

**CORRIGENDUM No: 1**

**to the**

**Volume 3: Technical Specifications**

**Publication Ref: BAM/ADMP/GPF/WRK/VC**

**Subject:** Construction of Green House Park Facilities

**Location:** Saint Vincent and the Grenadines

The Technical Specifications are corrected or modified as follows:

## **GREEN HOUSE PARK FACILITIES**

### **Foundation**

- Reinforced concrete pillar foundation with reinforced concrete beam supports. Curtain wall 1m above the ground (all around the chambers and across the partition portion between the chambers). Damp proof course in accordance to BS 6515 and BS 8215.
- Grouting of side poles in reinforced concrete (1:2:4) up to Damp proof course level.
- 600mm of plinth protection all around the periphery of the greenhouse with cement concrete (1:5:10) with standard waterproofing and top layer to be provided with 50mm thick cement concrete (1:2:4).

### **Structure**

- Wind resistance: 150 km/hr
- Vertical column posts and other structure materials should be made with Hot Dipped GI min. 46,000 psi and should be anti-corrosive, humidity resistant and zinc coated
- Roof trusses shall be factory welded, the welds shall be re-galvanised with a flame spray process. No painting of weld areas will be permitted.
- Roof purlins shall be fabricated from 16 ga. Galvanised steel tubing as a minimum. Purlins shall be bolted to the truss top chords, no screw attachments are allowed.
- Bolts and nuts are zinc-coated and dichromated.
- There will be one line of continuous peak vents fixed on each span.
- Insect-proof net (Ultra Vent or similar) on all peak vents.

### **Flooring**

- Sub base consisting of 100mm thick sand filling, 100 mm thick lean concrete (1:5:10) with proper compaction

### Covering (Celloclim)

Thickness	190 – 210 µm
Solar radiation (Kly/year)	70/100
Design Life	> 57 months
Elongation at break (machine)	> 500% (ISO 527-3)

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Pages 104 - 105

Tensile stress at break (machine)	>19 Mpa (ISO 527-3)
Elongation at break (cross)	>500% (ISO 527-3)
Tensile stress at break (machine)	>19 Mpa (ISO 527-3)
Creep	<25% (NF EN 13206)
Dart drop test on full film	> 650 gr (ISO 7765-1)
Dart drop test on folds	> 450 gr (ISO 7765-1)
Thermal efficacy	> 88% (EN 13206)
Light transmission	Global: 87% (EN 2155-5) Diffused: 65% (EN 2155-9)

### Insect-Proof Netting

Mesh Size	250 µm x 730 µm
Shade	< 6%
Strength in daN/m (warp/weft)	380 x 250
Min. Design Life	5 years

**The above represents the original pages (104 - 105) which are to be replaced with the following pages of like numbering.**

## **GREENHOUSES**

### **General**

- Multi-span tunnel greenhouses
- Greenhouse Dimensions: 9.60m x 20.0m
- Arches and crop support bars with 3 wind struts every 4.00 m
- Uprights in central spans every 4.00 m (80 x 40 x 1.5mm)
- Uprights on longides every 4.00 m (80 x 40 x 1.5mm)
- Peak height 7.12 m
- Height under crop support bar: 4.96 m
- Guttering height: 5.03 m
- Dimensions of gutter:

### **Foundation and Flooring**

- Reinforced concrete cylindrical blocks under each upright as indicated in the BN greenhouse assembly instructions
- Greenhouse floor shall be graded and cambered with a 2% fall from the center line and all excess soil carted away.

### **Structure**

- Wind resistance: 130 km/hr
- Crop loading: 30 kg/m<sup>2</sup>
- Frame constructed of 16 gauge hot dipped galvanized steel tubing in compliance with NF standards 35.501-36.321-49.542
- Bolts and nuts should be zinc-coated and dichromated
- Crop support bar diameter: 32 x 9600 x 1.5mm with one (1) wind strut and two (2) longitudinal reinforcements every 4.00 m.
- Transversal stability secured with one (1) set of two (2) reinforcements on central uprights and one (1) reinforcement D.27 x 2340 on longside uprights

- 2 No. saint Andrew crosses made of D.32 x 1.5 x 6000mm tubes per line of posts
- One access door per block and lobby integrated

### Ventilation

- One line of fixed continuous peak vent on each span
- Vent arm: 70 x 42 x 3000 mm oval tube
- Two reinforcements for the square bars under vent: D 27 x1.5 1810mm every 4.00 m
- Two reinforcements for the peak square bars: D 27 x 1.5 x 2340 every 4.00 m

### Rain Water Drainage

- Two drainage pipes at the end of the structure: 200mm dia x 5mm thick PVC pipe

### Other Materials

Contractor to provide the following:

- Paint to protect covering film from metallic parts
- Batch to repair small cuts in cover film during maintenance

### Covering Film (Celloclim)

Thickness	210 µm
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Design Life	> 57 months
Elongation at break (machine)	> 500% (ISO 527-3)
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Min. Design Life	5 years

- Insect-proof net (Ultra Vent) on all peak vents fixed to structure with zigzag clips

All other terms and conditions of the Technical Specifications remain unchanged. The above alterations and /or corrections to the Technical Specifications are integral part of the Technical Specifications