



**MUNICIPALITY OF TINAMBAC**  
**Province of Camarines Sur**

**TERMS OF REFERENCE**

**ESTABLISHMENT OF SANITARY LANDFILL (DESIGN AND BUILD FOR THE  
CONSTRUCTION OF TINAMBAC MUNICIPAL SANITARY LANDFILL, SUPPLY  
AND DELIVERY OF MRF EQUIPMENT AND SLF HEAVY EQUIPMENT)**

**Barangay Union, Municipality of Tinambac, Camarines Sur**

**PART I**

**GENERAL PROJECT INFORMATION**

**1.0 PROJECT DESCRIPTION**

1.1 Project Title: **Establishment of Sanitary Landfill (Design and Build for the Construction of Tinambac Sanitary Landfill, Supply and Delivery of MRF Equipment and SLF Heavy Equipment)**

1.2 General Description:

The proposed Establishment/Construction of Tinambac Sanitary Landfill project covers the design and construction of sanitary landfill in a 45,794 square meters site that is relatively a rolling terrain with the no trace forest area and upland agricultural areas that includes Mobilization/Demobilization, General Earthworks, Landfill Cell Development that covers the Earthworks, Leachate Collection Facility works, Storm water Drainage Facility works, Liner Facility works, Waste Retaining Facility works and Leachate Treatment Facility works.

It also covers the construction of Landfill Support Facilities such as Administrative Building, Continuous Flow Composting Facility, Waste Segregation Facility Building, Perimeter Fence and Main Gate with the following activities: Concrete Works, Masonry Works, Carpentry Works, Tinsmithry Works, Structural Steel Works, Architectural Finishes, Electrical Works, Plumbing Works and Miscellaneous Works.

Access Road within the landfill site will likewise be part of the contract with the following activities: Roadway Excavation, Embankment from Borrow, Subgrade Preparation, Aggregate Sub – base Course, Aggregate Base Course and Crushed Aggregate Surface Course.

Included likewise is the installation of MRF Equipment and SLF Heavy Equipment. The segregation system equipment is needed to maximize the quantity of recyclables processed, while producing materials that will generate the highest possible revenues in the market. MRFs can also process wastes into a feedstock for biological conversion through composting and anaerobic digestion.

Landfill equipment required for landfilling process includes the machines used for spreading, compacting, excavating or digging process as well as trucks for collection of wastes from source.

To implement the proposed project the following are the components of the project:

#### 1.2.1 Access Road Construction

The access road going to the proposed project will be utilized for the transportation of wastes, cover soils, etc. into the landfill site. It will be design in a way that it does not pose any problem in the transportation process at all times, as well as does not hinder the overall landfilling activities.

The proposed access road going to the proposed site will be design as a cement concrete pavement following the appropriate thickness and width appropriate for the purpose.

Temporary access roads in the proposed landfill site are used only for only a short period during the landfilling process at certain areas. These access roads shall be efficiently built to ensure smooth traffic flow and landfill operations.

#### 1.2.2 Perimeter fence and Littering Prevention Facility

Proper fencing system surrounding the proposed landfill site shall be installed. The fence acts to control the landfill site from any illegal trespassing and illegal dumping. Littering Prevention Facility is installed to prevent littering of wind-borne solid waste from the landfill site to the surrounding environment.

Proper gates with security shall be built at the entrance of the proposed landfill site with clear and appropriate notice boards indicating the activities, rules and restriction of the landfill site.

#### 1.2.3 Waste Retaining Facility

Waste Retaining Facility is necessary in stock piling the solid wastes in a safe manner as well as to prevent overflow and collapse of the landfill wastes.

The loads acting on the retaining facility are landfill dead loads, landfill layer pressures, static waste pressures, uplift force, pore water pressure etc. Corrosion prevention measures are necessary in concrete made waste retaining facility. Prepare a good cement aggregate mixture and control the concreting and curing process.

#### 1.2.4 Leachate Collection Facility

Leachate Collection Facility is designed at collecting leachate generated from landfill site, channelling it to the leachate treatment facility for treatment before discharging it to the environment.

Leachate Collection Facility consists of collection pipes, leachate retention pits, leachate control valves, etc.

#### 1.2.5 Land fill Cell Construction

The Landfill Cell construction covers the following works: Liner Facility, Excavation Works, Embankment Works and Storm Drainage Facility.

The Liner Facility is installed to prevent pollution of public water bodies or ground water by the leachate discharged from the landfill site. It also prevents the increase of leachate volume caused by inflow of surrounding ground water into the landfill site.

Storm water drainage and leachate collection facilities complement the function of the liner facility. The storm water drainage facility eliminated rainwater from entering the landfilled wastes and thereby reduces the volume of leachate generated. The leachate collection facility drains away the leachate generated quickly.

#### 1.2.6 Leachate Treatment Facility

The main function of the Leachate Treatment Facility at the landfill site is to purify the leachate collected so that the leachate will not pollute the surrounding water bodies or underground water when it is discharged into the environment.

Leachate treatment facility is consist of various components such as: leachate collection, leachate control, leachate transport, leachate treatment and leachate discharge facility.

#### 1.2.7 Sanitary Landfill Support Facilities

The support facilities within the landfill site are as follows: site office, composting facility and waste segregation/material recovery facility. Site office shall be design to the overall control center that supervises the activities in the landfill site. The site office shall include at least a management office equipped with utilities such as power supply,

communication system. Facilities such as locker rooms, rest rooms, showers and other related facilities for workers must also be installed when necessary. Materials Recovery Facility building is likewise required to be constructed for the implementation of recycling, recovery and residual management component of the landfill operations.

The support facilities shall be placed at a convenient location to enable easy control of the entire landfill operations. A washing facility shall likewise be installed within the exit road of the proposed project to prevent the collection vehicles from carrying out dirt onto the public roads.

#### 1.2.8 MRF Equipment and Landfill Equipment

Supply and delivery of MRF Equipment and SLF Heavy Equipment is essential component of the proposed project to complete the basic solid waste management system.

The segregation system equipment is needed to maximize the quantity of recyclables processed, while producing materials that will generate the highest possible revenues in the market. MRFs can also process wastes into a feedstock for biological conversion through composting and anaerobic digestion.

Landfill equipment required for landfilling process includes the machines used for spreading, compacting, excavating or digging process as well as trucks for collection of wastes from source.

### 1.3 Objectives

The work involves designing and building the most cost-effective design concept to address environmental impact, mitigative requirements (as outlined from the environmental analysis report) and developing final designs, with final design drawings, construction details, cross-sections, final quantities, costs, technical specifications, tender documents, operating manuals, and health and safety plans.

The design shall be carried out in accordance and in compliance with the requirements of Republic Act 9003 also known as the Ecological Solid Waste Management Act of 2000 and Republic Act 9275 also known as the Philippine Clean Water Act of 2004 and its respective Implementing Rules and Regulations (IRR).

The objective of the proposed project is to develop the most cost – effective and affordable engineering design for a non – hazardous municipal solid waste landfill sanitary cell in the proposed landfill area located in Barangay Union, Municipality of Tinambac, Camarines Sur

with final design drawings, construction details, cross sections, final quantities, cost estimates and technical specifications for the following:

- Provided a short-term landfill operational capacity for a minimum of 10 years of waste disposal at this stage, within an engineering sanitary structure;
- Improve the environmental quality of the proposed landfill site in respect of solid waste management and adaptation of the sanitary landfill method of disposal, to be more modern and effective in terms of environment, cost, applicability and sustainability; and
- Mitigate the adverse environmental impacts associated with improper waste disposal at the landfills by replication of acquired technical knowledge and best international practices.

## **2.0 BACKGROUND**

The Municipal Government of Tinambac has identified solid waste disposal as a priority problem and requires the implementation/establishment of the Tinambac Municipal Sanitary Landfill to address this problem. This is consistent with the policy directive of the current local administration to address pollution, reduce carbon footprints and address climate change. The new sanitary landfill facilities to be designed are proposed to be part of an integrated Solid Waste Management System anchored on the 5 – Rs waste hierarchy – Reduction, Re-use, Recycling, Recovery and Residual Management. Siting studies, field investigations, preliminary designs and an environmental audit report, have already been conducted and will be available for use by the bidder.

## **3.0 PROCUREMENT OVERVIEW**

- 3.1 The procurement of this project will be conducted through open and competitive bidding in adherence to the policies stated in the implementing Rules and Regulations (IRR-A), Section 2 of Republic Act (RA) 9184
- 3.2 Eligibility requirements shall be subject to Section 23 and Section 24, Rule VIII, RA 9184 and in compliance with the requirements enumerated under the Instruction to Bidders (ITB) and in the forms prescribed by the Government Procurement Policy Board (GPPB) for this type of procurement.
- 3.3 The determination of award to the winning bidder shall be subject to compliance with minimum qualification requirements for this contract and through a series of pre-determined evaluation processes and procedures as

enumerated under this Terms of Reference (TOR) and in accordance with the provisions of RA 9184 and other pertinent laws, circulars and orders.

- 3.4 The Municipality of Tinambac shall accept the bid proposal determined to be the most advantageous to the Government and consider award of the contract on a best value for money basis.
- 3.5 The Municipality of Tinambac reserves the right to accept or reject any bid, to annul the bidding process, and to reject all bids at any time prior to contract award without thereby incurring any liability to the affected party(ies).

#### **4.0 PROCUREMENT MODE**

- 4.1 The design and build method of procurement was adopted, endorsed and recommended pursuant to the guidelines stipulated in Annex “G” – Guidelines for the Procurement and Implementation of Contracts for Design and Build of Infrastructure Projects of the IRR of RA 9184.

#### **5.0 PROCUREMENT OBJECTIVE**

The objective of the project is to design and construct a complete, sustainable, and fully functional Sanitary Landfill to be part of an integrated Solid Waste Management System anchored on the 5 – Rs waste hierarchy – Reduction, Re-use, Recycling, Recovery and Residual Management

- 5.1 To prepare complete Architectural and Engineering Plans and related studies/research that consider the following:
  - 5.1.1 Most favorable benefits to the procuring entity and for all stakeholders;
  - 5.1.2 Financial and economic viability balanced with social responsibility;
  - 5.1.3 Adaption of relevant laws, design standards and legal procedures;
  - 5.1.4 Construct a facility that can be readily occupied and operated after move-in.
- 5.2 The design and construction of the proposed Sanitary Landfill project shall be carried out in accordance and in compliance with the requirements of Republic Act 9003 also known as the Ecological Solid Waste Management Act of 2000 and Republic Act 9275 also known as the Philippine Clean Water Act of 2004 and its respective Implementing Rules and Regulations (IRR), as well as another design criteria outlined as an annex to these terms of reference.

- 5.3 To supply and deliver the type, size and number of MRF Equipment and SLF Heavy Equipment component needed for to complete the basic solid waste management system.
- 5.4 To implement a turnover procedure in accordance with Project Acceptance and Turnover.

**6.0 GENERAL SCOPE OF WORK AND TECHNICAL SPECIFICATIONS  
(FOR ESTABLISHMENT OF SANITARY LANDFILL (DESIGN AND BUILD  
FOR THE CONSTRUCTION OF TINAMBAC MUNICIPAL SANITARY  
LANDFILL, SUPPLY AND DELIVERY OF MRF EQUIPMENT AND SLF  
HEAVY EQUIPMENT))**

- 6.1 To attain the above objectives, the Proponent shall render the following:
  - 6.1.1 Provide and guarantee the highest quality and best practice in the Construction and Detailed Architectural and Engineering Plan of the Project.
  - 6.1.2 Provide a design that is carried out in accordance and in compliance with the requirements of Republic Act 9003 also known as the Ecological Solid Waste Management Act of 2000 and Republic Act 9275 also known as the Philippine Clean Water Act of 2004 and its respective Implementing Rules and Regulations (IRR), as well as another design criteria outlined as an annex to these terms of reference.
  - 6.1.3 The Sanitary Landfill Support facilities, provide a design that strictly adheres to the site and space planning which are governed by the standards, rules and regulations on the design and level of maritime safety as prescribed by the Philippine Coast Guard and other concerned agencies. Building design shall conform to the provisions of the National Building Code of the Philippines (PD1096) and its Revised IRR, Accessibility Law (BP344), National Structural Code of the Philippines, Philippine Electrical Code (RA7920), Philippine Mechanical Engineering Code (RA5336), Uniform Plumbing Code Of the Philippines (RA1378,1993-1994Revisions), Fire Code of the Philippines (RA9514), Philippine Green Building Code, Principles of Gender and Development, and other laws and regulations covering environmental concerns and local ordinances and regulations, and the highest standard of safety requirements.
  - 6.1.4 Conduct topographic survey and geotechnical investigation, and other geological survey as required, of the Project before the design. All areas that need backfilling shall be implemented in accordance with the approved engineering plans. Provisions shall be made for protection of existing waterways should there be any.

- 6.1.5 Provide the necessary design calculations, technical specifications and bill of materials for the Project. Technical specifications shall include descriptions of work items, material requirements, construction requirements and methods, methods of measurements, and basis of payments, sampling, testing and inspection requirements, material requirements and delivery schedules, which shall be all included in the specifications on applicable work items.
  
- 6.1.6 Provide quantity calculations, cost estimates and unit price analysis (UPA) of the Project. The final draft of the cost estimates and the UPA shall not be linked to any other excel sheets aside from the sheet wherein it is encoded.
  
- 6.1.7 Provide the construction plans and drawings for, but not limited to, the following:
  - 6.1.7.1 Vicinity Map, Site Development and Locations Plans;
  - 6.1.7.2 Topographic Plans;
  - 6.1.7.3 Soil Investigation;
  - 6.1.7.4 Geotechnical and Geological Investigation
  - 6.1.7.5 Slope stability analysis and Protection of Waterways
  - 6.1.7.6 Landfill Cell Facility
  - 6.1.7.7 Perimeter fence and Littering Prevention Facility
  - 6.1.7.8 Waste Retaining Facility
  - 6.1.7.9 Leachate Collection Facility
  - 6.1.7.10 Leachate Treatment Facility
  - 6.1.7.11 Access Road Construction
  - 6.1.7.12 Sanitary Landfill Support Facilities
    - 6.1.7.12.1 Administrative Office
    - 6.1.7.12.2 Continuous Flow Composting Facility
    - 6.1.7.12.3 Waste Segregation Facility
    - 6.1.7.12.4 Main Gate and Security Outpost
    - 6.1.7.12.5 Main powerhouse
  - 6.1.7.13 Plans and details for the following:
    - 6.1.7.13.1 Architectural
    - 6.1.7.13.2 Civil/Structural
    - 6.1.7.13.3 Electrical System
    - 6.1.7.13.4 Mechanical System
    - 6.1.7.13.5 Sanitary/Plumbing System
    - 6.1.7.13.6 Access Roads and Drainage system
    - 6.1.7.13.7 Landscape and Parking spaces
  
- 6.1.8 Provide the manpower and equipment utilization program, construction schedule and S- Curve of the Project.
  
- 6.1.9 Provide on-call services during the design and construction stages of the Project at no cost to the Municipality of Tinambac.



- 6.1.10 Provide technical assistance in the modification of the design that may arise during the implementation of the Project at no cost to Municipality of Tinambac.
- 6.1.11 Provide all other drawings and reports that may be required by Municipality of Tinambac in relation to the design and construction of the Project.
- 6.1.12 All measurement for payment shall be referred to in the bill of quantities and there shall be verified based on the projected accomplishments provided in the construction schedules, thus all other works not specified here in shall be deemed incidental for payment and have been considered by the contractor in his unit cost estimate.
- 6.1.13 Provide technical specifications as to the type, size and number of MRF Equipment and SLF Heavy Equipment as required to complete the basic solid waste management system of the proposed project.

## **6.2 Detailed Engineering Design Preparation**

### **6.2.1 Field Studies, Engineering Surveys and Investigation**

As needed, to supplement field investigations already conducted as part of the site investigation and confirmation studies, or as part of the environmental review.

Surveys and investigations of the site includes boundaries of the property, elevation and contours (at 0.50 m interval), soil tests, locations, dimension, existing elevations and other pertinent data on existing improvements (roads, drainage system, vegetation) and existing utility lines (e.g. water, power, telephone)

### **6.2.2 Process Design**

Develop the landfill's detailed process design considering all design parameters and requirements stipulated by the client and incorporation findings, conclusions and decisions developed to address significant impacts and concerns identified through the environmental assessment and public participation studies, safe and efficient flow of truck traffic in and out of the landfill and during unloading and loading operations. Provide an operations and maintenance manual for all processing activities.

### **6.2.3 Design Development Drawings**

Preparation of the following schematic drawings and documents for design development based on the complete engineering design of civil works.

#### 6.2.3.1 Site Development Plan

#### 6.2.3.2 Topographic Plan

#### 6.2.3.3 Engineering Plans, Layout and Schematic Diagram

#### 6.2.3.4 Electro – Mechanical Works Design

Develop the landfill designs and drawings so that the source and method of obtaining and stockpiling daily, intermediate and final soil cover and for constructing cells is clearly shown. Prepare cell construction sequencing plans. The final sequencing plan for each phase of landfill shall show closure of that portion of the landfill and the final grade after application at final soil cover.

#### 6.2.4 Detailed Engineering Plans and Design

Preparation of the following Detailed Design Drawings based on the approved Design Development Drawings and Design Parameters including any revisions and refinements as approved by the LGU:

- TOPOGRAPHY PLAN - The location of the sanitary cell in the landfill site (coordinates and topography)- general layout
  - Longitudinal Section and Cross Section
  - SITE DEVELOPMENT PLAN - Site layout plans including preparation works, internal roads, access roads, auxiliary facilities, connection to external facilities and utilities, etc....
  - ARCHITECTURAL/STRUCTURAL/ ELECTRICAL/ SANITARY PLANS - Detailed architectural designs and drawings for the site facilities under the scope of work that includes the following details: Floor Plan, Elevation (Front, Rear, Left, Right), Sections (Longitudinal and Cross Section), Architectural Spot Details, Structural Notes and Miscellaneous Details, Foundation Plan, Structural Spot Details, Electrical Details and Sanitary Details, Miscellaneous Plans)
  - Material Recovery Facilities (MRF) and SLF Office Building
  - Main Gate and Security Outpost
  - Main Powerhouse
  - SITE PREPARATORY PLAN AND PROFILE - Detailed site preparatory works (i.e. excavation, clearing, draining, filling, grading and consolidation, as needed) design, profiles and cross sections
  - ACCESS ROAD PLAN AND PROFILE - General/Detailed access roads design, profiles and cross sections.

- **STORM WATER DRAINAGE FACILITY PLAN** – General/detailed storm water collection and drainage sections and layouts
- **LEACHATE COLLECTION FACILITY PLAN** – General/Detailed leachate collection system, leachate zone sections, pumping, reservoir, conveyance network, storage pond, drainage and pumping, layouts sections and profiles
- **LINER FACILITY PLAN** – Detailed liner installation including geomembrane HDPE liner, manholes, reservoir and slopes of the sanitary cell sections and layouts
- **LEACHATE BOTTOM DRAINAGE SYSTEM AND LEACHATE RETENTION PIT AND VALVES PLAN** – General/detailed geo-membrane contour and leachate bottom drainage system sections, profile and layouts
- **WASTE RETAINING FACILITY PLAN** – General/detailed active barrier layouts, embankment cross section, and anchor trench layout for geo-synthetics and general/detailed bottom and lateral side containment barrier systems sections and layout.
- **LITTER PREVENTION FACILITY PLAN** – General/detailed of litter fence, notice boards, gates/security and perimeter fence.
- **ELECTRO – MECHANICAL PLAN** – Municipal utilities at the landfill site (power supply and water supply requirements and layouts)
- **MONITORING WELL STRUCTURE PLAN** – Environmental monitoring and management systems
- **GAS VENTING FACILITY PLAN** – General layout of the recommended gas collection system
- **STRUCTURAL COMPUTATIONS** – Including Soil Boring Test Results and Seismic Analysis and Electrical Design Computation
- **GENERAL NOTES AND TECHNICAL SPECIFICATIONS** – describing the type and quality of materials and equipment to be used, manner of construction and the general conditions under which the project is to be constructed.
- **BILL OF QUANTITIES AND DETAILED ESTIMATES** – preparation of the Bill of Quantities for all works and cost

estimates of pay items for each component of the design. All construction quantities and costs shall be estimated to an accuracy of plus or minus 10%. Define the methods of payment per item (lump sum, unit cost) which would be most appropriate and facilitate cost and quality control. Separately note taxes which are anticipated for each pay item, such as value added taxes and customs duties.

- 6.2.5 All plans, designs and specifications shall be subject for review and approval of Municipality of Tinambac through the Design and Build Committee (DBC) / Technical Working Group (TWG) on the established design concept, construction time, cost requirements, quality and other relevant parameters.
- 6.2.6 The design development and contract documentation phases of the design shall continue after the bid is awarded, which shall be subject for review and approval of Technical Working Group in conformity with the Work Order and Contract Agreement.
- 6.2.7 Other than the A & E professional design fees, incidental expenses that are also to the account of the winning bidder, shall include: geodetic survey of the allocated lot, geotechnical and soil bearing tests, and other required geologic and geomorphologic tests, including also other design and construction requirements.
- 6.2.8 All applicable permits/licensing and documentary requirements shall be observed/secured and expenses to be incurred shall be to the account of the winning bidder.

### **6.3 Construction Phase**

As a rule, contract implementation guidelines for procurement of infrastructure projects shall comply with Annex “E” of IRR-A, RA9184, and guidelines for the implementation of contracts for DESIGN AND BUILD, infrastructure projects shall comply with Annex “G” of IRR, RA 9184. The following provisions shall supplement these procedures:

- 6.3.1 The contractor shall commence works upon approval of the prescribed detailed design drawings as required by Technical Working Group – Municipality of Tinambac. Work execution shall be in accordance with reviewed and approved documents.
- 6.3.2 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 Technical Working Group – Municipality of Tinambac to meet all regulatory approvals as specified in the contract documents.

- 6.3.3 The contractor shall submit a detailed program of works within thirty (30) calendar days after the issuance of the Notice to Proceed for approval by the procuring entity that shall include, among others:
- 6.3.3.1 The order in which it intends to carry out the work including anticipated timing for each stage of design/detailed engineering and construction;
  - 6.3.3.2 Periods for review of specific outputs and any other submissions and approvals;
  - 6.3.3.3 Sequence of timing for inspection and tests;
  - 6.3.3.4 General description of the design and construction methods to be adopted;
  - 6.3.3.5 Number of personnel to be assigned for each stage of the work;
  - 6.3.3.6 List of equipment required on site for each stage of the work; and;
  - 6.3.3.7 Description of the quality control system to be utilized for the project.
- 6.3.4 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. If the contractor wishes to modify any design or document which has been previously submitted, reviewed and approved, the Designer- Contractor shall notify the Municipality of Tinambac within a reasonable period of time and shall shoulder the cost of such changes.
- 6.3.5 As a rule, changes in Design and Build requirements shall be limited only to those that have not been anticipated in the contract documents prior to contract signing and approval.
- 6.3.6 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 Municipality of Tinambac.
- 6.3.7 The contractor shall undertake/furnish all the necessary items, materials, tools, equipment, labor, plants, appliances, methods and all operations that may be needed and other incidentals for the satisfactory completion of the proposed Tinambac Sanitary Landfill Project.

- 6.3.8 Provided that the contractor suffers delay and/or incurs costs due to changes or errors in the performance specifications and parameters, the contractor shall be entitled to either one of the following:

An extension of time for any such delays under Section 10 of Annex “E” of IRR (RA 9184);.

- 6.3.8.1 The contract documents shall include the manner and schedule of payment specifying the estimated contract amount and installments in which the contract will be paid.
- 6.3.8.2 The contractor shall be entitled to advance payment subject to the provisions of Section 4 of Annex “E”, 2016 IRR-A (RA 9184).
- 6.3.8.3 The Municipality of Tinambac shall issue the proper certificates of acceptance for sections of the works or whole of the works as provided for in the contract documents.
- 6.3.8.4 The contractor shall provide all necessary equipment, personnel, instruments, documents and others to carry out specified tests.
- 6.3.8.5 This Design and Build project 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 to the liabilities imposed upon the Engineer/Architect who drew up the plans and specifications for building sanctioned under Section 1723 of the New Civil Code of the Philippines.
- 6.3.8.6 The contractor shall be held liable for design and structural defects and/or failure of the completed project within the warranty period of 1 year as specified in Section 62.2.2 of the 2016 Revised IRR (RA 9184).

- 6.3.9 Construction Phase scope of works includes but not limited to the following:

- 6.3.9.1 General Requirements
  - 6.3.9.1.1 Permit to Construct
  - 6.3.9.1.2 Permits (Building Permit, Electrical Permit, Sanitary Permit, Mechanical Permit,

Zoning/Locational Clearance, ECC, Fire Safety Permit, etc.)

- 6.3.9.1.3 Project Billboard
- 6.3.9.2 Temporary Facilities and Facilities for Engineers
- 6.3.9.3 Earthworks
- 6.3.9.4 Structural/Civil Works
- 6.3.9.5 Architectural and Furnishing Works
- 6.3.9.6 Site and Landscape Architectural Works
- 6.3.9.7 Sanitary/Plumbing Works
- 6.3.9.8 Electrical Works and Electrical Auxiliaries Works
- 6.3.9.9 Architectural Interior Design Work
- 6.3.9.10 Quality Assurance

## 7. Supply and Delivery of MRF Equipment and SLF Heavy Equipment

Supply and delivery of MRF Equipment and SLF Heavy Equipment is essential component of the proposed project to complete the basic solid waste management system.

The segregation system equipment is needed to maximize the quantity of recyclables processed, while producing materials that will generate the highest possible revenues in the market. MRFs can also process wastes into a feedstock for biological conversion through composting and anaerobic digestion.

Landfill equipment required for landfilling process includes the machines used for spreading, compacting, excavating or digging process as well as trucks for collection of wastes from source.

### 7.1 Technical Specifications

Both the MRF Equipment and SLF Heavy Equipment shall be selected based on the size of the landfill site, landfilling method, solid waste composition etc.

For this proposed project the following technical specifications are listed to meet the requirements of the whole solid waste management system;

MRF EQUIPMENT			
NO.	EQUIPMENT TYPE/ SPECIFICATIONS	QUANTITY	UNIT
1.0	<b>25 TPD CAPACITY MRF WITH THE FOLLOWING COMPONENTS:</b> <ul style="list-style-type: none"> <li>- Sorting Conveyor (single Line, floor mounted)</li> <li>- Recyclable Material Carts</li> <li>- Discharge Conveyor</li> <li>- Holding Tank</li> <li>- Biowaste Shredder</li> </ul>	1.0	SET

	<ul style="list-style-type: none"> <li>- Vertical Baler</li> <li>- Vibrating Screen</li> </ul>		
<b>SLF HEAVY EQUIPMENT</b>			
<b>NO.</b>	<b>EQUIPMENT TYPE/ SPECIFICATIONS</b>	<b>QUANTITY</b>	<b>UNIT</b>
1.0	<b>HYDRAULIC EXCAVATOR</b> Engine: 4Tonner Capacity: 0.56 cum Rated Power: 86kW/ 2200 rpm Operating Weight: 14 tons Counterpart: PC150	2.0	UNITS
2.0	<b>4 X 2 DUMP TRUCK 4 CUBIC</b> Engine: YCD4T32-115 Rated Power: 85/ 2800 KW/rpm Maximum Torque: 335/1400-1950 (Nm/rpm) 4-cylinder in-line, 3.875 liter Max. Speed: 70 kph Tyre: 7.50-16 6+1 Transmission: 5 speed manual control Drive Wheel: 4x2 LHD Horsepower: 210 hp Max Speed: 95 km/h Fuel Tank: 120 liters Diesel Load Capacity: 10cbm/12 tons	4.0	UNITS
3.0	<b>MINI PAYLOADER WHEEL LOADER</b> Engine: YTO YT4AZ-24 Capacity: 0.95 cum Rated Payload: 1.60 tons Bucket Capacity: 0.95 cum Rated Payload: 1.60 tons Type: Hydraulic Load Sensor System Cylinders: Borex Stroke: 2-63x280 Rated Power (kva/rpm): 55/2400 Rated Torque (Nm/rpm): 235/1680- 1800 Transmission: Fixed shaft hydraulic Shift Spur Gear (2F/2R)	1.0	UNIT

**8. Approved Budget and Contract Duration:**

8.1 The project shall have an Approved Budget of the Contract of: **EIGHTY MILLION PESOS (Php 80,000,000.00).**



8.2 The approved period of design and construction is **Three Hundred (300) calendar days**, and to commence upon receipt by the Contractor of the Notice to Proceed.

End of Part I

## **PART II**

### **DETAILED PROJECT REFERENCE**

#### **1.0 ELIGIBILITY AND QUALIFICATION PROCESS**

1.1 All submittals and attendances required for this bidding and enumerated in the Invitation to Bid must be strictly complied with, without exemption to the place, date and time unless otherwise modified with proper notification thru Bid Bulletin by Municipality of Tinambac Bids and Awards Committee (BAC). The eligibility requirements and qualification process shall be in accordance with the provisions of Annex "G" of the IRR of RA 9184.

1.1.1 The eligibility requirements shall be in accordance with the provisions of Section 24.1 and Section 23.1 of the IRR of RA 9184 for the design phase and construction phase, respectively.

1.1.2 The eligibility criteria shall be in accordance with the Section 24.3 and Section 23.5.2 of the IRR of RA 9184 for the design phase and construction phase, respectively.

#### **2.0 CONCEPTUAL DESIGNS**

The proposed projects shall have two main phases: the design phase and the construction phase, and the proponent/bidder shall abide by these criteria and parameters for the Design of Tinambac Sanitary Landfill.

##### **2.1 Design Consideration**

In preparing the conceptual and detailed engineering design for the proposed sanitary landfill classified as Level 2 at Barangay Union, Municipality of Tinambac landfill site, we shall:

- Protect public health and safety;
- Maximize the protection of the environment and minimize any adverse environmental impacts, recommended or advisable pursuant to any

environmental management plan and EIA reporting conducted on, at or near the Site;

- Design the landfill facility to be functionally effective, enable economic operations, and require minimum maintenance;
- Integrate the engineering design for the sanitary landfill level 2 classification, with the current public infrastructure and facilities leading to the proposed landfill site and address the accumulation of on-site excavated soil, optimize the drainage and collection of leachate, and optimize leachate management;
- Design the landfill facility to receive non-hazardous municipal solid wastes mainly residential and commercial streams from the Municipality of Tinambac including the local governments within the vicinities of the municipality.
- Design the landfill facility to allow for the progressive development of all systems and site development works in a number of phases corresponding to cell.
- Allow for a landfill facility of a disposal capacity (with surface area of 50,000 m<sup>2</sup>) in the order of around 1.0 million tons of municipal solid wastes that satisfy the daily waste disposal intake for a short-term operation of 10 years (tentatively 2022-2032).
- Prepare the design according to established international experience and best practice and shall comply with Republic Act No. 9003 also known as the Ecological Solid Waste Management act of 2000 standards and regulations.
- Provide for safe and efficient unloading of collection and/or transfer vehicles at the working face;
- Provide collection, and discharge systems for leachate so as to meet discharge requirements to support the water quality needs of the receiving water body, bottom lined lagoons or any down gradient receiving valleys;
- Design the civil, electro-mechanical and lining materials works so that they will have a minimum life of 25 years and be able to with stand foreseeable seismic and climatic events; and
- Design the auxiliary facilities and developments so that all construction tasks are clearly explained, to-be-built facilities are drawn with adequate details, and quality control measures are fully identified.

## **2.2 Project Area**

The project is located in Barangay Union, Municipality of Tinambac. It is a 4.5794 hectares area 6.0 km north of the town proper.

## **2.3 Intervention Outline**

The proposed project aims at constructing new sanitary landfill cell within the available free airspace to provide a short-term operational capacity at this stage for a minimum of 10 years of waste disposal at Tinambac landfill site. The design shall include the following facilities and systems without being limited to them subject to the outcome of initial consultations with the counterparts and site investigations:

- Site preliminaries and preparatory works prior to sanitary landfill cell construction (surveying, access roads, ramps, location for stockpiling of excavated materials, etc...)
- Construction works including general excavation/embankments with grading, compaction, contour, and subgrade treatment to reach the required levels,
- Construction of the cell bases and sides and the cell geometry formation.
- Construction of temporary roads, tracks, and drainage networks
- Lateral side slope, berms, and embankment constructions- cut fill works
- Construction of passive and active barrier systems, sealing on cell bases and sides
- Geo-synthetic materials supply and placement (liner barrier protection system)
- Construction of storm water (runoff water) collection and drainage systems
- Construction of the leachate drainage layers, chambers, networks, piping, manholes and sump/reservoir works
- Construction of the sanitary cell bottom/details around the slotted pipes
- Construction of the leachate storage reservoir and transfer system (pumping, piping, earthworks) and lined leachate storage pond.
- Earthworks, anchor trenches, dikes, civil, and electromechanical works
- Other auxiliary works, ancillaries, peripheral equipment, and site final developments.

### **3.0 ARCHITECTURAL AND ENGINEERING DESIGN PARAMETERS**

#### **3.1 General Architectural & Engineering Design Parameters**

##### **3.1.1 Use of appropriate Land Development Design and Technology**

- 3.1.1.1 The architectural land/site development shall be based on a sustainable fully functional green environment and landscapes;
- 3.1.1.2 The landscape component shall utilize easily propagating plants, grasses, trees or shrubs;
- 3.1.1.3 Addressing occupational hazards and environmental health concepts;
- 3.1.1.4 Addressing perimeter security of the area;
- 3.1.1.5 Addressing proper vehicular and pedestrian traffic management;

- 3.1.1.6 Drainage shall likewise be a consideration in this design concept, the expected amount of water shall be directed towards the existing creek;
  - 3.1.1.7 Rain water collection facility shall also be considered in the design concept;
  - 3.1.1.8 Providing an appropriate elevation of grade line consideration in this design concept to mitigate flooding in the whole facility/area;
- 3.1.2 Use of appropriate Building Design and Technology for the Sanitary Landfill Support Facilities
- 3.1.2.1 The architectural character of the buildings should appropriately project the image of Headquarters and Barracks with mixed occupancies under the National Building Code of the Philippines;
  - 3.1.2.2 Building form shall be adapted to tropical climate conditions and the functional requirements of a headquarters and barracks;
  - 3.1.2.3 Detailed design of interior spaces should accommodate the building program and equipment requirements;
  - 3.1.2.4 Building systems shall adopt energy-efficient and user-friendly technologies. Day lighting shall be interfaced with energy-efficient electric lighting. Passive cooling and thermal comfort systems and monitoring of power consumption shall be incorporated;
  - 3.1.2.5 The landscape component shall utilize easily propagating plants, grasses, trees or shrubs;
  - 3.1.2.6 Addressing occupational hazards and environmental health concepts;
  - 3.1.2.7 Addressing perimeter security of the area;
  - 3.1.2.8 Drainage shall likewise be a consideration in this design concept, the expected amount of water shall be directed towards the existing creek through a waste water treatment system/plant;
  - 3.1.2.9 Rain water collection facility shall also be considered in the design concept;

- 3.1.2.10 Providing an appropriate elevation of grade line consideration in this design concept to mitigate flooding in the whole area;
- 3.1.2.11 Addressing the fresh/potable water requirement of the buildings based on the existing and projected development of the area. Water depository units shall be integrated;
- 3.1.2.12 Providing an efficient electrical system, a powerhouse for emergency and stand-by power, and appropriate perimeter lighting system;
  - 3.1.2.12.1 Quality of electrical power shall be consistent with power surges eliminated to protect equipment.
  - 3.1.2.12.2 Earthing for the buildings shall be provided having a wired connection to grounding plates.
  - 3.1.2.12.3 Lightning Protection System of the buildings.
- 3.1.2.13 Providing appropriate fire mitigating system complete with all the necessary requirement for fire protection system.
- 3.1.3 Compliance with Relevant Laws and Design Standards
  - 3.1.3.1 RA 9003 or Solid Waste Management Act of 2000 and its IRR
  - 3.1.3.2 RA 9275 or Philippine Clean Water Act of 2004 and its IRR
  - 3.1.3.3 PD 1096 or National Building Code of the Philippines and its Latest and Amended IRR
  - 3.1.3.4 BP 344 or Accessibility Law and its Latest and Amended IRR
  - 3.1.3.5 RA 9514 or Fire Code of the Philippines and its Latest and Amended IRR
  - 3.1.3.6 National Structural Code of the Philippines (NSCP) 2010
  - 3.1.3.7 National Plumbing Code of the Philippines (NPCP)
  - 3.1.3.8 Sanitation Code of the Philippines
  - 3.1.3.9 Mechanical Engineering Code of the Philippines
  - 3.1.3.10 Philippine Electrical Code
  - 3.1.3.11 National Electrical Code
  - 3.1.3.12 Principles of Gender and Development
  - 3.1.3.13 Underwriter's Laboratory (UL) Standards
  - 3.1.3.14 National Electrical Manufacturers Association (NEMA) Standards
  - 3.1.3.15 Bureau of Product Standards (BPS)

- 3.1.3.16 Philippine National Standards (PNS)
- 3.1.3.17 American Concrete Institute (ACI)
- 3.1.3.18 American Society for Testing Materials (ASTM)
- 3.1.3.19 American Welding Society (AWS)
- 3.1.3.20 American National Standards Institute (ANSI)

End of Part II

### **PART III**

#### **DETAILED ARCHITECTURAL AND ENGINEERING DESIGNS**

##### **1.0 DETAILED ARCHITECTURAL AND ENGINEERING DESIGN PLANS AND SPECIFICATIONS**

- 1.1 The Contractor shall prepare and submit a complete set of detailed architectural drawings/plans and specifications of the facility.
- 1.2 The Contractor shall prepare and submit a complete set of detailed engineering drawings/plans and specifications for the below cited engineering discipline of the facility.
  - 1.2.1 Site Preparation and Excavation Designs
  - 1.2.2 Sanitary Landfill Facilities Designs
    - 1.2.2.1 Liner Facility designs
    - 1.2.2.2 Leachate Collection Facility designs
    - 1.2.2.3 Leachate Bottom Drainage System designs
    - 1.2.2.4 Water Treatment Facility designs
    - 1.2.2.5 Monitoring well facility designs
    - 1.2.2.6 Waste retaining facility designs
    - 1.2.2.7 Litter prevention facility designs
  - 1.2.3 Sanitary Landfill Support Facilities Designs
    - 1.2.3.1 Structural/Civil Designs
    - 1.2.3.2 Sanitary/Plumbing Designs
    - 1.2.3.3 Electrical Designs
    - 1.2.3.4 Mechanical Designs
    - 1.2.3.5 Water Supply System Engineering Design
    - 1.2.3.6 Slope and Waterways Protection System Designs
  - 1.2.4 Access Road and storm water drainage designs

### 1.3 Minimum Qualifications Required:

1.3.1 The contractor shall provide adequate and qualified staff to perform the services required herein. The key professionals and the respective qualifications of the DESIGN PERSONNEL shall be as follows:

1.3.1.1 The individual or the designated principal of the firm must be a PRC Licensed Architect having a minimum of ten (10) years experienced and solid background in Architecture and Engineering Design and Enhancement of land development facility.

1.3.1.2 The Designer(s) shall be an architect, an architectural firm or a partnership with expertise in land development and facilities belonging to mixed occupancies under the National Building Code of the Philippines and latest amendments.

1.3.1.3 STRUCTURAL/CIVIL ENGINEER - The Structural/Civil Engineer must be a PRC Licensed Structural/Civil Engineer with at least five (5) years of experience in horizontal and vertical structural design and shall preferably be knowledgeable in the application of rapid construction technologies.

1.3.1.4 ELECTRICAL ENGINEER - The Electrical Engineer must be a Registered (PRC) Electrical Engineer with at least ten (10) years experienced in the design of medium voltage electrical system with emergency and stand-by power and knowledgeable in developments in emergent efficient lighting technologies and energy management.

1.3.1.5 MECHANICAL ENGINEER - The Mechanical Engineer must be Registered (PRC) Mechanical Engineer with at least five (5) years minimum experience.

1.3.1.6 SANITARY ENGINEER - The Sanitary Engineer must be a PRC Licensed Sanitary Engineer with minimum experienced of five (5) years.

1.3.2 The key professionals and the respective qualifications of the CONSTRUCTION PERSONNEL shall be as follows:

- 1.3.2.1 **PROJECT MANAGER** - The Project Manager shall be a PRC Licensed Civil Engineer and/or a practicing Geotechnical Engineer with at least ten (10) years of relevant experience in projects involving land development and facilities including land/slope stabilization and protection and other similar or comparable projects in different locations. The Project Manager should have a proven record of managerial capability through the directing/managing of major civil engineering works, including projects of a similar magnitude.
- 1.3.2.2 **PROJECT ENGINEER** - The Project Engineer shall be a PRC Licensed Civil Engineer with at least five (5) years experienced in similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies.
- 1.3.2.3 **MATERIALS ENGINEER** - The Materials Engineer must be a duly accredited Materials Engineer in accordance with the DPWH Materials Testing standards and must have at least five (5) years experienced in similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies.
- 1.3.2.4 **ELECTRICAL ENGINEER** - The Electrical Engineer must be at least Registered (PRC) Electrical Engineer with at least ten (10) years minimum experienced in similar and comparable projects and shall be knowledgeable in the application of rapid construction technologies.
- 1.3.2.5 **MECHANICAL ENGINEER** - The Mechanical Engineer must be a Registered (PRC) Mechanical Engineer with at least five (5) years minimum experienced in similar and comparable projects and shall be knowledgeable in the application of rapid construction technologies.
- 1.3.2.6 **SANITARY ENGINEER** - The Sanitary Engineer must be a PRC Licensed Sanitary Engineer with at least five (5) years minimum experienced in similar and comparable projects and



shall be knowledgeable in the application of rapid construction technologies.

1.3.2.7 FOREMAN - The Foreman must have at least five (5) years experienced in similar and comparable projects and shall be preferably knowledgeable in the application of rapid construction technologies.

1.3.2.8 SAFETY OFFICER - The Safety Officer must be an accredited safety practitioner by the Department of Labor and Employment (DOLE).

The above key personnel listed are required. The Contractor may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Construction Services, as stipulated in these Terms of Reference, for the Project. Prospective bidders shall attach each individual's resume, PRC license of the professional staff, certificates of training and all other pertinent documents proving the said professional's expertise.

End of Part III

## **PART IV**

### **DETAILED ESTIMATES**

#### **1.0 PROJECT COST ESTIMATES**

1.1 The Bidder shall prepare and submit for the purpose of the Bill of Quantities (BOQ) in this contract, a detailed cost estimate in accordance with the limit of the available Approved Budget for the Contract and following the sequence of priorities below:

##### **1.1.1 Design Development Phase**

The detailed costing for the design development phase is for the preparation, submittal and approval of the following:

###### **1.1.1.1 Preliminary Surveys/Studies, including:**

1.1.1.1.1 Geodetic Survey of the Lot

1.1.1.1.2 Soil Foundation Investigation

1.1.1.1.3 Geological and Geohazard Survey

1.1.1.1.4 Location and Invert Elevations of Existing Utilities

1.1.1.2 Architecture & Engineering (A&E) Site Design Development Plans and Sections

1.1.1.3 Detailed Site Landscape Architectural Designs and Plans

1.1.1.4 Detailed Structural/Civil Engineering Designs and Plans

1.1.1.5 Detailed Electrical Engineering Designs and Plans

1.1.1.6 Detailed Mechanical Engineering Designs and Plans

1.1.1.7 Detailed Sanitary Engineering Designs and Plans

1.1.1.8 Detailed Water Supply System Engineering Designs and Plans

1.1.1.9 Detailed Estimates and Bill of Quantities.

1.1.1.10 Scope of Works and Technical Specifications

1.1.1.11 Proposed Design and Construction Schedule

1.1.1.12 Health and Safety Program

##### **1.1.2 Construction Phase**

1.1.2.1 Detailed A&E Fee for construction administration and weekly meetings with the Construction Management Team and PCG Representatives for the duration of the project construction.

1.1.2.2 General Requirements

- Permit to Construct (PTC)

- Permits (including Building Permit, Electrical Permit, Sanitary Permit, Mechanical Permit, Zoning Permit/Locational Clearance, ECC, Fire Safety Permit, etc.)
- Application for the Local Utility Companies
- Project Billboard

1.1.1.1 Temporary Facilities and Facilities for the Engineer Staff and Meeting Room

1.1.1.2 Site and Landscape Architectural Works and Finishes

1.1.1.3 Architectural/Structural/Civil Works and Finishes

1.1.1.4 Earth Works

1.1.1.5 Electrical Works and Finishes

1.1.1.6 Mechanical Works and Finishes

1.1.1.7 Sanitary/Plumbing Works and Finishes

1.1.1.8 Quality Assurance

## **2.0 COST ESTIMATE GUIDELINES**

2.1 In the preparation of all detailed cost estimates, the proponent/bidder shall be guided by the Cost Estimate Form provided.

2.2 The Labor Component of the cost estimates shall follow the ranges provided in the ordinance and the latest wage order of the Department of Labor and Employment (DOLE) of the Regional Office No. 05.

## **3.0 UNIT PRICE ANALYSIS**

3.1 The Proponent/Bidder shall draw up a unit price analysis for each of the pay items.

End of Part IV

**PART V**  
**CONSTRUCTION PHASE**

**1.0 PERMITS AND CLEARANCES**

- 1.1 The Contractor shall pay for any and all expenses necessary and incidental for Municipality of Tinambac to be able to secure the following:
  - 1.1.1 Permit to Construct (PTC);
  - 1.1.2 Environmental Clearance Certificate (ECC), including the corresponding Tree Cutting Permit from the concerned government agencies, if necessary;
  - 1.1.3 Building Permit, Zoning Permit/Locational Clearance, Electrical Permit, Fire Safety Permit;
  - 1.1.4 Application for the Local Utility Companies.
- 1.2 The Contractor shall upon authorization by the Municipal Government, make representation with the concerned government agencies to expedite the release of the same.

**2.0 TEMPORARY STRUCTURES AND FACILITIES**

- 2.1 The Contractor shall provide and maintain the following:
  - 2.1.1 Temporary office and/or quarters with water, light, telephone and toilet facilities for the contractor's project team personnel.
  - 2.1.2 Temporary bunkhouses/quarters for the contractor's work force complete with toilet and bath facilities.
- 2.2 The Contractor shall also prepare and implement a plan for egress upon completion of the project.

**3.0 MOBILIZATION AND DEMOBILIZATION**

**3.1 Mobilization**

The contractor shall mobilize all the required project team personnel, equipment, tools and manpower with the required skills and in sufficient number as may be necessary for his efficient undertaking of the project.

## 3.2 Demobilization

### 3.2.1 Demobilization shall include the following:

- 3.2.1.1 The dismantling, preparation and loading for removal and shipment of all Contractor's plant and equipment at the Site.
- 3.2.1.2 Transportation of all the above plant, equipment and materials of the site to the home station or somewhere else outside the Site.
- 3.2.1.3 Dismantling and removing of all temporary building and structures.
- 3.2.1.4 Removal of all supplementary markers furnished and installed by the Contractor, provided that the Engineer has not taken the option to retain the markers,
- 3.2.1.5 The clean-up of the Site and Work area, and the removal of material, debris, waste, etc., and making good damage or temporary alterations.

## 4.0 CONSTRUCTION SUPERVISION

The contractor shall execute all the works under the contract in strict accord with standard engineering methodology and procedures and shall be responsible for maintaining cleanliness and orderliness, health and safety of workers and general public in the project area throughout the duration of the contract.

## 5.0 ELECTRIFICATION AND OTHER UTILITIES

The contractor shall pay for expenses for the acquisition of the power, water and other utility connection to the local utility companies for the temporary work area and other temporary facilities.

5.1 Water: The Contractor shall provide and maintain the necessary pumps, valves, motors, storage tanks or reservoir and distribution lines to adequately supply water for the Project.

5.1.1 Drinking Water: Provide and maintain canister, coolers or connected drinking fountains, of sufficient number to reasonable serve the Project.

5.1.2 Construction Water: Provide and maintain temporary water service and distribution of adequate capacity for construction purposes. Include portable units, lines extensions, hoses, valves, etc., as necessary.

5.2 Electricity: The Contractor shall provide and maintain supply of electricity, including a stand-by generator of adequate capacity, to reasonably serve the Project.

- 5.2.1 Provide and maintain temporary electric service and distribution of adequate capacity of power, lighting and other construction needs including wiring, transformers, safety devices, connections, etc., as necessary.
- 5.2.2 Provide temporary lighting as necessary to properly and safely perform work at enclosed spaces or under hazardous conditions. Likewise, provide lights for night protection as necessary.
- 5.2.3 Temporary electrical system shall comply with the Philippine Electrical Code. The Employer will assist the contractor to secure the necessary power source and permit prior to the temporary installation of electric service to site. However, the cost of installation, permits and other related works for this purpose shall be borne by the Contractor.

### 5.3 Communication Facilities

- 5.3.1 The Contractor shall provide telephone and other means of communication between jobsite and Municipal Engineering Office.

## 6.0 ACCESS AND TRAFFIC MANAGEMENT PLAN

### 6.1 Access

- 6.1.1 The Contractor shall provide and maintain adequate access to the Project Site and all areas related to the Works.

- 6.1.1.1 The Contractor shall provide, maintain, and remove on completion of the works, for which are required adequate access to the Project Site, including sleepers, tracks, and stagings over roads, access and service roads, temporary crossings or bridges over streams or unstable ground. He shall make them suitable in every respect for carrying all Constructional Plant required for the Work, for providing access and traffic for himself or others or for any other purpose. Such temporary road works shall be constructed to the satisfaction of PCG but the Contractor shall nevertheless be responsible for any damage done to or used by such temporary road works.

- 6.1.1.2 Before constructing temporary road works, the Contractor shall make all necessary arrangement, including payment if required, with the public authorities or landowners concerned, for the use of the land, and he shall obtain the

approval of Municipal Engineering Office. Such approval will not, however, relieve the contractor to clean up and restore the land to the satisfaction of Municipal Engineering Office or the landowner concerned. If existing roads will be used for access to the Site, the Contractor shall maintain such road for the duration of its use.

## 6.2 Traffic Management Plan

The Contractor within 15 days shall submit a detailed Traffic Management Plan that states clearly the Contractor's environmental objectives in detailed to be adopted by Contractor to ensure the safe and efficient movement of traffic and also to ensure the safety of workmen at construction sites.

### 6.2.1 Temporary Traffic Ramp

In cases where it is necessary or required by Municipal Engineering Office, the Contractor shall construct and maintain temporary traffic ramps, and furnish all the labor and materials required thereof.

### 6.2.2 Temporary Traffic Control

6.2.2.1 In order to facilitate traffic through or around the Works, or whenever ordered by Municipal Engineering Office, the Contractor shall erect and maintain at prescribed points on the work and at the approaches to the work, traffic signs, lights, flares, barricades and other facilities as required by Municipal Engineering Office for the direction and control of traffic.

6.2.2.2 Where required, or where directed by Municipal Engineering Office, the Contractor shall furnish and station competent flagmen whose sole duties shall consist in directing the movement of traffic through or around the work.

6.2.2.3 In addition to the requirements of (1) and (2) above, the Contractor shall furnish and erect, within or in the vicinity of the project area, such warning and guide signs as may be ordered by Municipal Engineering Office.

### 6.2.3 Extraordinary Traffic

The Contractor is responsible for carrying out any necessary investigations and the obtaining of approvals, licenses, escorts and any other necessary facilities in order to enable extraordinary traffic to be moved on the roads in the project area. Any expenses arising out of this requirement shall be deemed to have been included in other item of works.

#### 6.2.4 Maintenance and Protection of Traffic

The Contractor shall keep the existing road open to traffic during the performance of the works, provided that when approved by Municipal Engineering Office the Contractor may bypass traffic over a detour.

The contractor shall take necessary care at all times during the execution of the works to ensure the existing convenience and safety of residents along and adjacent to the road, and any public highway that may be affected by the Works. Any failure of the Contractor to meet this requirement will entitle the Municipal Engineering Office to carry out such work as he deems to be necessary and to charge the Contractor with the full cost thereof plus ten percent of such cost, which sum will be deducted from any money due or which may become due to the Contractor under the Contract. The Contractor shall indicate the number and type of road crossings involved in this Project.

#### 6.2.5 Parking

The parking space for use of vehicles for the project shall be maintained by the Contractor.

### 7.0 QUALITY CONTROL

#### 7.1 General

This Section sets forth supplementary and additional provisions relating to quality control and workmanship required under this Contract.

The contractor shall adhere to the submitted and approved Minimum Material Testing Plan.

#### 7.2 Contractor's Submission

All shop drawings, certificates of compliance manufacturer's literature, material samples; design mix, guaranteed, equipment data, and other information as called for under the various headings of these specifications shall be submitted by the Contractor as required. The adequacy and accuracy of submittals for compliance and so certify them in accordance with the quality control requirements. Except in cases where approval by the Municipal Engineering Office is required under the various headings of these specifications or on the Contract Drawings, certification by the Contractor that a submittal, complies with the contract requirements shall signify completion of the review process. However, Municipal Engineering Office reserves the right to review and require correction of any submittal, but failure to do so shall not constitute a waiver of any requirement of the specifications.



- 7.2.1 Within twenty-eight (28) calendar days after receipt of Notice to Proceed, the Contractor shall submit to the Municipal Engineering Office four (4) copies of submittals control document listing all submittal items. In preparing the document adequate time will be allowed for review by the Contractor's quality control organization and a minimum of fourteen (14) calendar days for review approval, and possible re-submittal of items for which approval by Municipal Engineering Office is required and items for which specifications is proposed by the Contractor. Scheduling of submittals on the control document shall be coordinated with the approved progress schedule. All required submittals must be made in time to allow for review, certification, approval if required, procurement, delivery and preparatory inspection of the item before it is needed in construction. It is the Contractor's obligation to comply with the specification requirements of the item on the schedule. The Contractor's quality control representative shall review the listing at least every fifteen (15) calendar days and take appropriate action to maintain a complete and current listing. Copies of updated or corrected listing shall be submitted to Technical Working Group at least every twenty (20) calendar days in four (4) copies. Payment will not be made for any material or equipment, which does not comply with contract requirements. The Contractor shall submit a preliminary submittal control document covering submittals required within first sixty (60) calendar days after receipt of Notice to Proceed prior to making any submittals.
- 7.2.2 All submittals made under this Section entitled "Shop Drawings" in a foreign language shall be accompanied by an English translation.
- 7.2.3 The Contractor shall maintain a complete file of all submittals which he has certified and all submittals which have also been approved by the Municipal Engineering Office. Upon the completion of the work under this Contract, the Contractor shall furnish one complete set of prints and e-copy of all shop drawings as finally certified in addition to those furnished in accordance with the Specification requirements for shop drawings. These drawings shall show changes and revisions made up to the time the Project is completed and accepted.
- 7.2.4 The Contractor shall perform on the site, and with his own organization, work equivalent to at least fifty (50) percent of the total amount of work to be performed under the contract. If during the progress of the work hereunder, the Contractor shall request a reduction in such percentage to the Employer through the Technical Working Group, and the Technical Working Group determines that it

would be to the Employer's advantage, the percentage of the work required to be performed by the Contractor may be reduced, provided, written approval of such reduction is obtained by the Contractor from Technical Working Group (with the approval of the LCE). If the above percentage is less than 100%, the successful bidder must furnish to the Technical Working Group within fifteen (15) days after award a description of the items of work which he will perform with his own forces, the estimated cost of those items, and the percentage of total work those items represent.

### 7.3 Contractor's Quality Control

7.3.1 The Contractor shall provide and maintain an effective quality control program.

7.3.1.1 The Contractor shall establish a quality control system to review all submittals made to the Technical Working Group in accordance with the above submission requirements, and to perform sufficient inspection and/or tests of all items of work, including that of his subcontractors, to ensure conformance to applicable specifications and drawings with respect to the materials, workmanship, construction, with emphasis on the surveillance tests and submittals required in the technical provisions of the contract specification including in plant inspection. The Contractor's quality control system will be established to include all construction, except where the technical provisions of the contract provide for specific Government control by inspection, tests, or other means. The Contractor's quality control system will be keyed to the proposed construction deficiencies. PCG reserves the right to direct the location of the required test. Any of the test that, when performed, do not indicate compliance with contract requirements will be reported but will not be considered as a test to satisfy the required number of tests.

7.3.1.2 The Municipality of Tinambac reserves the right to inspect at the source supplies or services not manufactured or performed within the Contractor's facility. Technical Working Group inspection shall not constitute acceptance, or shall it in any way replace Contractor inspection or otherwise relieve the contractors, or suppliers' plants is performed by Technical Working Group, such inspection shall not be used by Contractor as evidence of effective inspection by such suppliers.

7.3.1.3 The quality control program may be implemented by the contractor utilizing his job supervisory staff to insure compliance with the contract Plans and Specifications. It will

be supplemented as necessary with special technicians, part-time specialty quality control men, and testing facilities to provide capability for the reviews, inspection, controls and tests required. The Contractor's quality control personnel shall have experience and qualified in the specialty of work they are performing. They will report to Municipal Engineering Office when required.

7.3.1.4 The prime Contractor's designated quality control representative, will be required to certify, with each submittal, that it has been reviewed in detail and that it is correct and in strict conformance with the contract drawings and specifications, except as may be otherwise explicitly stated.

7.3.1.5 The contractor's inspection system shall be established which will assure that the latest applicable contract drawings, specifications, certified submittals, approved submittals, and instructions required by the contract, as well as for any inspection or test desired.

7.3.2 The Contractor's quality control system at the job site shall follow three-step procedure.

7.3.2.1 First, to ensure that the plant, materials, equipment, and safety auxiliaries meet the submittals and contract requirements. The Contractor will perform preparatory inspections as soon as possible after delivery of plant, equipment and material to the site and, in any event prior to incorporation of material and equipment in the work. The Contractor will appropriately annotate his quality control reports for all preparatory inspections with a detailed list of items if plant, equipment and material inspected or tested, findings relative to compliance with approvals, Contractors-certified submittals and contract requirements, and actions taken where non-compliance is discovered. In addition, during preparatory inspections, the Contractor will make an examination of the work area to ensure that all preliminary works has been completed, check to assure that provisions have been completed to provide required control testing and take necessary action to ensure that all plant, equipment and material is properly stored to prevent damage from the

elements and constructions operations and will so note on the quality control. Names of all personnel who participate in each preparatory inspection will be listed on the quality control report.

7.3.2.2 Second, at the start of each new phase of construction to establish that methods, techniques, and standards of workmanship are in strict compliance with the contract requirements. The Contractor will appropriately annotate his quality control reports for all initial inspections to include a detailed description and location of the segment or phrase of work inspected including checks, tests and measurements made to determine that quality of construction, tolerances and workmanship standards are in strict compliance with the contract requirements. The names of personnel who participate in the initial inspection will be listed on the quality control reports.

7.3.2.3 Third, follow-up inspections will be performed on a daily or re-curing basis as necessary to ensure that construction is proceeding in accordance with contract requirements. The Contractor's quality control reports will detail the results of follow-up testing, inspection and corrective actions.

7.3.2.3.1 The Contractor shall furnish a daily construction quality control report. The report shall be in accordance with a form as may be proposed by the Contractor and approved by Municipal Engineering Office. Additional check lists and forms for specific operations may be required to supplement the daily inspection form. The report shall include all inspections and test made. It shall provide factual evidence that the required inspections or tests have been performed, including type and number of inspections or test have been performed, including type and number of inspections or rejection and the corrective action taken. The daily report shall cover both conforming and defective items. It shall include a statement that all materials and equipment incorporated in the work are full compliance with the terms of the contract except as noted. The report will cover all items and specifically include the items listed in the quality control

paragraphs of the technical provisions. The report will be verified and signed by the prime Contractor's designated quality control representative. The daily reports will be furnished in two copies (Original and one duplicate) to PCG at the job site. The report will be legibly handwritten in ink or typewritten. Reports shall be submitted not later than the close of business on the first working day following the date of the report. Reports shall have all supporting documents (such as concrete placement checklist, laboratory reports of compaction test, sieve analysis, etc.) attached. Incomplete reports will not be accepted. The Contractor is responsible for insuring that test reports are prepared and attached to the daily report for the day that the test was performed. Negative reports are required for days during which there is no activity on the project site to include a brief statement as to why there was no activity during a normal workday or schedule.

7.3.2.3.2 After the contract is awarded and before field construction operations are started, the Contractor shall meet representative from Municipal Engineering Office, and discuss quality control requirements. The meeting shall and discuss develop mutual understanding relative to details of the system, including the forms to be used for recording the quality control operations, inspections, administration of the system, and the interrelationship of Contractor and Engineer inspection.

7.3.2.3.3 The Contractor will need to consider his quality control plan prior to bidding. This will assist in the early submission of an acceptable plan. The Contractor will furnish to the Municipal Engineering Office not later than thirty (30) calendar days after receipt of Notice to Proceed, a quality control plan which will include the procedures, instructions, and reports to be used. This document will include as a minimum.

- 7.3.2.4 The quality control organization. This will be in the form of an organization chart that shows names and specific responsibilities of each of the quality control personnel.
  
- 7.3.2.5 The qualifications of each person performing submittal review and certification, and inspection will be summarized not to exceed one (1) typewritten page, giving education, present job position, and previous work experiences but in no cases not later than fifteen (15) calendar days before coming on the job.
  
- 7.3.2.6 A copy of a letter of direction to each of the Contractor's quality control representatives, outlining his duties, authority, and responsibilities, and signed by a responsible officer of the firm.
  
- 7.3.2.7 Test methods to include the names and qualifications of technicians employed by the Contractor as well as specific test to be performed by each, the names of all qualified test organization to be used, and the location and availability of test facilities and equipment.
  
- 7.3.2.8 Procedures for reviewing all shop drawings, samples, certificates, etc., for contract compliance and certifying them.
  
- 7.3.2.9 Method of documenting quality control operation, inspection, and testing. Including samples of proposed forms.
  
- 7.3.2.10 Each copy of the complete plan will be assembled in a folder in the order listed above. Four (4) copies will be submitted for approval. Revisions to the plan will be submitted in four (4) copies.
  
- 7.3.2.11 Unless specifically authorized by the LCE thru Municipal Engineering Office, no construction shall be started until the Contractor's quality control plan is approved. The approval will be contingent on satisfactory implementation and results. Payments will be withheld for all work until the quality control has been submitted and approved.

7.3.2.12 The Contractor shall notify the Technical Working Group in writing of any proposed change in his quality control system or personnel. No such change will be implemented prior to acceptance by the Technical Working Group.

## **8.0 PROPOSED DESIGN AND CONSTRUCTION SCHEDULE**

The target number of days to complete the ESTABLISHMENT OF SANITARY LANDFILL (DESIGN AND BUILD FOR THE CONSTRUCTION OF SANITARY LANDFILL, SUPPLY AND DELIVERY OF MRF EQUIPMENT AND SLF HEAVY EQUIPMENT) at Barangay Union, Municipality of Tinambac, Camarines Sur is **Three Hundred (300) calendar days**, and to commence ten (10) calendar days upon receipt by the Contractor of the Notice to Proceed.

## **9.0 MINIMUM SAFETY AND HEALTH PROGRAM**

The contractor shall abide with the following minimum safety and health program:

### **9.1 Safety Program**

- 9.1.1 Contractor provides skull guards, raincoats, working shades, and boots to employees and Municipal Engineering Office Personnel;
- 9.1.2 Operators, drivers, and other employees who handle equipment must thoroughly check their equipment, lubricate and handle them properly and should be cautious, extra careful at all times to avoid accidents while on duty;
- 9.1.3 Wires, nails, bolts and other pointed objects shall be eradicated in the working areas to avoid possible injuries/accidents;
- 9.1.4 Seat belts shall be provided in every truck/vehicle that is being used in the project site;
- 9.1.5 Fire extinguishers are to be placed in equipment such as fuel truck; and
- 9.1.6 Employees shall be advised on the use of cigarettes, candles and other flammable materials to avoid occurrence of fire.

### **9.2 Health Program**

- 9.2.1 Upon entrance as construction site employees, the Contractor will provide that every construction employee automatically becomes a member of SSS and Phil Health Corporation;
- 9.2.2 A cabinet which contains over the counter drugs and other first aid supplies are ready for use in case of sickness or accidents that occur. In case of serious incidence, they are immediately brought to the emergency room of the nearest hospital;
- 9.2.3 Employees shall be lectured once in a while of personal hygiene, number of children one family would have to be able to provide the family's needs of food, clothing and shelter; and

## **10.0 AS-BUILT PLANS**

The contractor shall prepare and submit as-built plans duly signed and sealed by appropriate engineer in the same sheet size and scale as the original drawings in three (3) reproducible copies. Electronic copies of the as-built contract drawings shall also be submitted in native files for use with the Autodesk software Autocad and Revit. The \*.PDF format files shall be delivered with the CAD or BIM files.

## **11.0 SUBMITTALS**

### **11.1 General**

- 11.1.1 This section sets forth general provisions regarding submittals required of the Contractor.
- 11.1.2 The Contractor shall submit to the Municipal Engineering Office all construction schedules, monthly progress reports, final construction report, statement of completion, final statement survey data, shop drawings, as-built drawings, product data, samples and construction photographs as specified.
- 11.1.3 Until submittal is reviewed by the Municipal Engineering Office, approved and released for distribution, work, involving relevant product data may not proceed.
- 11.1.4 CGIDS's review will be signified by comments as required identifying items for resubmission and by stamp of Municipal Engineering Office when work is released for distribution.

### **11.2 Construction Schedules**

- 11.2.1 Schedules, data, field drawings and shop drawings shall be originally prepared by Contractor, Sub-Contractor, Supplier or Distributor which shall illustrate appropriate portions of work. The work items



shall be described in relation to responsibility, fabrication, layout, setting or erection details as specified in appropriate Sections.

11.2.2 Submittal drawings to be reproducible transparency with one opaque print.

11.2.3 Maximum sheet size is 610mm x 1070mm (23.5 in. x 33 in.)

### 11.3 Contractor's Responsibilities

11.3.1 Review shop drawings product data and samples prior to submission.

11.3.2 Verify:

11.3.2.1 Field Measurements

11.3.2.2 Field Construction Criteria

11.3.2.3 Catalogue Numbers and Similar Data

11.3.3 Coordinate each submittal with the Project requirements and Contract Documents

11.3.4 Contractor's responsibility for errors and omissions on submittal is not relieved by Municipal Engineering Office's review of submittals.

11.3.5 Contractor's responsibility for deviations on submittals from requirements of Contract Documents is not relieved by Municipal Engineering Office's review of submittals, unless Engineers gives written acceptance of specified deviations.

11.3.6 Notify Municipal Engineering Office, in writing at time of submission, of deviation on submittal from requirements of Contract Documents. After Municipal Engineering Office's review, distribute copies.

11.3.7 The Contractor shall schedule submissions at least 5 working days before dates reviewed submittals will be needed.

11.3.8 The Contractor shall submit one (1) reproducible transparency and one opaque print of schedules, survey data and shop drawings, and number of copies of project data, which Contractor requires for distribution plus four (4) copies which will be retained by Municipal Engineering Office.

11.3.9 The Contractor's submittals shall be accompanied with transmittal letter, in duplicate copies, containing:

11.3.9.1 Date

11.3.9.2 Project title and number

11.3.9.3 Contractor's name and address

11.3.9.4 Number of each shop drawing, product data and sample

11.3.9.5 Other pertinent data

11.3.10 Submittals shall include:

11.3.10.1 Data and revision dates

11.3.10.2 Project title and number

11.3.10.3 Name of Contractor

- Supplier
- Manufacturer
- Separate retailer when pertinent

- 11.3.10.4 Identification of product or material
- 11.3.10.5 Relation to adjacent structure or material
- 11.3.10.6 Field dimension, clearly identified as such
- 11.3.10.7 Specifications Section Number
- 11.3.10.8 Applicable standards, such as ASTM, JIS numbers
- 11.3.10.9 Contractor's stamp, initialed or signed, certifying review of submittal, verification of field measurement and compliance with Contract Documents

#### 11.3.11 Distribution of Submittals after Review

- 11.3.11.1 Job-site file
- 11.3.11.2 Record document file
- 11.3.11.3 Sub-Contractor
- 11.3.11.4 Supplier
- 11.3.11.5 Fabricators

#### 11.3.12 Construction Photographs

- 11.3.12.1 Provide record progress photographs taken at a fixed point and angle as when and where directed by the Municipal Engineering Office as intervals of not more than twenty-eight (28) calendar days. The photographs shall be sufficient in number and location to record the exact progress of works, provide one (1) proof print of each photograph taken and five (5) colored copies, 245 x 203 mm of any of the photographs selected by the engineer. Two (2) copies are to be signed by the Contractor and Municipal Engineering Office. Albums to accommodate the selected photographs shall be supplied by Contractor either in soft (by email) or hard copy (by print out).

#### 11.3.13 Progress Report

- 11.3.13.1 The Contractor shall maintain a daily log describing the important events pertaining to the works, the working hours, the number of laborers employed, effective operation time of equipment, overtime hours, delays due to meteorological conditions, the lack of labor, materials

or equipment, progress made and instructions, notifications and recommendations made by the Municipal Inspection and Monitoring Team.

- 11.3.13.2 The Contractor shall furnish to the Municipal Inspection and Monitoring Team. ten (10) copies of the monthly progress reports within seven (7) days after the end of every month, indicating progress made, construction activities, inventories of material used and stored on jobsite numbers of labors, equipment available and hours utilized, number of working days, the summary of the daily log of the month and all-important events in relation to the Works, and/or Monthly Statement of Work Accomplished by email or print out.

End of Part V

## **PART VI**

### **PROPONENT/BIDDER RESPONSIBILITIES**

#### **1.0 BIDDING**

- 1.1 The prospective Bidder shall be responsible for taking the necessary steps to carefully examine all documents. It also rests upon the Bidder to acknowledge all conditions, local or otherwise, affecting the carrying out of the contract works, and arrives at an estimate of the facilities available and needed for the project. Failure to do so shall be at the proponent's/bidder's risk.
- 1.2 It shall be the sole responsibility of the Bidder to determine and suit himself by such means as he considers necessary or desirable as to all matters pertaining to the project, including the location and nature of work, climatic conditions, nature and condition of the terrain, geological conditions at the site; transportation and communication facilities, requirement and availability of materials, labor, water, electrical power and roads; location and extent of aggregate source; and other factors that may affect the cost, duration and execution of the work. The Proponent/Bidder, by the act of submitting his

proposal, acknowledge that he has inspected the site and determined the general characteristics of the project and the conditions indicated above. PCG requires an affidavit, duly notarized, of such site inspection from the Proponent/Bidder.

- 1.3 Prior to submittal of proposals, it is assumed that the Proponent/Bidder is already familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines, which may affect or apply to the operations and activities of the contractor. However, in the case where the cost of the awarded contract is affected by applicable new laws, decrees, ordinances, regulations and other acts of government promulgated after the date of submission of proposals, a contract price adjustment may be made or appropriate relief be applied on a no loss – no gain basis provided such is not covered by the provisions on price escalation hereof and subject further to the availability of funds.

## **2.0 PRELIMINARY SURVEYS AND STUDIES**

The Municipality of Tinambac shall provide the bidders with storm drainage plans, sewer lines plan, and cold water supply line plan, and other utility plans only **if available**. The bidder shall include a line item that will cover the cost of completing geodetic site survey and soil investigation in the event that historical infrastructure plans are not available. The projected cost of preliminary surveys shall be included in the bid proposal.

## **3.0 PLANNING AND DESIGN PHASE**

- 3.1 The proponent/bidder is expected to have visited the project site, familiarized themselves of the terrain, climatic conditions, availability of local manpower and construction materials, and local statutes that have direct bearing on the project.
- 3.2 The bidder is required to submit the proposed relocation map/plan of affected utilities.
- 3.3 The proponent/bidder is required to submit a Preliminary Conceptual Design in accordance with the degree of detail specified in this Terms of Reference (TOR). Prior to the award of the contract, the preliminary designs shall be

rectified for errors in the interpretation of the specified conceptual design specifications and parameters.

#### **4.0 CONSTRUCTION PHASE**

- 4.1 The Contractor shall carry out the Works properly and in accordance with this Contract. The Contractor shall provide all supervision, labor, Materials, Plant and Contractor's Equipment, which may be required. All Materials and Plant on Site shall be deemed to be the property of the Procuring Entity.
- 4.2 The Contractor shall commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program of Work submitted by the Contractor, as updated with the approval of the Procuring Entity's Representative, and complete them by the Intended Completion Date.
- 4.3 The Contractor shall be responsible for the safety of all activities on the Site.
  - 4.3.1 The Contractor shall carry out all instructions of the Procuring Entity's Representative that comply with the applicable laws where the Site is located.
  - 4.3.2 The Contractor shall employ the key personnel named in the Schedule of Key Personnel, 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.
  - 4.3.3 If the Procuring Entity's Representative asks the Contractor to remove a member of the Contractor's staff or work force, for justifiable cause, the Contractor shall ensure that the person leaves the Site within seven (7) days and has no further connection with the Work in this Contract.
  - 4.3.4 During Contract implementation, the Contractor shall abide at all times by all labor laws, including child labor related enactments, and other relevant rules.

- 4.3.5 The Contractor shall submit to the Procuring Entity for consent the name and particulars of the person authorized to receive instructions on behalf of the Contractor.
- 4.3.6 Should anything of historical or other interest or of significant value be unexpectedly discovered on the Site, it shall be the property of the Procuring Entity. The Contractor shall notify the Procuring Entity's Representative of such discoveries and carry out the Procuring Entity's Representative's instructions in dealing with them.
- 4.4 The Scope of works shall include but not limited to removal of existing structure, removal and filling of soil materials, concreting works, electrical works, underground drainage system and other works and others as may be necessary or required.

End of Part V

## **PART VII**

### **PROCURING ENTITY'S RESPONSIBILITIES**

#### **1.0 RIGHT OF WAY**

Being the Owner, Municipal Engineering Office shall secure the necessary Right-of-Way and access to the site from the date of contract award until building construction and site work is completed.

#### **2.0 ENVIRONMENTAL CLEARANCE CERTIFICATE**

Municipal Engineering Office shall assist the contractor in securing the necessary Environmental Clearance Certificate (ECC). It shall be the responsibility of the contractor to pay for any and all expenses necessary in the preparation of Environmental Impact Statement and to secure such and to make representation and follow-ups to expedite the release of the same.

#### **3.0 ELECTRICAL AND OTHER UTILITIES**

Municipal Engineering Office shall assist in securing the electrical/water/communication facilities in the project by filing the application with the local utility companies. It shall be the responsibility of the contractor to pay for any and all expenses necessary in the acquisition of the electrical/water/communication facilities.

End of Part VII

## **PART VIII**

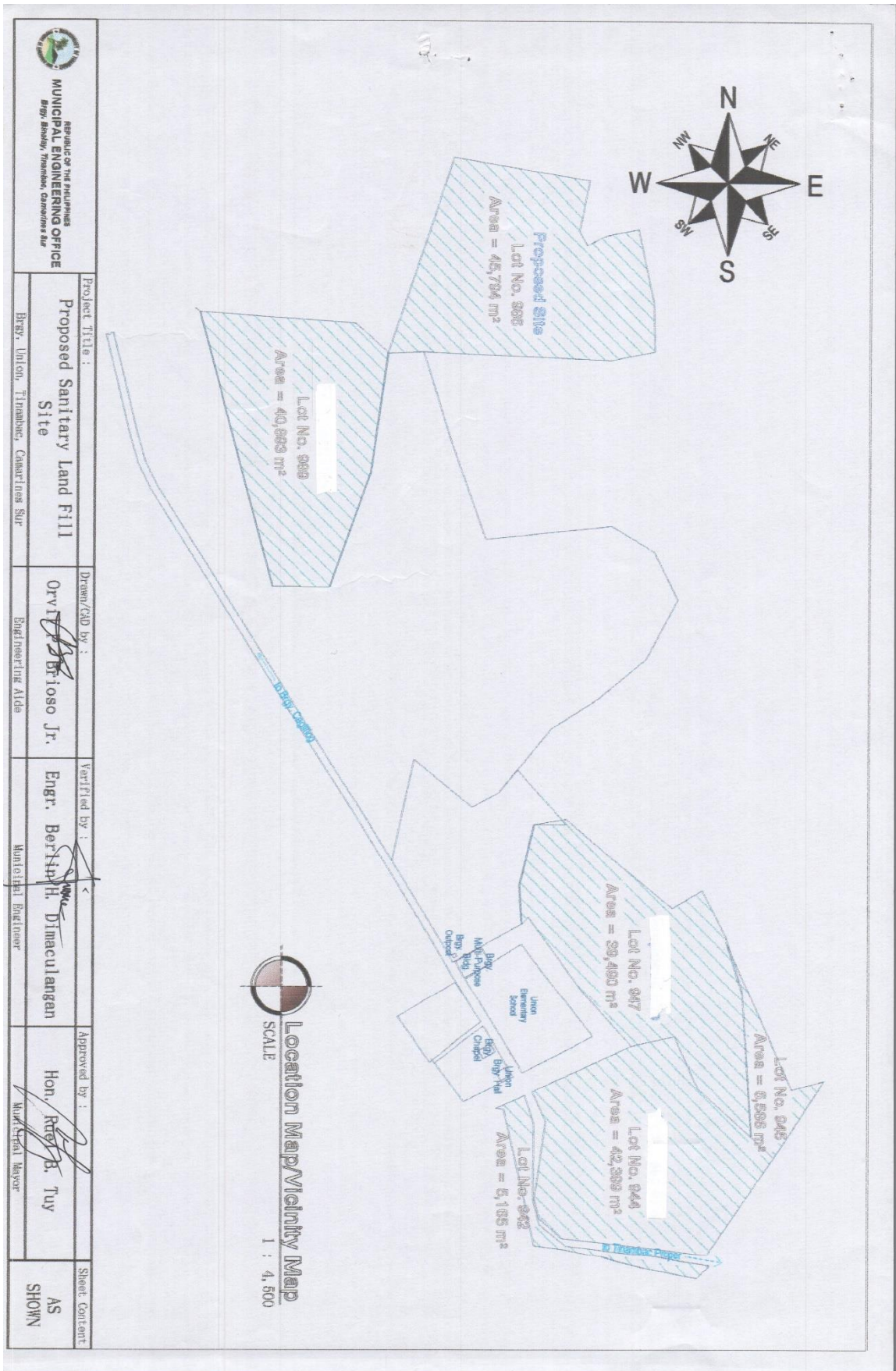
### **PROJECT ACCEPTANCE AND TURNOVER**

- 1.0** Municipal Inspection and Monitoring Team shall be the Municipality of Tinambac over-all construction monitoring team to ensure that completed work is
  - 1.1 In accordance with the contract documents (plans and specifications) approved by the Municipal Engineering Office.
  - 1.2 Able to perform as expected and was constructed in a way to allow successful testing, commissioning, and certification.
- 2.0** Should the Municipal Inspection and Monitoring Team members notice minor defects after completing the punch list, new items may be added to the list which the contractor shall correct prior to final acceptance.
- 3.0** Upon final acceptance of the project, the retention money for the project shall be released accordingly, upon the request and posting of the required one (1) year guarantee bond for the contract.

**END OF PART VIII**

**PART IX - ANNEXES**

**1.0 ANNEX 1: VICINITY AND LOCATION PLAN**



	Project Title :	Drawn/CAD by :	Verified by :	Approved by :	Sheet Content
	<b>Proposed Sanitary Land Fill Site</b> Brgy. Union, Tinambac, Caintara Sur	Engr. <i>[Signature]</i> <b>Briso Jr.</b> Engineering Aide	Engr. <i>[Signature]</i> <b>Berlin H. Dimaculangan</b> Municipal Engineer	Hon. <i>[Signature]</i> <b>Rod B. Tuy</b> Municipal Mayor	AS SHOWN



**2.0 ANNEX 2: CHECKLIST OF REQUIREMENTS – DETAILED ENGINEERING AND ARCHITECTURAL DESIGNS**

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for New Construction Project Implementation.

Project: ESTABLISHMENT OF SANITARY LANDFILL (DESIGN AND BUILD FOR THE CONSTRUCTION OF TINAMBAC SANITARY LANDFILL AND PURCHASE OF EQUIPMENT)

Location: BARANGAY UNION, TINAMBAC, CAMARINES SUR

<b>SHEET NO.</b>	<b>DRAWING NO.</b>	<b>DRAWING TITLE AND DETAILS</b>
<b>A</b>		<b>GENERAL</b>
1	A – 1	PERSPECTIVE/ TABLE OF CONTENTS
2	A – 2	LOCATION MA/ VICINITY MAP
3	A – 3	LOT PLAN
<b>B</b>		<b>SITE DEVELOPMENT PLAN</b>
4	B – 1	SITE DEVELOPMENT PLAN
5	B – 2	VERTICAL AND HORIZONTAL PROFILE
6	B – 3	GENERAL NOTES – SANITARY LANDFILL PROJECT
<b>C</b>		<b>LANDFILL SITE GRADING PLAN</b>
7	C – 1	SITE GRADING PLAN/TOPOGRAPHIC PLAN
8	C – 2	SITE GRADING PROFILE 0 + 020.00 TO 0 + 160.00
9	C – 3	SITE GRADING PROFILE

		0 + 180.00 TO 0 + 240.00
10	C – 4	SITE GRADING PLAN SHOWING GRADING, CLEARING AND GRUBBING
<b>D</b>		<b>LEACHATE COLLECTION FACILITY</b>
11	D – 1	LEACHATE COLLECTION FACILITY PLAN
12	D – 2	<p>MAIN AND BRANCH COLLECTION PIPE CONNECTION DETAILS</p> <ul style="list-style-type: none"> <li>- MIDDLE PORTION</li> <li>- LEFT PORTION</li> <li>- RGHT PORTION</li> </ul> <p>REINFORCED CONCRETE BOX MANHOLE DETAILS</p> <p>VERTICAL VENT PIPE DETAILS</p>
<b>E</b>		<b>STORM WATER DRAINAGE FACILITY</b>
13	E – 1	STORM WATER DRAINAGE FACILITY PLAN
14	E – 2	DRAINAGE CANAL DETAILS
<b>F</b>		<b>LINER SYSTEM FACILITY</b>
15	F – 1	LINER SYSTEM FACILITY PLAN
16	F – 2	LINER SYSTEM DETAILS/ LINER ANCHORAGE DETAILS/ LINER CONNECTION DETAILS
<b>G</b>		<b>WASTE RETAINING FACILITY</b>
17	G – 1	WASTE RETAINING FACILITY PLAN
18	G – 2	EMBANKMENT WALL PLAN/ ELEVATION
<b>H</b>		<b>LEACHATE TREATMENT FACILITY</b>
19	H – 1	LEACHATE TREATMENT FACILITY PLAN

20	H – 2	SUMP TANK PLAN AND DETAILS/ REED BED DETAILS/ AERATION POND DETAILS
21	H – 3	CROSS SECTION A – A / CROSS SECTION B – B / CROSS SECTION C – C
22	H – 4	HDPE PIPE 100 SDR11 DETAILS/ ANCHORAGE DETAILS – 1/ MEMBRANE DISC DIFFUSER DETAILS/ ANCHORAGE DETAILS – 2/ ANCHORAGE DETAILS – 3
23	H – 5	PUMP HOUSE PLAN AND DETAIL/ ELECTRO- MECHANICAL PLAN
<b>I</b>		<b>LANDFILL SUPPORT FACILITIES – MATERIALS RECOVERY FACILITIES (MRF) AND SLF OFFICE BUILDING</b>
24	I – 1	GROUND FLOOR PLAN/ 2 <sup>ND</sup> FLOOR PLAN (SLF OFFICE)/ ROOF PLAN
25	I – 2	TYPICAL SIDE ELEVATION/ FRONT ELEVATION/ PARTIAL SECTION
26	I – 3	LEFT SIDE ELEVATION/ RIGHT SIDE ELEVATION
27	I – 4	FOUNDATION PLAN/ ROOF FRAMING PLAN
28	I – 5	C1/F1 DETAIL/ BASE PLATE DETAIL/ STEEL FACIA FRAME DETAIL/ TRUSS DETAIL/ RIDGE PLATE DETAIL/ PURLIN CONNECTION DETAIL/ STEEL STRUT GIRT DETAIL
29	I – 6	STRUCTURAL GENERAL NOTES AND SPECIFICATION
30	I – 7	SCHEDULE OF DOORS AND WINDOWS/ REFLECTED CEILING PLAN
31	I – 8	ELECTRICAL PLAN/ LIGHTING LAY-OUT/ POWER LAY- OUT
32	I – 9	SINGLE RISER DIAGRAM AND ELECTRICAL GENERAL NOTES AND SPECIFICATION

33	I – 10	PLUMBING AND SANITARY PLAN/ WATER DISTRIBUTION SYSTEM/ SEWAGE SYTEM PLAN/ SEPTIC TANK DETAIL/ CATCH BASIN DETAIL
<b>J</b>		<b>LANDFILL SUPPORT FACILITIES – LITTER PREVENTION FACILITY</b>
34	J – 1	LITTER PREVENTION FACILITY PLAN
35	J – 2	MAIN GATE AND PERIMETER FENCE – TYPE A (CHB TYPE) DETAIL/ PERIMETER FENCE – TYPE B (COLUMN POST AND BARBED WIRE TYPE) DETAIL
<b>K</b>		<b>LANDFILL SUPPORT FACILITIES – HAZARDOUS WASTE VAULT</b>
36	K – 1	ROOF/CONCRETE SLAB COVER PLAN/ CONCRETE COVER – STAIRCASE PLAN/ FRONT AND REAR ELEVATION/ LONGITUDINAL SECTION/ LEFT SIDE ELEVATION/ RIGHT SIDE ELEVATION
37	K – 2	CONCRETE SLAB FRAMING PLAN/ FOUNDATION PLAN/ ROOF FRAMING PLAN/ TRUSS DETAILS
38	K – 3	STRUCTURAL DETAILS/ C1F1 DETAIL/ STAIR DETAIL/ SCHEDULE OF BEAMS/ SCHEDULE OF FOOTING
<b>L</b>		<b>LANDFILL SUPPORT FACILITIES – ACCESS ROAD AND PARKING AREA</b>
39	L – 1	ACCESS ROAD AND PARKING AREA PLAN
40	L – 2	ACCESS ROAD CROSS SECTION/ PARKING AREA CROSS SECTION/ DETAIL OF CONCRETE CURB AND GUTTER/ STORM DRAINAGE SYSTEM DETAIL