

3.4 Electronic Workshop

3.4.1 Description

This is a 25-ft square light angle framed building. The walls are infill blockwork between steel channels. The roof is of steel Dexion angle trusses with galvanized sheeting.

3.4.2 Hurricane Damage

A section of the roof sheeting was lost.

3.4.3 Inspection

The roof structure was in poor condition. (Photo H.W-1). There were vertical cracks in the location of the enclosed steel stanchions which indicated that the stanchions were deteriorating.

3.4.4 Recommended Repairs

1. Demolish existing building.
2. Build new building.

Summary of the estimated cost of repairs is shown on the following page.

Health Services Facilities - Antigua

Holberton General Hospital - Electronic Workshop

Estimated Cost of Repairs

Summary

Item No	Description		
1	Demolish existing building and cart away		\$2,000
2	Superstructure		\$21,700
3	Roof		\$19,780
4	Windows and doors		\$5,400
5	Finishes		\$15,200
6	Services		\$8,000
			\$72,080
	Preliminaries & overheads (25 %)		\$18,020
			\$90,100
	Contingency (10%)		\$9,010
			\$99,110
	Consultancy fees (15%)		\$14,900
			\$114,000
	Total estimated cost (EC\$)		\$114,000
	Total estimated cost (US\$)		\$42,200



Photo HW-1. Rusting roof structure.

3.5 Blackburne Ward

3.5.1 Description

This is a two storey masonry building with service blocks at each end. At the southern end is a kitchenette/pantry with ceramic tile on the floor. The building was originally designed with a concrete roof and parapet walls. This surface was waterproofed with built-up felt roofing. Over time, the felt deteriorated and the roof leaked. Efforts to sealed the leaks failed and a new timber structured galvanized sheeted roof was built over the parapet walls.

3.5.2 Hurricane Damage

The central portion of the galvanized roof was blown off. The tiles in the pantry were flooded and begun to unstick from the floor.

3.5.3 Inspection

The roof can be divided into three sections, viz the north end, the middle and the south end. The condition of the built-up felt roofing was in very poor condition with complete deterioration in a number of locations. The galvanized roof was designed to resist hurricanes. The wall plates were bolted down, the rafters had hurricane straps, and the nails were clinched.(Photo H.B-1). Unfortunately, it was not built strictly in accordance with the specifications. The north end was in accordance to specification. On the south end the nails were not clinched and some of the sheets had holes which leaked onto the concrete roof and subsequently into the ward. On the middle section, the wall plate on the east side was bolted down and on the west side the plate was nailed down with concrete nails. During the hurricane, the western side of the middle section failed and the roof was peeled over the anchor bolts on the eastern side.(Photo H.B-2).

3.5.4 Recommended Repairs

1. Re-waterproof the roof with:
 - a) strengthened timber framed and galvanized sheeted roof or
 - b) remove the exiting timber roof and renew the waterproofing with two layers APP modified bitumen membranes.
2. Re-paint the soffit of the roof.
3. Remove the tiles in the pantry and relay with a stronger tile adhesive.

3.5.5 Estimated Cost of repairs.

The re-waterproofing alternatives were priced and the APP membrane solution was least expensive and is recommended. A summary of the cost is given on the following pages.

Health Services Facilities - Antigua

Holberton General Hospital - Blackburne Ward

Estimated Cost of Repairs

Summary

Item No	Description		
1	Remove existing galvanised structure		\$9,044
2	Remove existing felt roofing		\$9,406
3	Lay light-weight screed to falls		\$9,600
4	Weld on two layers of bitumen membrane		\$45,624
5	Apply protective screed		\$14,109
6	Replace downpipes		\$1,000
7	Remove and replace ceramic tiles		\$1,000
8	Paint soffitt		\$9,100
			\$98,880
	Preliminaries & overheads (25 %)		\$24,720
			\$123,600
	Contingency (10%)		\$12,360
			\$135,960
	Consultancy fees (15%)		\$20,400
	Total estimated cost (EC\$)		\$156,400
	Total estimated cost (US\$)		\$57,900

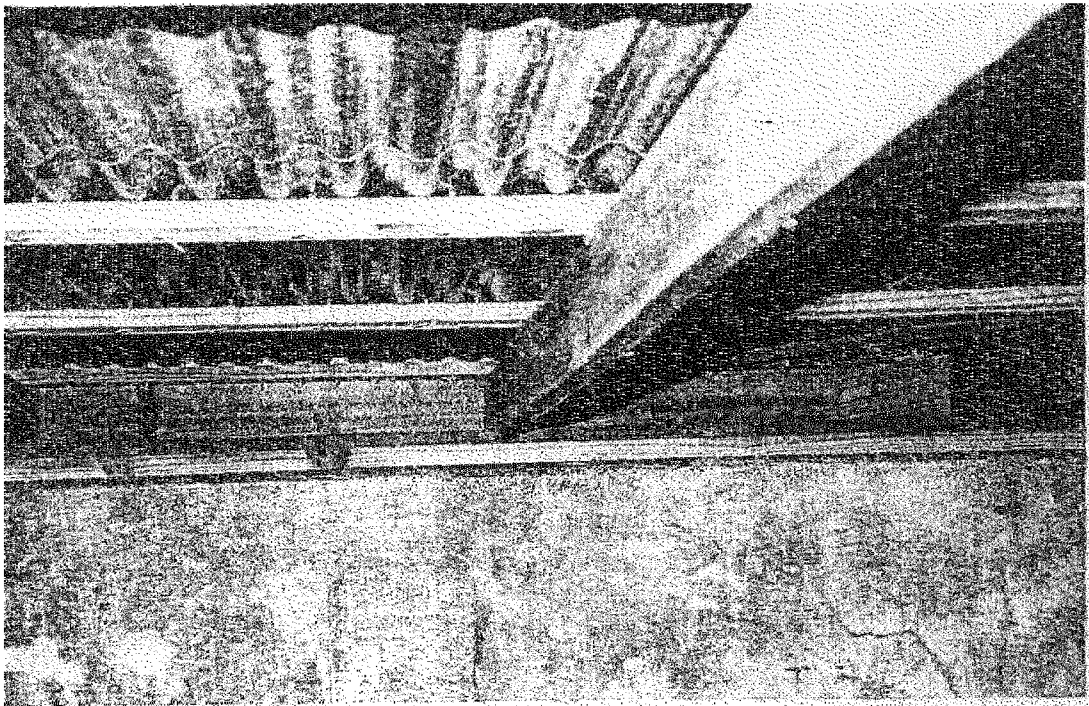


Photo HB-1: Good hurricane resistant construction.



Photo HB-2: Wall plate stripped of wall, leaving the anchor bolt.