Jacks	
4	Hydraulic Rail Tensor	
5	Rail Bender	
6	Hydraulic Rail Bender Heavy Duty	
7	Hydraulic Rail Joint Straightener	
8	Rail Creep Adjuster	
9	Hydraulic Sleeper Spacer	
10	Concrete Sleeper Breaker and angle grinder	
11	Concrete Sleeper Drilling Machine	
12	Portable D.C. Welding Generator	
13	Heavy Duty Hydraulic Extractor for Jammed ERCs	
14	TRALIS (Portable lifting and slewing device)	
15	Hand held Off Track tampers with generator and or Ontrack Small Tie-Tampers	
16	Double Action Weld Trimmer for AT Welder (Power pack version)	
17	ERC Extractor/applicator	
18	Rail tongues	
19	De-stressing roller	
20	Ballast Profile Template	
<b>S.No.</b>	<b>EQUIPMENT</b>	<b>QUANTITY</b>
1(a)	Back Hoe (0.6 Cum Bucket & 1.8 Cum Loader Bucket)	3
1(b)	Motor Grader(165 Hp, 1.7 m Blade)	2
2(a)	Concrete Mobile Batching Plant(15 Cum/hr Capacity)	2
2(b)	Transit Mixers 6 cum.	4

3	Field Lighting Arrangement	As required
4	Trailer(Long Bed – 20 – 30 Tonne Capacity)	2
5	Dump Trucks(6.5 – 7.5 Cum Capacity)	10
6	Vibratory Compactors (8-10 tonne Capacity))	2
7	Water Tankers with Sprinklers (3000-4000 lts)	2
8	Excavators(0.9 Cum Bucket Capacity)	3
9	Field testing Equipment	As required
10	USFD testing Equipment	As required
11	Bar Bending and Cutting Equipment( Up to 50mm Dia)	2
12	Centralised Quality Control Laboratory with all equipment	1
13	Lifting Hydra(Max Lifting capacity 40 Tonne)	2
14	Pickup vans (2-3 Tonne Capacity)	2
15	Concrete Vibrator & Needle Sets	As required
16	Material Trolley	6
17	Inspection Trolley	2
18	Electronic Total Station, complete set (w/ tripod, 2 prism), 30X telescope magnification with 2x plug-in camcorder NIMH GEB 111, GKL 111 charger, RS 232 interface cable for data transfer, GDF 111 Tribrach, laser plummet incorporation	2
19	Automatic Level complete with tripod 3x magnification, +/- 0.80 mm standard deviation, erect image telescope, 0.50m shortest focusing distance, with built-in compensator of less than 0.3" setting accuracy, fully waterproof and dust resistant with a horizontal circle that can be in grads or degrees and aluminium tripod.	2

**Note:**

- 1) The above equipment & units which are either owned, leased and /or under purchase agreements must be supported by the documents.
- 2) The above list is not final and contractor has to mobilise all equipment with required numbers for proper execution of works in time.

### 10.12 Construction Methods

For the bidding requirements, the Bidder shall prepare a narrative description of the construction procedures and methods he intended to apply for this contract to demonstrate how it will meet the Procuring Entity's objective and requirements, stating among others, brief description of the project/contract, construction methods and procedures, manpower scheduling and equipment utilization. Name, qualifications, and particulars of the design firm (if sub-contracted) and designers in-charge of the design of the Works must also be provided.



The construction methods shall state the general approach in construction in terms of use of equipment-intensive or labor-based methods, any special techniques, procedures or methods to ensure completion on time and quality of construction, testing and commissioning, and handover of the works.

At a minimum, the Method Statement shall address the following:

- a) Details of the arrangements and methods which the Bidders propose to adopt for in the execution of the Works, in sufficient detail to demonstrate their adequacy to achieve the requirements of the Contract including completion within the Time for Completion.
- b) Outline of the arrangements that the Bidder proposes to adopt to manage coordination of Site access.
- c) Commentary on the geotechnical and subsurface aspects of the Works including materials, material sources and any constraints.
- d) Commentary on logistics and traffic management (as may be appropriate).
- e) Outline of the arrangements that the Bidder proposes to adopt to ensure compliance with the Specifications.

Outline of the arrangements that the Bidder proposes for the handover and acceptance upon completion of the Work.

## **10.13 Detailed Works Program/ Construction Schedules**

### **10.13.1 Programming Software and Structure of Programs**

The "Schedule" shall be accompanied by a narrative statement that shall describe the activities, assumptions and logic, including any allowances that have been made for weekends, statutory holidays, inclement weather, inspection and approval times and the like. Highlight the Bidder's perception of the major constraints and critical areas of concern in the organization, manufacturing and supply of equipment or constructions and completion of the Works (i.e., access dates, provision of permits, temporary or permanent power, water, etc.). Include manpower and equipment schedule over time showing the numbers and classes of manpower and equipment that will be engaged and required for the execution of the Works.

The Schedule shall

- a) Be developed as a critical path network and shall show the division of the Works, the start and completion dates for major activities and their interrelationships and keys dates, permitting processes that may be necessary in order to commence the Works, including the preparation of required studies, supporting information, and applications.
- b) Programs shall be developed using Primavera (P6) software and shall be presented in Gantt chart format, suitably coloured to enable easy reading. The critical path(s) shall be clearly identified.
- c) Primavera P6 Work Breakdown Structure (WBS) and Activity Coding System to be used shall be in accordance with the Engineer's standard.
- d) Artificial constraints and dummy activities shall be avoided, but if used shall be clearly identified and explained within the narrative.

- e) Cost or Resource loading shall only be indicated in the programs where required by the Engineer.
- f) All program submittals shall be provided in both print and electronic format, in such number of copies as required by the Engineer.
- g) If the contractor purchases the engineering and programming softwares for design and planning of the project, the same shall be turned over to the employer.

### **10.13.2 Detailed Works Program**

The Contractor shall submit a "Detailed Works Program" (DWP) to the Engineer within **14** calendar days from the Commencement Date.

This Initial Program Submittal shall include, but is not limited to, the following:

- i) A Gantt Chart showing all activities involved in the execution and completion of the Works within the Contract Period, identifying the critical path(s), together with an explanatory narrative report.
- ii) Time Chainage Diagram
- iii) This shall be an amplification of the Program submitted within the Contractor's Technical Proposal, and any major deviations in the logic or activity durations shall be fully explained within the narrative.
- iv) A copy of the PERT/CPM diagram underlying the Gantt Chart, with the critical path(s) identified.
- v) A time-sequenced Bar Chart with a progress "S Curve" super-imposed thereon, indicating the projected monthly progress estimates for each major pay item in terms of percentage accomplishment of Billed quantity.
- vi) The Document Submittal Register (DSR)
- vii) The updated Contractor's Organization Chart(s)
- viii) A Manpower Schedule over time showing the numbers and classes of manpower that will be engaged for the execution of the Works;
- ix) An updated Equipment Schedule over time showing the mobilization and demobilization dates of the major equipment required for the execution of the Works;
- x) A Payment Schedule showing a detailed cash flow estimate, in monthly and quarterly periods, of all payments the Contractor considers he will be entitled to invoice under the terms of the Contract.
- xi) A schedule setting out in detail the exact method or methods to be adopted by the Contractor in the manufacture and erection of the bridge components (superstructure) and the number and types of precast elements that are to be produced and erected (if any) monthly,
- xii) A schedule showing the planned monthly quantities for the batching, transporting and placing of cast in place concrete.
- xiii) A schedule showing the planned monthly quantities for the fixing of reinforcement.
- xiv) A schedule showing delivery dates and planned monthly erection quantities for structural steelwork (if any).
- xv) Show the dates and periods relating to the interfaces with the work of other Contractors, Subcontractors and Contractors under Subcontractors.

The Detailed Works Program submission shall also include, inter alia, the following:

- i) All major procurement items including lead times and delivery dates;
- ii) A schedule showing the dates for Factory Acceptance Tests (FAT) (if any)
- iii) The actual time allowance(s) made within the DWP for the approval of submissions identified on the DSR, particularly where the Engineer or Contractor is required to liaise with other parties;

- iv) The dates by which the Contractor requires information from the Engineer (if any)
- v) The dates by which the Contractor requires instructions from the Engineer to carry out work described in the Contract under Provisional Sums (if any).
- vi) Interface Points (IP's)
- vii) The delivery periods and dates of arrival on site of all major plant and materials and their relationship with any climatic or hydrological constraints; and
- viii) The dates and periods during which the Contractor requires access to sites allocated to other persons or contracts for execution of the Works (if applicable).

#### **10.13.3 Design Submittal and Design Review Program (DSDRP)**

All design stages should be clearly identified and the appropriateness of the design sequence and any correlation with manufacturing and construction activities established.

#### **10.13.4 The Engineers Acceptance**

If the Engineer raises no objection to the program(s) submitted under this Section within 21 days of receipt, they shall then be considered as the "Initial Baseline" programs for the purposes of Progress Monitoring.

No objection being raised by the Engineer does not signify his approval to any program, nor does it relieve the Contractor of any of his duties or responsibilities under the Contract.

#### **10.13.5 Detailed Works Program Updating Revisions**

The Contractor shall continually update the Detailed Works Program by reference to work actually accomplished. The updated program and the associated schedules shall form an integral part of the Monthly Progress Report.

The program updates shall show the planned Baseline duration for each activity and superimpose details of actual construction periods (if any) upon them. For those activities in progress, it will also show the estimated duration to completion.

Any proposed revision to the start or finish dates of current or future activities must be indicated on this program, with an explanation contained within a supporting narrative report. Such report shall also contain a Float Analysis indicating changes or potential changes in criticality and describe any revised methods which the Contractor proposes to adopt in order to expedite progress to overcome any impact upon the Time for Completion.

Notwithstanding the above, the Contractor shall immediately advise the Engineer of any change to the Detailed Works Program that he believes may be required for any reason whatsoever.

#### **10.13.6 Three Monthly Rolling Program**

**Within 14 days** from the Commencement Date, the Contractor shall submit to the Engineer an initial Three-Monthly Rolling Program. The Initial submission shall show in detail all activities that have either commenced or

are due to commence within the first three calendar month period to meet key dates and milestones and any other dates set out in the Contract.

The Contractor shall submit an updated Three- Monthly Rolling Program each month thereafter as part of the Monthly Progress Report.

Following the initial submittal, the Three-Monthly Rolling Program shall:

- a) Consist of a three- month time window covering the previous month and the two forthcoming months, extracted from and in conformance with, the Detailed Works Program.
- b) It shall show all activities that were planned to start or finish during that three- month period and provide details of their actual construction status.
- c) It shall identify any outstanding information that is to be provided by the Employer, Government Agencies, Statutory Authorities, the Engineer, or any other Interfacing Party in respect of those activities and provide the latest date(s) upon which that information must be received.

#### **10.13.7 Three Weekly Program**

Prior to the commencement of any work on Site, the Contractor shall prepare and submit to the Engineer, a time-scaled program for each section of the Works showing in detail the activities planned for the forthcoming 21-day period.

This program shall then be updated and submitted to the Engineer each successive week to show actual work completed during the previous week, the activities currently in progress and those planned to commence during the two weeks period ahead.

The activities shown on this Three- Week Rolling Program should represent a magnified view taken from the latest version of the Three- Monthly Rolling Program in all respects.

The Three- Week Rolling Program need not be computer generated and does not require a detailed program analysis report. Any activity exceeding one week in duration shall be divided into sub-activities, the duration of which shall not exceed one week.

#### **10.13.8 Other Programs**

The Contractor shall provide any other programs or sub-programs related to a particular Part or Section of the Works as instructed by the Engineer.

### **11.0 PROCEDURE AND CRITERIA FOR BIDS EVALUATION**

#### **11.1 Bid Evaluation**

For the detailed evaluation of the design and build proposals a *two-step procedure* shall be adopted by the BAC, which may be undertaken with the assistance of the Technical Working Group or the Design and Build Committee (DBC), if one has been created.

The detailed procedures from the submission and opening of proposals up to bid evaluation, post-qualification, and award of contract shall be governed by Sections 11 and 12 of Annex G of the IRR.”

## 12.0 CONTRACT IMPLEMENTATION

“The Contract Implementation guidelines for this project shall comply with Section 13 of Annex G in relation to Annex E of the Revised IRR of RA9184.

## 13.0 DATA TO BE PROVIDED BY THE DOTr/PNR

### 13.1 The following data shall be provided by DOTr/PNR:

The data and details are attached in the list of Appendices and Attachments.

*(Note: These data are for reference only. The DOTr/PNR does not guarantee to the contractor that the data provided are correct, free from error, and applicable to the project at hand. The Contractor is responsible for the accuracy or applicability of any data that he will use in his design-build proposal and services.)*

### 13.2 List of Reference Appendices

<b>APPENDICES (DATA) FOR TRP-04a (Km. 1.349 to Km. 25.00)</b>		
<b>S.No</b>	<b>Description (DATA)</b>	<b>Appendix</b>
1	List of Track Material Supplied by Employer	Ap-1
2	List of Level Crossings to be Relocated	Ap-2
3	List of Pocket Tracks to be Constructed	Ap-3
4	List of Stations where Temporary Platforms & Prefab Structure Required	Ap-4
5	List of Stretches where Existing Track to be Retained	Ap-5
6	List of Trees to be Cut	Ap-6
7	List of Utilities being shifted by others	Ap-7
8	Tentative Schedule of works	Ap-8
9	Outline Specifications for Performance & Execution of works for guidance	Ap-9
10	Preliminary Survey and Geotechnical Investigation Data	Ap-10
11	Site Access Date/Land Handover Schedule	Ap-11
12	Bill of Quantities for Guidance only	Ap-12
13	Hydrology Report	Ap-13
14	PNR Working Timetable	Ap-14
15	Site data for Spoil disposal	Ap-15
16	Topographic Survey Details	Ap-16
17	List of affected structures for demolition	Ap-17

### 13.3 List of reference Drawings

The following Drawings and Sketches are attached for Guidance only. Since the contract is design & Build, the contractor to proposed the alignment & all drawings and details for the structures etc keeping in view of the attached alignment. The design and construction methodology shall be such that the construction of the Track Relocation works shall not disrupt or endanger the safety of running track and structures on which traffic is under operation.

ATTACHMENTS ( <u>DRAWINGS</u> ) FOR TRP-04a (Km. 1.349 to Km. 25.00)			
S.No	Description (DRAWINGS)	Attachment	Drawing No./Nos OR Name of the Drg.
1	Plan & Profile of the Alignment for Relocated Track	At-1	
2	Typical Cross Section of Track on Embankment, Cutting/Grade (This attachment also includes drawings for Track Works such as Track On Steel Bridge, Structure Gauge for PNR Track Relocation and Future, Track Layout -37 Kg Rail, Typical Track, Typical Alignment on Steel Bridge, Rail Profile of 37 A Rail, Typical Rail Clip, Typical Fastening System for PC Sleeper, Typical Fastening System for Synthetic Sleeper, Details of PC Sleeper (37 Kg Rail), Typical details of Synthetic Sleeper Mounting on Steel Bridge, Typical Normal Rail Joints of 37 Kg Rail, Typical Compromise Fishplate Joint 37 Gg - 54 Kg Rails, Typical Synthetic Sleeper for Standard Gauge, Rail Profile 54E1 Rail)	At-2	GCR-TRP-DWG-TK-0100, GCR-TRP-DWG-TK-0101 (GCR-TRP-DWG-TK-0020, GCR-TRP-DWG-TK-0103, GCR-TRP-DWG-TK-0200, GCR-TRP-DWG-TK-0203, GCR-TRP-DWG-TK-0300, GCR-TRP-DWG-TK-0400, GCR-TRP-DWG-TK-0401, GCR-TRP-DWG-TK-0402, GCR-TRP-DWG-TK-0500, GCR-TRP-DWG-TK-0503, GCR-TRP-DWG-TK-0800, GCR-TRP-DWG-TK-0810, GCR-TRP-DWG-TK-0502, GCR-TRP-DWG-TK-0301)
3	Typical Layout of Level Crossing	At-3	GCR-TRP-DWG-TK-0710
4	Typical Layout and Details of Prefab Station Structure	At-4	At04.05_Temporary Stations & Platforms
5	Typical Temporary Platform Details	At-5	At04.05_Temporary Stations & Platforms
6	Layout of #10 Turnout	At-6	GCR-TRP-DWG-TK-0600
7	Layout of # 10 Climbing-up Derailment Turnout	At-7	GCR-TRP-DWG-TK-0600, GCR-TRP-DWG-TK-0602
8	Layout of # 8 Climbing-up Derailment Turnout	At-8	GCR-TRP-DWG-TK-0601, GCR-TRP-DWG-TK-0602
9	Typical Layout of Pocket Track	At-9	GCR-TRP-DWG-TK-0011
10	Typical Cross section of Road	At-10	At10_Typical Cross Section_Road
11	Typical Cross section of Retaining wall	At-11	At11_Typical Cross Section_Retaining Wall
12	Typical Gradient Post, Curve Board, Transition Curve Post and Fouling Mark, Bridge Number Plaque, Typical KM & Hectometre Post	At-12	GCR-TRP-DWG-TK-0900
13	Schematic Track Layout of PNR Track Relocation Project	At-13	GCR-TRP-DWG-TK-0010
14	Typical Drawings for RCC Box Culverts	At-14	8-5-21_TRP-04a Typical Drawings
15	Typical Details of Ballast Mound and Buffer Stop	At-15	GCR-TRP-DWG-TK-0700

#### 14.0 DOCUMENTS TO BE PROVIDED BY THE CONTRACTOR DURING CONTRACT IMPLEMENTATION

The following documents shall be provided by the Contractor during Contract Implementation both in hard (6 copies) and soft copies (6 sets):

- Signed Contract
- Survey Data
- Detailed Geotechnical Investigation Report
- Design Report
- Design Analysis
- Detailed Engineering Plans
- Approved "Good for Construction" Drawings
- Approved Technical Specifications
- Approved Detailed Cost Estimates with Unit Price Analysis
- Approved Method Statements
- As-Built Plan
- Completion and Handingover Report as agreed by engineer with all joint verification statements for parameters, Quality Reports, statement of final parameters after construction vis a-vis design parameters, As-Built Drawings, Material Statements, Photographs etc.

## **15.0 REPORTING & SCHEDULE**

### **15.1 General**

The Contractor shall prepare and submit to the Engineer, six (6) hard copies and one (1) soft copy of a Monthly Progress Report (MPR) detailing the progress and current status of the Works. The MPR shall be submitted by the 7th day of each calendar month and shall account for all work actually performed from the 1st day of the preceding month up to and including the last day of that month. It shall be submitted in a format agreed with the Engineer and shall contain sections and subsections for, but not limited to, the topics listed below:

### **15.2 Executive Summary**

The Contractor shall provide an executive summary covering the major achievements made during the reporting period, the activities planned for the next month and any issues that are affecting or may affect future Works progress. These items are to be dealt with fully in the body of the report.

### **15.3 Financial Status**

The financial status of the Contract which shall include:

- a) A narrative review of all significant financial matters and actions proposed or taken in respect of any outstanding matters;
- b) A spreadsheet summarizing the Contract value, value of work during the period, value of work to date, remaining work value, cash flow forecast and variance (difference between cost forecast and Contract value);
- c) A spreadsheet showing the dates payment applications have been made, certificates issued and corresponding payments received;
- d) A graphical representation of actual costs incurred to date plotted against the original Bid Cost forecast (S Curve);
- e) A Claim Status report showing the dates notices were given and details of particulars submitted. The report shall also identify whether the claimed event(s) have concluded or are continuing. Potential or outstanding claims shall also be identified, and in particular those events notified or to be notified by the Contractor.
- f) A Variation Status report including changes instigated by the Engineer or by the Contractor. The report shall include details of cost proposals submitted, and the approval status thereof. The report shall also include any possible or potential future changes the Contractor may be aware of.
- g) Details of the Employer's Cost Reporting System that the Contractor shall supply data for with suitable formatting.
- h) Projected Cash-flow

### **15.4 Manufacturing Status**

For the manufacture of each main item of plant or component thereof, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:

- a) Commencement of manufacture;
- b) Contractor's inspection;
- c) Required Tests; and
- d) Shipment and Delivery to the Site.

### **15.5 Contractor's Personnel and Equipment and Equipment Provided for the Employer**

Detail description and record of mobilization/demobilization of Contractor's Personnel and Equipment, and any equipment provided by the Contractor for the use of the Employer and Engineer, i.e., vehicles etc.

### **15.6 Physical Progress**

Detail description of work performed, significant accomplishments, including critical items and problem areas, corrective actions taken or planned and other pertinent activities, and shall, in particular, address interface issues, problems and resolutions. It shall include a simplified representation of progress measured in percentage terms compared with percentage planned as derived from the current Detailed Works Program and the Baseline Program.

### **15.7 Program Update**

The Detailed Works Program shall be updated by recording actual activity completion dates and percentage of activities completed up to the end of the previous month together with estimates of remaining duration and expected activity completion based on current progress. The Program update shall be accompanied by an activity report and a narrative statement. The narrative statement shall explain the basis of the Contractor's submittal:

- a) Early Work and Baseline Submittals - explaining the determination of activity duration and describing the Contractor's approach for meeting required dates as specified in the Contract;
- b) Updated Program Submittals - stating in narrative the works actually completed and reflected along the Critical Path(s) in terms of days ahead or behind allowable dates;
- c) Actual or potential delay to the Contract Completion Date - identifying causes of delays and providing explanation of the Works affected and proposed corrective action to meet key dates or mitigate potential delays. Identify any deviation from previous month's Critical Path;
- d) Identify by activity number and description, activities in progress and activities scheduled to be completed; and
- e) Identify the impact on the schedule of Variation Order Items, if any.

### **15.8 Program Status**

The Program Status Report shall:

- a) Show Detailed Works Program status up to and including the current report period, display Cumulative progress to date and a forecast of remaining work; and
- b) Be presented as a level 3 linked bar-chart in A3 size and as a time-related logic network diagram on A1 media, including activity listings.
- c) Include a Float Analysis schedule showing changes to activity float compared with the original Baseline and the previous months program update.

### **15.9 Activity Variance Analysis**

The Activity Variance Analysis shall analyze activities planned to start prior to or during the report period but not started at the end of the report period as well as activities started and/or completed in advance of what is indicated in the Detailed Works Program.

### **15.10 Procurement Report**

A summary of all significant procurement activities undertaken by the Contractor during the month, including actions taken to overcome problems shall be given. A report listing major items of plant and materials that will be incorporated into the Works shall be provided. The items shall be segregated by type as listed in the Specifications and the report shall show as a minimum the following data:

- a) The Program Activity ID reference(s) and Early Start (ES) date(s) that are reliant upon the material availability on site.
- b) The Purchase Order Date - Planned/Actual
- c) Details of the Manufacturer/Supplier and Origin



- d) Letter of Credit Issued date
- e) Manufacturer/Supplier Shipping Date - Planned/Actual
- f) Method of Shipment
- g) Arrival Date in Philippines - Planned/Actual.
- h) Customs Clearance Documentation – Planned/Actual

### 15.11 Production and Testing

A summary of all production and manufacturing activities during the reporting month shall be given, including:

- a) All production and manufacturing outputs planned and actual, during the reporting month shall be given, together with forecasts for the following month.
- b) A summary of all testing activities (either at Site or at the manufacture's premises) carried out during the reporting month, together with an overview of the test results shall be included.

### 15.12 Other Matters

The Contractor shall also include the following items within the MPR:

- a) Milestones and Key Date Status - A report on the status of all Milestones (MS's) and/or Key Dates (KD's) due to be achieved during both the reporting month, and the following month. This will include:
  - i. MS's or KD's achieved or that will be achieved
  - ii. MS's or KD's missed or that will be missed, with details of the Contractors best forecast of possible achievement dates.
  - iii. The Contractors mitigation proposals in respect of ii) above
- b) Three Monthly Rolling Program - The monthly issue of the three (3) month Rolling Program
- c) Interfacing and Co-ordination - A 3- month extract from the Contractor's Interface Management Plan showing those interface activities achieved during the previous month and those projected for the 2- month period ahead. Details of any interfaces currently in progress and any that have been missed with mitigation proposals.
- d) Safety and Risk Management - A review of all safety aspects during the month including reports on all accidents, actions proposed to prevent further occurrence, and safety statistics.
- e) Environmental -A summary of all the environmental issues during the month. All monitoring results. Evidence of measures undertaken to mitigate environmental impacts as planned in the CEMMP. A record of inspections and corrective actions. A record of the responses and activities as a result of environmental complaints received through the complaints system.
- f) Quality Assurance - A review of all quality assurance issues during the past month including all audits undertaken (internal and external) with a schedule detailing the status of outstanding actions
- g) Public Relations - issues including complaints received, public notices, consultation meetings, stakeholder meetings etc.
- h) Weather - and other conditions, including daily temperature range, humidity, rainfall, wind speed and direction, river levels etc.
- i) Equipment - schedule of the Contractor's Equipment on Site with dates of arrival and departure as appropriate
- j) Material Transportation status as per the approved Material Transportation Plan
- k) Record of Documentation – received and submitted within the month including a schedule of all submissions and requests for consents or approvals either obtained or outstanding
- l) Monthly Photographs and Video.
- m) Health & Safety Program
- n) Manpower and equipment Utilisation.
- o) Approved Construction Schedule

The contractor shall also submit Daily and Weekly report and any other report as and when required by the Engineer and Employer.

## **16.0 MINIMUM REQUIREMENTS FOR CONSTRUCTION SAFETY AND HEALTH PROGRAMME**

The project shall have a suitable Construction Safety and Health Program, which must be in accordance with the rules, and other orders and issuances issued by the DOLE.

### **Safeguarding Health and Safety**

The Contractor shall take all measures necessary to safeguard the health and welfare of the general public, employees and all other persons entitled to be upon the Project Site and shall ensure that the Contract Works are carried out in safe and efficient manner. The Contractor shall, as a minimum, provide a staffed clinic at their main site office for all persons attending site, in addition to general first aid equipment and staff.

### **Applicable Safety Standards**

The Contractor, its Sub-Contractors and suppliers of any tier and all employees performing any part of the Works on the Site shall comply in every aspect with the provisions of any relevant statutory regulations, procedures manuals and notices and/or with requirements of Philippines law as may be consider applicable to the Works

### **The Contractor's Site Safety Plan**

The Contractor shall prepare and submit to the Engineer, for approval, a Site Safety Plan.

## *Section VII. Drawings*



## ***Section VIII. Bill of Quantities***

**See attached Bill of Quantities**

***Section IX. Checklist of Technical and Financial Documents***

# Checklist of Technical and Financial Documents

## I. TECHNICAL COMPONENT ENVELOPE

### *Class “A” Documents*

#### Legal Documents

- (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);  
**or**
- (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;  
**and**
- (c) Mayor’s or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;  
**and**
- (e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

#### Technical Documents

- (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**
- (g) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules;  
**and**
- (h) Philippine Contractors Accreditation Board (PCAB) License;  
**or**  
Special PCAB License in case of Joint Ventures;  
**and** registration for the type and cost of the contract to be bid; **and**
- (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;  
**or**  
Original copy of Notarized Bid Securing Declaration; **and**
- (j) Project Requirements, which shall include the following:
  - a. Organizational chart for the contract to be bid;
  - b. List of design and construction personnel, to be assigned to the contract to be bid, with their complete qualification and experience data [*in lieu of Project Requirement (b)*];
  - c. List of contractor’s major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**
- (k) Original duly signed Omnibus Sworn Statement (OSS);  
**and** if applicable, Original Notarized Secretary’s Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of



Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

- (l) Preliminary Conceptual Design Plans (*in accordance with the details specified in Clause 8.1 of the Terms of Reference*);
- (m) Design and Construction methods;
- (n) Value engineering analysis of design and construction method.

Financial Documents

- (o) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**
- (p) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

***Class "B" Documents***

- (q) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence;  
**or**  
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

**II. FINANCIAL COMPONENT ENVELOPE**

- (r) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

- (s) Original of duly signed Bid Prices in the Bill of Quantities;
- (t) Lump sum bid prices, which shall include the detailed engineering cost, in the prescribed Bid Form;
- (u) Duly accomplished Detailed Estimates Form, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; **and**
- (v) Cash Flow by Quarter and payments schedule.

## ***Section X. Bidding Forms***

## Bid Form

---

Date: \_\_\_\_\_

IB N°: \_\_\_\_\_

To: *[name and address of PROCURING ENTITY]*

Address: *[insert address]*

We, the undersigned, declare that:

- (a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract *[insert name of contract]*;
- (b) We offer to execute the Works for this Contract in accordance with the Bid and Bid Data Sheet, General and Special Conditions of Contract accompanying this Bid;

The total price of our Bid, excluding any discounts offered below is: *[insert information]*;

The discounts offered and the methodology for their application are: *[insert information]*;

- (c) Our Bid shall be valid for a period of *[insert number]* days from the date fixed for the Bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract;
- (e) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from the following eligible countries: *[insert information]*;
- (f) We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- (g) Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the Funding Source;
- (h) We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- (i) We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

- (j) We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity].
- (k) We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: \_\_\_\_\_

In the capacity of: \_\_\_\_\_

Signed: \_\_\_\_\_

Duly authorized to sign the Bid for and on behalf of: \_\_\_\_\_

Date: \_\_\_\_\_

## Form of Contract Agreement

---

THIS AGREEMENT, made this *[insert date]* day of *[insert month]*, *[insert year]* between *[name and address of PROCURING ENTITY]* (hereinafter called the “Entity”) and *[name and address of Contractor]* (hereinafter called the “Contractor”).

WHEREAS, the Entity is desirous that the Contractor execute *[name and identification number of contract]* (hereinafter called “the Works”) and the Entity has accepted the Bid for *[insert the amount in specified currency in numbers and words]* by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

### NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be attached, deemed to form, and be read and construed as integral part of this Agreement, to wit:
  - (a) General and Special Conditions of Contract;
  - (b) Drawings/Plans;
  - (c) Specifications;
  - (d) Invitation to Bid;
  - (e) Instructions to Bidders;
  - (f) Bid Data Sheet;
  - (g) Addenda and/or Supplemental/Bid Bulletins, if any;
  - (h) Bid form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder’s response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity’s bid evaluation;
  - (i) Eligibility requirements, documents and/or statements;
  - (j) Performance Security;
  - (k) Notice of Award of Contract and the Bidder’s conforme thereto;
  - (l) Other contract documents that may be required by existing laws and/or the Entity.
3. In consideration of the payments to be made by the Entity to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Entity to execute and complete the Works and remedy any defects therein in conformity with the provisions of this Contract in all respects.

4. The Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects wherein, the Contract Price or such other sum as may become payable under the provisions of this Contract at the times and in the manner prescribed by this Contract.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Entity)

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Contractor).

Binding Signature of Procuring Entity

\_\_\_\_\_

Binding Signature of Contractor

\_\_\_\_\_

*[Addendum showing the corrections, if any, made during the Bid evaluation should be attached with this agreement]*

## Omnibus Sworn Statement

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REPUBLIC OF THE PHILIPPINES )  
CITY/MUNICIPALITY OF \_\_\_\_\_ ) S.S.

### AFFIDAVIT

I, *[Name of Affiant]*, of legal age, *[Civil Status]*, *[Nationality]*, and residing at *[Address of Affiant]*, after having been duly sworn in accordance with law, do hereby depose and state that:

1. **Select one, delete the other:**

*If a sole proprietorship:* I am the sole proprietor or authorized representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

*If a partnership, corporation, cooperative, or joint venture:* I am the duly authorized and designated representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

2. **Select one, delete the other:**

*If a sole proprietorship:* As the owner and sole proprietor or authorized representative of *[Name of Bidder]*, I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Name of the Project]* of the *[Name of the Procuring Entity]* *[insert "as shown in the attached duly notarized Special Power of Attorney" for the authorized representative]*;

*If a partnership, corporation, cooperative, or joint venture:* I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Name of the Project]* of the *[Name of the Procuring Entity]*, accompanied by the duly notarized Special Power of Attorney, Board/Partnership Resolution, or Secretary's Certificate, whichever is applicable;

3. *[Name of Bidder]* is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;
4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;
5. *[Name of Bidder]* is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. **Select one, delete the rest:**

*If a sole proprietorship:* The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*If a partnership or cooperative:* None of the officers and members of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*If a corporation or joint venture:* None of the officers, directors, and controlling stockholders of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. [Name of Bidder] complies with existing labor laws and standards; and
8. [Name of Bidder] is aware of and has undertaken the following responsibilities as a Bidder:
- a) Carefully examine all of the Bidding Documents;
  - b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;
  - c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and
  - d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the [Name of the Project].

1. [Name of the Bidder] hereby assigns the following contact number/s and email address as the official telephone/fax number and contract reference of the company where the PNR-BAC notices may be transmitted.

Telefax/Phone Number/s	1. _____
	2. _____
E-mail Address	1. _____

It is understood that notice/s transmitted in the above stated telephone/fax numbers and/or e-mail address are deemed received as of its transmittal and the reckoning period for the reglementary periods stated in the bidding documents and the Revised Implementing Rules and Regulation of Republic Act No. 9184 shall commence thereon.



IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_ day of \_\_\_, 20\_\_ at \_\_\_\_\_, Philippines.

\_\_\_\_\_  
Bidder's Representative/Authorized Signatory

**SUBSCRIBED AND SWORN** to before me this \_\_\_ day of [month] [year] at [place of execution], Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. \_\_\_\_\_.

Witness my hand and seal this \_\_\_ day of [month] [year].

**NAME OF NOTARY PUBLIC**

Serial No. of Commission \_\_\_\_\_

Notary Public for \_\_\_\_\_ until \_\_\_\_\_

Roll of Attorneys No. \_\_\_\_\_

PTR No. \_\_\_\_\_ [date issued], [place issued]

IBP No. \_\_\_\_\_ [date issued], [place issued]

Doc. No. \_\_\_\_\_

Page No. \_\_\_\_\_

Book No. \_\_\_\_\_

Series of \_\_\_\_\_

\* This form will not apply for WB funded projects.

## Bid-Securing Declaration

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**(REPUBLIC OF THE PHILIPPINES)**  
**CITY OF \_\_\_\_\_ ) S.S.**

X-----X

**Invitation to Bid** [*Insert reference number*]

To: [*Insert name and address of the Procuring Entity*]

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid-Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1 (f), of the IRR of RA 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:
  - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
  - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right;
  - c. I am/we are declared as the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

**IN WITNESS WHEREOF**, I/We have hereunto set my/our hand/s this \_\_\_\_ day of [month] [year] at [place of execution].

***[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]***  
***[Insert signatory's legal capacity]***

Affiant

**SUBSCRIBED AND SWORN** to before me this \_\_ day of [month] [year] at [place of execution], Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. \_\_\_\_\_.

Witness my hand and seal this \_\_\_\_ day of [month] [year].

**NAME OF NOTARY PUBLIC**

**Serial No. of Commission** \_\_\_\_\_  
**Notary Public for** \_\_\_\_\_ **until** \_\_\_\_\_  
**Roll of Attorneys No.** \_\_\_\_\_  
**PTR No.** \_\_, [date issued], [place issued]  
**IBP No.** \_\_, [date issued], [place issued]  
**Doc. No.** \_\_\_\_  
**Page No.** \_\_\_\_  
**Book No.** \_\_\_\_  
**Series of** \_\_\_\_\_.

## CURRICULUM VITAE

Proposed Position					
<b>Personal Information</b>					
Name of Staff					
Address		Contact No.		Email Address.	
Date of Birth		Citizenship		Civil Status	
<b>Work Experience (start from the current employment, add rows if necessary)</b>					
AGENCY / COMPANY NAME  (Write in full)	INCLUSIVE DATES  (mm/dd/yy)		Total Number of Experience  (Number of Years and Months)	POSITION TITLE  (Write in full)	JOB DESCRIPTION
	From	To			
<b>Total Work Experience (Yrs &amp; Mo.)</b>					
<b>Relevant Experience</b>					
AGENCY / COMPANY NAME  (Write in full)	INCLUSIVE DATES  (mm/dd/yy)		Total Number of Experience  (Number of Years and Months)	POSITION TITLE  (Write in full)	JOB DESCRIPTION

	From	To			
<b>Total Minimum Related/ Specific Work Experience (Yrs &amp; Mo.)</b>					
<b>Relevant Training (start from the most recent, add rows if necessary)</b>					
Course Title	Inclusive Dates		Location	No. of Hours	Conducted / Sponsored by
	From	To			
<b>Education (start from the most recent, add rows if necessary)</b>					
School	Inclusive Dates		Degree Course	Scholarships / Academic Honors Received	
	From	To			
<b>Professional Licenses, Certificates, Other Credentials (Please also attach the proof of Licenses, Certificates, Other Credentials)</b>					
Title				Date Received	


**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications and my experience.

\_\_\_\_\_

Date: \_\_\_\_\_

*(Signature of staff member and authorized representative of the firm)*

# Key Personnel's Certificate of Employment

**Issuance Date**

**Dear Sir:**

I am \_\_\_\_\_ (Name of Nominee) \_\_\_\_\_ a Licensed \_\_\_\_\_ Engineer with Professional License No. \_\_\_\_\_ issued on \_\_\_\_\_ (date of issuance) \_\_\_\_\_ at \_\_\_\_\_ (place of issuance) \_\_\_\_\_.

I hereby certify that \_\_\_\_\_ (Name of Bidder) \_\_\_\_\_ has engaged my services as (Designation) for **(PROJECT NAME)**, If awarded to it.

As \_\_\_\_\_ Designation \_\_\_\_\_, I supervised the following completed projects similar to the contract under bidding:

<u>NAME OF PROJECT</u>	<u>OWNER</u>	<u>COST</u>	<u>DATE COMPLETED</u>
------------------------	--------------	-------------	-----------------------

At the present, I am supervising the following projects:

<u>NAME OF PROJECT</u>	<u>OWNER</u>	<u>COST</u>	<u>DATE COMPLETED</u>
------------------------	--------------	-------------	-----------------------

In case of my separation for any reason whatsoever from the above-mentioned Contractor, I shall notify the **(PROCURING ENTITY)** at least twenty one (21) days before the effective date of my separation.

As       (Designation)      , I know I will have to stay in the job site all the time to supervised and manage the Contract works to the best of my ability, and aware that I am authorized to handle only one (1) contract at a time.

I do not allow the use of my name for the purpose of enabling the above-mentioned Contractor to qualify for the Contract without any firm commitment on my part to assume the post of

      (Designation)       therefore, if the contract is awarded to him since I understand that to do so will be a sufficient ground for my disqualification as       (Designation)       in any future **(PROCURING ENTITY)** bidding or employment with any contractor doing business with the **(PROCURING ENTITY)**.

(Signature of Engineer)

**DRY SEAL**

Republic of the Philippines )  
\_\_\_\_\_ ) S.S

SUBSCRIBED AND SWORN TO before me this \_\_\_\_\_ day of \_\_\_\_\_ 2021 affiant exhibiting to me his Residence Certificate No. \_\_\_\_\_ Issued on \_\_\_\_\_ at \_\_\_\_\_.

Notary Public  
Until:

Doc. No. \_\_\_\_\_;  
Page No. \_\_\_\_\_;  
Book No. \_\_\_\_\_;  
Series of \_\_\_\_\_;





**STATEMENT OF SINGLE LARGEST COMPLETED CONTRACT**

This is to certify that \_\_\_\_\_ (company name) \_\_\_\_\_ has the following completed contracts:

<b>Name of Contract</b>	<b>Date of the Contract</b>	<b>Contract Duration</b>	<b>Owner's name and Address and Contact Number</b>	<b>Nature of Work</b>	<b>Contractor's Role</b>	<b>Total Contract Value at Award</b>	<b>Date of Completion / Estimated Completion Time</b>	<b>Total Contract value at Completion</b>	<b>Percentages Planned and Actual Accomplishments</b>	<b>Notice of Award / Notice to Proceed issued by the Owners</b>	<b>Constructors Performance Evaluation System (CPES) rating sheets / certificate of Completion and Owner's acceptance</b>

\_\_\_\_\_  
**Name and Signature of Authorized  
 Representative**

\_\_\_\_\_  
**Date**

**STATEMENT OF ON-GOING AND AWARDED BUT NOT YET STARTED CONTRACTS**

This is to certify that \_\_\_\_\_ (company name) \_\_\_\_\_ has the following on-going and awarded but not yet started contracts:

<b>Name of Contract</b>	<b>Date of the Contract</b>	<b>Contract Duration</b>	<b>Owner's name and Address and Contact Number</b>	<b>Nature of Work</b>	<b>Contractor's Role</b>	<b>Total Contract Value at Award</b>	<b>Date of Completion / Estimated Completion Time</b>	<b>Total Contract value at Completion</b>	<b>Percentages Planned and Actual Accomplishments</b>	<b>Notice of Award / Notice to Proceed issued by the Owners</b>	<b>Constructors Performance Evaluation System (CPES) rating sheets / certificate of Completion and Owner's acceptance</b>

\_\_\_\_\_  
**Name and Signature of Authorized Representative**

\_\_\_\_\_  
**Date**

**Contract Name:**  
**Location of the Contract:**

LIST OF CONTRACTOR’S MINIMUM EQUIPMENT UNITS TO BE ASSIGNED TO THE CONTRACT  
 SUPPORTED BY CERTIFICATION OF AVAILABILITY

Business Name : \_\_\_\_\_  
 Business Address : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Reference	Description	Model / Year	Capacity / Performance / Size	Plate No.	Motor No. / Body No.	Location	Condition	Proof of Ownership / Lease / Purchase
<b>Annex A</b>	<b>A. Owned</b>							
Annex A-1	1.							
Annex A-2	2.							
Annex A-3	3.							
Annex A-4	4.							
Annex A-5	5.							
<b>Annex B</b>	<b>B. Leased</b>							
Annex B-1	1.							
Annex B-2	2.							
Annex B-3	3.							

Annex B-4	4.							
Annex B-5	5.							
<b>Annex C</b>	<b>C. Under Purchase Agreement</b>							
Annex C-1	1.							
Annex C-2	2.							
Annex C-3	3.							
Annex C-4	4.							
Annex C-5	5.							

-Attached are copies of sales invoice / Registration Certificate from LTO

-Attached are the certifications from the lessors that the equipment units under B (Leased) shall be available for this contract.

-Attached are the certification from the vendors that the equipment units under C (Purchase Agreements) shall be available for this contract.

-Minimum minor construction equipment requirement as prescribed in the Bid Data Sheet:

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Name and Signature of Bidder's Representative

Date: \_\_\_\_\_

Position:

Name of Bidder

## LIST OF KEY PERSONNEL PROPOSED TO BE ASSIGNED TO THE CONTRACT

**Business Name:** \_\_\_\_\_

**Business Address:** \_\_\_\_\_

	Team Leader/Project Manager	Principal Design Engineer Railway Track, Construction & Maintenance	Principal Design Engineer Bridge, Culvert and other concrete structures Design	Senior Geotechnical Engineer	Senior Resident Engineer - Track Construction	Other Positions deemed required by the PNR for this project
1 Name						
2 Address						
3 Date of Birth						
4 Employed Since						
5 Experience						
6 Previous Employment						
7 Education						
8 PRC License						

**Note:** Attached are individual CV and PRC License of the (Professional) personnel

**Submitted By:** \_\_\_\_\_

\_\_\_\_\_  
*Name and Signature of Bidder's Authorized Representative*

*Date:* \_\_\_\_\_

\_\_\_\_\_  
*Position*

\_\_\_\_\_  
*Name of Bidder*

Republic of the Philippines



Government Procurement Policy Board