Section VI. Specifications

September 25,2019

SIMPLIFIED TECHNICAL SPECIFICATIONS

FOR: REPAIR OF OBSERVATION TOWER

I. Scope of Work :

The project involves chipping-off and disposal existing concrete structures including walls, roof, steel frames and etc. Excavation of existing fill materials to include backfilling and compaction for foundations. Installation of reinforcing bars and pouring 3,500 psi concrete for footings columns and etc. Installation of various doors, windows, glass panels with cabinets, shelves to include roof framing accessories including roof panels. Application of 1-coat primer and final 2-coats on all steel and masonry surfaces. Install safety insulators and relocation of existing service entrance wires w/ permits. Provide environmental, safety and health program in the execution of the project.

II. Materials :

a) Portland Cement – Cement shall be of any brand of Portland Cement conforming to the Standard Specifications for Portland Cement.

b) Aggregates – Aggregates shall be well-graded particles of sand and gravel, washed and conforming to the Standard Specifications for Concrete Aggregates. Maximum sizes of aggregates shall not be larger than 1/5 of the narrowest dimension of sides of the forms nor will be larger than ¾ of the minimum clear spacing between reinforcing bars and in no case shall be larger than two (2) inches in diameter.

c) Steel Materials – All sizes of steel materials for this construction shall be as indicated in the working drawings and conforming to the Standard Specifications of Structural Steel Materials as adapted by the local building authority. All black iron pipes that are used in this construction shall be Ga. No. 40. Welding electrode for steel construction shall be E6011 or E6012 of any well-known and tested brand.

d) Paints – Paints to be used shall be of any brand commercially available and should come from suppliers of good market reputation. Paints shall conform to ASTM Standards for Liquid Paints.

e) Glass Panels – Glass panels shall be 1.5mm thk. reflected tempered brown glass fixed with Analok Aluminum frame. It should be durable of any brand with good quality.

f) Roof Panels – All roofing accessories such as gutter, fascia, ridge roll, etc. shall be approved with equivalent property test. Roof shall be 0.50mm Thk. Quad-Rib Roofing Sheet,Curva Roof and should be of any brand with good reputation for quality.

g) Electrical Materials – All electrical materials shall be of any brand that are locally-available and from suppliers of good community standing. All electrical materials and installation shall be in accordance with the provisions of the National Electrical Code and the Local Fire Safety Ordinance and shall be installed under the direct supervision of a licensed electrical practitioner.

III. Concrete Proportioning, Consistency and Mixing for Plastering (if any)

Proportioning of concrete and aggregates shall be as such to produce a concrete mixture which will readily work into the corners and angles of forms and around the reinforcing bars. The combined aggregates shall be of such composition of sizes that when separated on No. 4 US Standard Sieve, the weights of the aggregate passing through the sieve (fine sand) shall not be less than fifty percent (50%) of the total. Use concrete mix 1:2:4 with cement factor of 9 for Iligan-sourced aggregates.

IV. Execution of the Project

Prior to the start of the project, the contractor is required to coordinate with the Engineering Services Division Manager or by his authorized representative to conduct pre-construction survey to determine the actual coverage, measurements, and items for retrieval or disposal as described in the items of work of the project.

Clearing/disposing of unsuitable objects on the project site shall be undertaken first for actual layout purposes. Location of foundations shall be indicated in the working drawings, and actual field conditions shall be considered in the actual layout. Demolish and dispose existing concrete pavement to include drilling of concrete portion for anchor bolts and various screws to be drilled. Erection of G.I. pipe columns which shall be welded directly to pedestal reinforcement will be checked thoroughly for alignments, plumbness, and levels. The said columns shall be filled with concrete mortar as indicated. Fabrication of the built-up steel rafters and other steel framings shall commence only after the exact and actual measurements have been obtained, taking into consideration all aspects that may affect the actual fabrication. All details of fabrication shall be as indicated in the working drawings, and all welded connections shall be full-welded using standard welding electrodes. Flux shall always be chipped-off after each welding process. All welding works shall be thoroughly checked as to the degree of acceptability of welder's workmanship since the structural safety and stability of the structure depends on it.

Alignment and levels shall be checked during the actual installation of the prefabricated steel rafters with equivalent support and other built-up steel structures. Final full-welding of structural joints and connections will then commence after establishing the alignments and levels. C-purlins will be provided with sag rods or equivalent supports. Cross-braces will also be installed with standard turnbuckles for tensioning purposes.

All roofing materials and accessories shall be in compatibility with substrate and adjacent materials prior to purchasing of materials. The roofing panels/sheets shall be in good and high quality considering sufficient in resiliency, anti-ageing and weather resistance approved with equivalent physical property test and other testing procedures.

All painting works shall be done only after the surfaces have been thoroughly derusted, smoothed, cleaned, washed /scrapped from all dirt, oil, and greasy materials. Provide one coat of metal primer before the application of two (2) coats enamel top coat. Rafters, girts, and purlins will only be applied with metal primer.

All electrical installations shall comply with the latest National Electrical Code and all existing local ordinances, and shall be under the direct responsible supervision of a licensed electrical practitioner. Provide appropriate conduits for all wirings. Actual load test shall be conducted before the acceptance of electrical works.

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