Section VII. Technical Specifications

Notes for Preparing the Technical Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying their Bids. In the context of Competitive Bidding, the specifications (*e.g.* production/delivery schedule, manpower requirements, and after-sales service/parts, descriptions of the lots or items) must be prepared to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of transparency, equity, efficiency, fairness, and economy in procurement be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation and post-qualification facilitated. The specifications should require that all items, materials and accessories to be included or incorporated in the goods be new, unused, and of the most recent or current models, and that they include or incorporate all recent improvements in design and materials unless otherwise provided in the Contract.

Samples of specifications from previous similar procurements are useful in this respect. The use of metric units is encouraged. Depending on the complexity of the goods and the repetitiveness of the type of procurement, it may be advantageous to standardize the General Technical Specifications and incorporate them in a separate subsection. The General Technical Specifications should cover all classes of workmanship, materials, and equipment commonly involved in manufacturing similar goods. Deletions or addenda should then adapt the General Technical Specifications to the particular procurement.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for equipment, materials, and workmanship, recognized Philippine and international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that equipment, materials, and workmanship that meet other authoritative standards, and which ensure at least a substantially equal quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the Special Conditions of Contract or the Technical Specifications.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest edition or revision of the relevant standards and codes shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relate to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Reference to brand name and catalogue number should be avoided as far as possible; where unavoidable they should always be followed by the words "*or at least equivalent*." References to brand names cannot be used when the funding source is the GOP.

Where appropriate, drawings, including site plans as required, may be furnished by the Procuring Entity with the Bidding Documents. Similarly, the Supplier may be requested to provide drawings or samples either with its Bid or for prior review by the Procuring Entity during contract execution.

Bidders are also required, as part of the technical specifications, to complete their statement of compliance demonstrating how the items comply with the specification.

Technical Specifications

Item No.	Specification	Statement of Compliance
		[Bidders must state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]
1.	**AIR HANDLING UNIT AND SUPPORT**	
1.1	Supply Air Handling Unit (Zone 1) - 7500 CFM Volume Flow Rate, Centrifugal type, Supply Unit - Minimum pressure loss of 0.1 in. of water per 100 ft. Variable Frequency Drive	
1.2	Supply Air Handling Unit (Zone 2) - 3000 CFM Volume Flow Rate, Centrifugal type, Supply Unit - Minimum pressure loss of 0.1 in. of water per 100 ft. Variable Frequency Drive	
1.3	Exhaust Air Handling Unit - 10500 CFM Volume Flow Rate, Centrifugal type, Exhaust Unit - Minimum pressure loss of 0.1 in. of water per 100 ft. Variable Frequency Drive	
1.4	Catwalk Support for Exhaust Units - Reinforced Steel Bar, Angle Bar, Black Iron Pipe, See attached drawing for more details - Dimension depends on the size of the air handling units	

1.5	Catwalk Support for Supply Units - Reinforced Steel Bar, Angle Bar, Black Iron Pipe, See attached drawing for more details - Dimension depends on the size of the air handling units	
2	**DUCTING AND FITTING WITH BAFFLES**	
2.1	Supply Main Ducts (Zone 1) - 2.6 ft by 2.6 ft square Duct Gauge 18, Galvanized Steel Sheet (see attached design for duct length)	
2.2	Supply Main Ducts (Zone 2) - 1.8 ft by 1.8 ft square Duct Gauge 20, Galvanized Steel Sheet (see attached design for duct length)	
2.3	Exhaust Main Ducts3.5 ft by 3.5 ft square Duct Gauge 20, Galvanized Steel Sheet (see attached design for duct length)	
2.4	Branch Ducts - 1 ft by 1 ft square Duct Gauge 24, Galvanized Steel Sheet (see attached design for duct length)	
2.5	Supply Riser Ducts - 1 ft by 1 ft square Duct Gauge 24, Galvanized Steel Sheet (see attached design for duct length)	
2.6	Exhaust Riser Ducts - Gauge 24, Rectangular Duct, Galvanized Steel Sheet, See detailed sizing for different rooms (see attached design for duct length)	
2.7	Baffles in Main Ducts -Welded baffles for a length of 1 meter in the ducts (see attached design for duct length)	
3	**DUCTING SUPPORTS**	
3.1	Main Duct Supports -Angle Bar, See attached design for details - Location of supports depend on the structural support of the building	
3.2	Branch Duct Supports -Angle Bar, See attached design for details - Location of supports depend on the structural support of the building	
4	**UV-C FILTER**	
4.1	Supply Line UV-C Filter - Complement air handling unit specifications and duct design	
4.2	Exhaust Line UV-C Filter - Complement air handling unit specifications and duct design	
5	**ICT EQUIPMENT AND DEVICES**	
5.1	Monitoring Devices for each room -Monitoring and alarm system for pressure and air quality inside the room (1 per room, see attached design for more details) Air Quality Range: 0-9999 ppm with 1ppm resolution Pressure Range: Negative Pressure Reading with 1 psi max Pressure Device has provision for Automatic Damper Control	

5.2	Laptop for simulation and Monitoring -Intel Core i7 9th gen, 16 GB RAM, 1 TB SSD, 6 GB NVIDIA Graphics, Card, 15.6 inches display, 1920x 1080 pixels, Windows 64 OS	
7	**GRILLES, DIFFUSERS AND DUMPERS**	
7.1	Exhaust Grilles -Galvanized Square Grilles complement ducting design (see attached design for more details)	
7.2	Supply Diffusers -Galvanized Square Diffusers complement ducting design (see attached design for more details)	
7.3	Dampers -Mechanical Dampers complementing ducting design (see attached design for more details) - Damper for the two supply main ducts is automatic with control from pressure devices	
8	**ELECTRICAL WORKS**	
8.1	Electrical Connection for Supply Units -Electrical Connection complementing Supply Air Handling Units	
8.2	Electrical Connection for Exhaust Units -Electrical Connection complementing Exhaust Air Handling Units	
9	**LABOR AND INSTALLATIONS**	
9.1	Fabrication of Components -Fabrication of air handling components based on design and specifications	
9.2	Installation of Components -Installation of components based on design and specifications	
***** **Nothing Follows*****		

Additional Requirements:

The technical specification that shall be submitted by the Bidder shall include, among others:

1. *product specifications as supported by brochures or catalogues for AHU and ICT equipment and, devices; and*
2. *bidder's certification for one (1) years warranty for AHU and ICT equipment and, devices.*