

CHAPTER 7 INVENTORY OF THE ELEMENTS AT RISK

7.1 INTRODUCTION

As part of the risk assessment process, a determination of the entities which can be damaged or destroyed needs to be documented. For this reason an inventory of the elements at risk was carried out. This involved the creation of a database of the important aspects of the built environment in the study area. The database was created as layers within the larger GIS database.

7.2 ELEMENTS AT RISK DATA SET

The data set includes an inventory of buildings in the four islands, utility networks, critical facilities, nearshore biota and the boating sector. These are briefly described below.

7.2.1 BUILDINGS

The footprint of structures which have been mapped on the 1991, 1:2500 topographical sheets have been digitized by the Town Planning Department. This digitized dataset includes structures in Tortola, Virgin Gorda, and Jost Van Dyke. To this dataset was added the schematic structure locations found on the 1:25000 topographic sheet of Anegada.

Maps 7.1. shows the distribution of buildings in Tortola .

Based on 1991 data there was a total of about 6,102 buildings in the four islands, Tortola, Virgin Gorda, Anegada and Jost Van Dyke. Of this figure Tortola accounted for about 5,136, Virgin Gorda 760, Anegada 100 and Jost Van Dyke 100. Road Town had about 1740 buildings in 1991, and since then 250 new structures have been built. This represents slightly less than a 14.5% increase. Most of the structures which were built are residential buildings located on the foothills around Road Town. If a more conservative figure of 10% is used to represent the number of structures built in the rest of the four islands, then the

current stock of buildings in the four islands is probably in the order of 6790 in 1996.

MAP 7.1

Hazards Of The BVI

A detailed classification of the buildings in Roadtown was carried out. The structures were placed into five categories based on their function. These included 1) Residential, 2) Commercial, 3) Industrial, 4) Government and Institutional (Gov./Instit.), and 5) Critical facilities. **Map 7.2** shows a detailed view of Road Town illustrating the classified buildings.

Residential buildings include individual houses and apartment buildings. Commercial buildings comprise all structures used for private enterprise. As a vital contributor to the BVI economy the tourism related structures ie. hotels and quest houses is an important subclass of the commercial buildings. Governmental and institutional buildings (Gov/Instit.) consist all governmental buildings, schools, churches and buildings used by non-profit organizations. Industrial buildings include all buildings used for manufacturing.

7.2.2 UTILITY NETWORKS

The digitized water, and electrical distribution networks which have been made available from the Town Planning Department were added to the database, **Map 7.3** and **7.4**. The database also contains the road network, and the location of jetties.

The BVI Electricity Corporation is the sole, government operated, power supply company. There are two main electricity generation facilities at Long Bush in Roadtown and at Pockwood Pond, which produce 10 MW and 15.2 MW respectively. Virgin Gorda and Jost Van Dyke receive electricity from the Tortola grid via submarine cables, while Anegada has a small 18 Kw generator. In Road Town a large part of the distribution network is underground, in addition to large sections of high voltage lines which supplies electricity to the eastern end of Tortola. Throughout the rest of the islands electricity is carried by 13.2 conductors on standard 35 -45 ft. wooden utility poles, which are generally located along roadways. **Map 7.4.** shows the parts of the electrical distribution system which has been digitized by the Town Planning Department. This dataset is currently being updated.

MAP 7.2

MAP 7.3

Hazards Of The BVI

MAP 7.4

Telecommunication lines are also carried on these utility poles. Within Road Town the telecommunication lines are buried, and so too are the trunk cables outside of Roadtown, and fibre optic cable networks. There are a number of transmission towers which are part of the telecommunication network, the largest of which is found at Challwell just outside Roadtown at an altitude of about 1300 ft.

The cable television system consists of three 10 foot satellite dishes located at an elevation of about 800 ft, on Butto Mountain overlooking Road Town. Distribution lines are carried on the electricity utility poles and extend throughout most of Tortola and Virgin Gorda.

The public water supply consists of small networks consisting of small diameter pipes and small holding tanks, which distribute water produced by privately run desalination plants, **Map 7.3**. The largest network is in Road Town and at present the water provided by the Water and Sewerage Department augments the water which most households obtain from individual cisterns which store rainwater.

7.2.3 CRITICAL FACILITIES

Critical facilities consist of police stations, health facilities, emergency shelters, fire stations, and other governmental and non-governmental facilities which are of vital importance such as the Central Administrative Building, electrical power generation facilities, and the Red Cross buildings.

7.2.4 BOATING SECTOR

There are estimated to be about 650 yachts most of which are in the 35-50 foot range, operated by 5 fairly large charter operators in Tortola and Virgin Gorda. These charter companies operate on average about 60 -100 boats, as well as small operators with one to 50 boats. The largest is the Moorings Marina which is located in Road Harbour and operates about 150 boats year round. There are about 600 small open craft power boats, of which about 200 are fishing boats and the remainder are pleasure boats, most of which are

moored around Tortola.

7.2.5 NEARSHORE BIOTIC INVENTORY

The inventory dataset includes an inventory of the nearshore biotic environment which was also supplied by the Town Planning Department, **Map 7.5**. This dataset contains a detailed mapping of the distribution of biotic communities and important physical features of the coastline.

MAP 7.5