

**HIGHER TECHNICAL INSTITUTE
MECHANICAL ENGINEERING DEPARTMENT**

DIPLOMA PROJECT

**DESIGN OF A FIRE FIGHTING
STATION**

By

AYIOMAMITIS P. ATHOS (M/758)

JUNE 1996

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING DEPARTMENT

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Project Report
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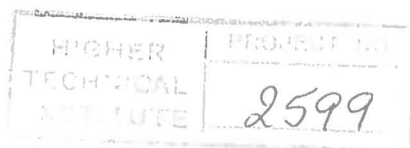
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Ayiomamitis Athos

June 1996

DESIGN OF A SMALL FIRE FIGHTING STATION

Written by : Ayiomamitis Athos

Summary

The objective of this project was to study the location of the proposed fire station, to make a small research on the equipment available in the market today and to decide in one particular solution for the Pyrga Forest.

First of all, a study was done to learn more about fire fighting. Then a literature and market search was done for fire fighting equipment (see appendices). After finding many ideas on how fire is handled, the decision was taken to design a mobile fire pump able to handle up to 10 bar maximum pressure and 2000 litre/min flow driven by a Mitsubishi Colt 1500cc engine.

This mobile fire pump will be able to be transferred anywhere in Pyrga Forest to handle different fire situations. Assuming that water will be available near by or brought by a watertank lorry.

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CHAPTER 1

1.0 INTRODUCTION

The forests of Cyprus are mainly natural forests and they are on the mountains of Troodos and Pentadaktylos. They cover 19% of the whole surface of the island. They are mainly public forests. 74% of these public forests are in the free area of the republic and the rest of them are since 1974 in the occupied area from the Turkish invasion army.

The importance of the Cyprus forests is great, because their various advantages, direct as well as indirect, contribute to the development and the prosperity of the people of Cyprus. They exert an influence over the climate conditions by balancing the temperature of the atmosphere and of the earth ground. They contribute by this way to the preservation of the good live conditions on the island. They protect the ground, enriching it with organic substances. They prevent the rash flow of water, hindering the flooding and at the same time they enrich the under ground water, that we need for drinking water, either from springs or from borings. If the forests would be destroyed, the water dams, that have given a solution to the irrigation and drink water problem of Cyprus, would be useless in a short time, because of the transportation of mud.

By the improvement of the climate conditions and the protection of the ground and by their contribution to the production of drink water, by the prevention of flooding, the forests protect and help much the agriculture and the increase of the agricultural of the island.