PROJECT : **Proposed Rehabilitation of Hotel de SLSU Landscape (Front)**
LOCATION : **SLSU Main Campus, San Roque, Sogod, Southern Leyte**
PROJECT COST : **Php 500,000.00**

SCOPE OF WORK

A. General Requirements

This Item shall consist of furnishing and installation as per approved Plans of the complete site development work consisting of turfing, planting, mowing, paving works, electrical works, delivery of materials and other labor necessary for the completion of the project.

The Contractor shall be responsible for the safety and safe working practices of its respective workers, including SLSU employees, visitors and guests.

This scope of work is prepared in accordance with the DPWH Standard Specifications for Item 807 – Site Development, and in full compliance with the approved plans and specifications for the project. The scope includes the following items:

B. Site Preparation and Clearing

Clear the designated front landscape area from existing debris, plants, and other obstructions. Excavate and level the site as needed to prepare for planting and installation activities.

C. Softscape Works

Trees: Plant Foxtail Palms (Corypha elata) in designated locations as per the approved landscape plan, ensuring proper hole preparation, planting, and initial watering. Some existing foxtail palms on site can be transferred and re-planted.

Shrubs: Install selected shrubs including Rose Santan, Red (6 inches high), Green Dust Plant, and Wakinito Plant in pre-determined locations, following planting standards.

Grass: Lay Bermuda Grass across the landscaped areas, ensuring proper soil preparation, grass laying, and watering for healthy growth.

D. Hardscape Works

Bollard Lights: Install LED Waterproof Bollard Lights (450mm high, black finish, warm white) along pathways and key landscape features as indicated in the plan. Proper positioning, alignment, and wiring connections are to be executed according to standards.

Paver Blocks: Place garden stone plates (paver blocks) in the designated walkways, ensuring proper leveling, alignment, and joint filling to achieve a stable surface.

E. Soil Supply and Placement

Supply and apply Tabunok garden soil (tabunok soil) to planting beds and landscaped areas to promote healthy plant growth and adequate soil conditions.

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LOCATION : **SLSU Main Campus, San Roque, Sogod, Southern Leyte**
PROJECT COST : **Php 500,000.00**

TECHNICAL SPECIFICATIONS

A. General Requirements

The construction procedures shall be done in accordance with the DPWH Standard Specifications for Item 807- Site Development and in full compliance with the approved plans and specifications.

This Item shall consist of furnishing and installation as per approved Plans of the complete site development work consisting of turfing, planting, mowing, paving works, electrical works, delivery of materials and other labor necessary for the completion of the project.

B. Softscape

807.2.1 Softscape Specification

807.2.1.1 Turfing

807.2.1.1.1 Preparation

The areas to be turfed shall be completely cleared of all builders' debris, large stones and other obstructions.

The planting area shall be cultivated to an average depth of 150mm. Where the ground is clay, hardpan, sun baked earth or other impervious materials, it shall be ploughed or scarified to a minimum depth of 150 mm to reduce to granular material of sizes not exceeding 75 mm.

The ground shall be later finished by lightly rolling with roller not exceeding 136 kgs in weight. Rolling shall only be done when the formation is dry.

807.2.1.1.2 Trimming and Levelling

Before spreading the top soil the ground of filled earth must be trimmed and levelled. In case of banks, the edge must be trimmed off to a curve to allow the grass to be cut with a motor mower.

807.2.1.1.3 Turfing Existing Ground

Where existing ground is to be turfed, mounds shall be levelled and depressions, holes, channels, etc., shall be filled-in to the general level of the area or to the levels shown on the Plans.

807.2.1.1.4 Garden Soil (Top Soil)

The top soil is to be selected vegetable garden soil, free from roots, weeds and any unnecessary hard granular material. Top soil shall be spread and levelled over the whole area to be turfed to form an even layer of 50 mm (consolidated thickness). The Contractor shall submit a sample of the top soil to the Architect/ Engineer for approval before application.

807.2.1.1.5 Ground to be Forked
Before turfing, the ground or filled earth shall be forked to a depth of 100 mm to 150 mm to thoroughly loosen the soil.

807.2.1.1.6 Turf
The turf for use in the work shall be of the best quality and shall be obtained from sources approved by the Architect/ Engineer. The turfs shall be very healthy, free from defects, decay, disfiguring of roots, sun or wind scaled injury, plant disease, insect or pest or any other form of infestation.

The Contractor shall furnish the Architect/ Engineer of approved samples of the turf before planting. The Architect/ Engineer shall visit and inspect the nursery from where the turfs are obtained.

The turfs for use in the Contract shall be of the following type:
a) Cow Grass The turf shall be cut into approximately 225 mm square and lifted carefully with proper cutting tools and shall be flat, square or rectangular, with even thickness, but shall be as thick as possible. The minimum thickness of turf shall be 40 mm. The root formation shall be moist and the grass shall not exceed 20 mm long and shall be dense green with vigorous roots and healthy.

The grass shall be stacked on site, and the Architect/ Engineer shall inspect the grass for weeds before laying. The grass shall always be kept moist by spraying with water and covering with wet sacks.

b) Grass Planting
Cow grass shall be planted within 24 hours after being cut or stripped off. Dry turf shall be rejected.
i) Spot Turfing - Spot shall be at 450 mm at centers.
ii) Close Turfing - The turf shall be laid on top of vegetable garden soil and shall be laid accurately to level and full with close butt joints. Immediately after laying, the turfs shall be lightly beaten with wooden beater until they are firmly bedded to the ground. Any depression produced by the beatings shall be leveled by packing the depression with additional top soil from underneath the turf. The turf shall be beaten again. Laying and beating shall continue until all the turfs are firmly bedded andacontinuous turfing area is obtained.

The minimum total thickness of the turf and the top soil shall be 75 mm and shall be measured after the turf has been laid and beaten. For this purpose, small trial holes shall be dug as directed by the Architect/ Engineer. If the thickness between the top of the grass and the formation level is less than 75 mm, the Contractor shall, without additional cost, relay the turfs to the approval of the Architect/ Engineer. Turfing to banks shall be firmly cured by 150 mm long wooden pegs driven each piece.

807.2.1.1.7 Top Dressing
The material used for the top dressing shall be between 80/20 and 90/10 sand/soil mixes. Organic matter shall be included in the mixture. Fertilizers, soil ameliorants such as lime, and pesticides shall also be included for special purposes. The Contractor shall apply top dressing to the turfed area immediately after they are laid and thereafter until the turfs

survive independently. The top dressing shall be deposited and spread evenly over the turfed area at the rate of 11.2 grams per m^2.

807.2.1.1.9 Watering

The Contractor shall immediately after laying, water the turf adequately. The Contractor shall water the turf throughout the planting and maintenance periods until the turfs survive independently.

The Contractor shall water the turfs by spraying so that no turf or soil will be disturbed. The rate of application shall be not less than 0.47 mL/ m^2.

807.2.1.2 Softscape Maintenance

807.2.1.2.1 Nursing and Watering

It is the Contractor's responsibility to ensure that the grass is properly nursed and tended until fully established, including watering as necessary during dry periods. Any grass which fails to flourish shall be replaced at the Contractor's expense until the grassess survive independently.

807.2.1.2.2 Cutting and Rolling

The Contractor shall cut the grass at least once a month throughout the planting and maintenance periods or at any time instructed by the Architect/ Engineer. Grass cutting shall be carried out with hand or mechanical tools with sharp and well-adjusted blade, so that the turf shall be cleanly cut and no tearing will take place.

The Contractor shall take reasonable care not to cut or damage the stolons or rhizones of the spreading grass when cutting spot turfing. No cutting shall be carried out when the grass is wet or when it is raining. Where and when instructed by the Architect/ Engineer, the Contractor shall roll the turf with a roller weighing not exceeding 360 kgs to press the roots firmly into the soil and to produce a close well knitted turfing.

807.2.1.3 Lawn Maintenance

807.2.1.3.1 Watering

During drought periods, the only way to maintain a desirable greenness is to give the lawn a thorough soaking once or twice a week. Light daily sprinkling does more harm than good. It requires from 1900 to 2840 liters of water for every 93 m^2 of lawn for each application to give an equivalent 20 mm to 38 mm of rain. This will moisten the soil from 65 mm to 125 mm deep.

Continuous heavy watering favors diseases.

The surface layer of soil must be kept damp by frequent light watering with a fine spray during the germination period after seeding or vegetative planting and until the young plants are rooted firmly. It is often necessary to water three (3) or four (4) times daily in hot windy periods. After the grass is established, water should be used sparingly and with maximum intervals between applications.

Water should be applied to new seeding and vegetative plantings in a fine spray that will not wash that soil away from the base of young plants. It must be applied slowly so that the surface will not puddle and crust.

807.2.1.3.2 Weeding
Keep all planting areas free from weeds and undesirable grasses, by a method and by materials approved/ permitted by the Architect/ Engineer.

807.2.1.4 Planting
Plant holes shall be excavated at a minimum of twice the size of the volume of the pot size specified in the Plans.

Plants shall be provided with the following characteristics:
a) Large healthy root systems, with no evidence of root curl, restriction or damage;
b) Vigorous, well established, free from disease and pests, of good form consistent with the species or variety; and
c) Hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site.

Trees which, unless required to be multi-stemmed, have a single leading shoot shall be provided.

At least one plant shall be labelled of each species or variety in a batch using a durable, readable tag.

Planting shall be carried out on the same day that plants are delivered to the site. Plants shall not be planted in unsuitable weather conditions such as extreme heat, cold, wind or rain. In other than sandy soils, excavation shall be suspended when the soil is wet.

Plants shall be watered thoroughly before planting and immediately after planting.

807.2.1.4.1 Mulching
Mulch shall be free from deleterious and extraneous matter such as stones, soil, weeds and sticks.

Mulch shall be placed clear of plant stems, and rake to an even surface flush with the surrounding finished levels.

Depth shall be at 75 mm. maximum.

Mulch types hays shall be from seasonal grasses and free from noxious weeds etc.

Laterite gravel shall be uniform in color and size or graded from 5 to 25 mm.

Brush Chippings shall be approved "Forest Blend" vegetative material processed to pieces not larger than 75 x 50 x 15 mm and aged from 6 to 12 weeks.

Washed River Pebble shall be uniform in size or graded from 10 to 25 mm.

807.2.1.4.2 Stakes
Stakes material shall be hardwood, straight, free from knots or twists, pointed at one end.

807.2.1.4.2.1 Installation
Stakes shall be driven into the ground at least one third of their length, avoiding damage to the root system. Those no longer required at the end of the establishment period shall be removed.

Stake sizes shall conform to the following:
a) For plants 1 to 2.5 m high: Two 50 mm x 50 mm x 1800 mm stakes per plant.
b) For plants smaller than 1 m high: One 38 mm x 38 mm x 1200 mm stake per plant.

807.2.1.4.2.2 Ties
Ties fixed securely to the stakes, one tie at half the height of the main stem, shall be provided whenever necessary to stabilize the plant. Ties shall be attached loosely and 50 mm hessian webbing stapled to the stake shall be likewise provided.

807.2.1.6 Trees and Shrubs
Specifications for the trees and shrubs to be used in the project shall be specified in detail in the Plans. The Architect/ Engineer shall inspect whether the delivered trees and shrubs are approved based on physical features and the capacity of the trees and shrubs to survive after planting.

Specifications and procedures for establishing trees and shrubs shall be submitted by the Contractor prior to planting. Fertilization, mulching, staking, establishment and irrigation shall be indicated on the procedures.

C. Hardscape

807.2.2 Hardscapes Specifications

Work of this Section includes all labor, materials, equipment, tools, incidentals, and services necessary to design, engineer, manufacture, supply, and install the paver blocks and bollard light with complete including all components, hardware, and accessories as indicated on the Plans and specified herein:

I. Electrical conduit and wiring systems
All electrical works shall consist of the furnishing, delivery and installation, complete in all details of the Electrical Work, and shall be in accordance with the plans and specifications, the latest edition of Philippine Electrical Code (PEC).

The requirements with regards to materials and workmanship specify the required standard for the furnishing of all labor, materials and appliances necessary for the complete installation of the work specified herein and indicated on the drawings.

The Contractor shall execute the work in the most thorough, prompt and workmanlike manner and in accordance with the plans and specifications. The installations shall be done thru standard methods and good engineering practices. All materials shall be brand

new and shall be of the approved type. It shall conform with the requirements of the Philippine Electrical Code and shall bear the Philippine Standard Agency (PSA) mark.

1. Conduits
   - Polyvinyl Chloride Conduit (PVC)
     a. Standard trade sizes, schedule 40
        - 1/2"Ø x 10' PVC Pipe (Orange) -from source to utility boxes
     b. Coupling & fittings - standard couplings for joints by solvent weld process.

2. Wires

Wires and cables shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the PSA mark. Unless specified or indicated otherwise, all power and lighting conductors shall be insulated for 600 volts and Withstands 90°C in dry conditions and 75°C in wet conditions. All wires shall be copper and wire type shall be stranded.

- THHN Wire # 12 (3.5 mm^2) -from safety breaker to tenant's utility box.

3. Lighting Fixtures and Lamp

All lighting fixtures as specified and as indicated on the drawings.

- 450mm high LED Waterproof Bollard Light, Black, Warm White, it shall be 12-watt warm white, 220-240V

II. Paving systems (Paving Blocks)

The material to be used in the project shall be casted concrete with dimensions, height, sizes, and thickness shall be indicated in the Plans.

Installation shall be based on manufacturer's specification and relevant standards and codes.

1. Cement
   - All cement shall be Portland type -1, ASTM C-150.
2. Aggregates
   - Fine aggregates used in the composition of concrete shall consist of washed river sand.
   - Coarse Aggregate shall consist of stone, gravel or other approved inert materials with similar characteristics. Size shall be ¾" crushed gravel.
3. Water
   - The water to be used in the project for the concrete works shall be potable. The concrete materials shall be proportioned in accordance with the requirements for each class of concrete.

4. Proportioning Concrete

All concrete works shall be done in accordance with the standard specifications for plain and reinforced concrete.

The following proportions of concrete mixtures shall be used for various structures:

- Class B (1:2-1/2:5) -Paver Blocks

5. Steel Reinforcement

Placing of steel reinforcement shall be in accordance with the Specification and in conformity with the requirements shown on the Approved Plans or as directed by the

Engineer. Steel reinforcement shall be deformed bars with a minimum yield strength of 40,000 psi.

Steel reinforcement shall be stored above the surface of the ground upon platforms, skids, or other supports and shall be protected as far as practicable from mechanical injury and surface deterioration caused by exposure to conditions producing rust. When placed in the work, reinforcement shall be free from dirt, detrimental rust, loose scale, paint, grease, oil or other foreign materials.

All steel reinforcing bars shall be accurately placed and secured against displacement by tying them together at each bar intersection with Gauge No. 16 galvanized iron wire.

D. Duration of Project

Completion of the project shall be for a period of forty-five (45) calendar days which shall commence from the date of receipt of Purchase Order.

Prepared:

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Reviewed:

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PDO III