

HIGHER TECHNICAL INSTITUTE  
ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL SERVICES  
OF A BANK

CONSTANTINOU ANDREAS

E. 1269

JUNE 2001

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Finally I want to thank my family for their help and support, throughout the whole process of completing this project and during my three-year course in H.T.I.

## **SUMMARY**

This project deals with the design of the electrical services of a bank office consisting of roof floor, including the first floor, mezzanine floor, ground floor and basement.

Illumination design and calculations were first carried out and then follows the electrical design of the building. Furthermore a structured cabling system carried out and then a Fire and Intruder Alarm System are following.

Finally, the drawing indicating the position of control switches and the arrangements of the final circuits were made as well as the single line diagrams.

# GENERAL INTRODUCTION

Title: **Design of the Electrical Services of a Bank**

## **Objectives:**

1. To design the complete electrical installation of a Bank which includes the following:
  - a) lighting
  - b) power
  - c) structured cabling system
  - d) fire & intruder alarm systems
  - e) uninterruptible power supply
2. To provide all necessary diagrams schedule of materials and costing including labour

## **Terms and conditions:**

1. Three-phase 415 Vrms 50Hz, T.T. earthing system
2. Architectural drawing will be provided
3. The IEE Wiring regulations 16<sup>th</sup> Edition as currently amended and the local EAC conditions of supply must be complied with
4. The illumination design must be in accordance with the CIBS code
5. CYTA requirements to be taken into consideration

Student : Mr Andreas Constantinou, 3EL2

Supervisor : Mr G. Kourtellis

External Asseccor : Mr Sotiris Ktoris

## **SYMBOLS AND ABBREVIATIONS**

<b>M.P</b>	<b>:</b>	<b>Main Panel</b>
<b>M.D.B</b>	<b>:</b>	<b>Main Distribution Board</b>
<b>R.C.C.B</b>	<b>:</b>	<b>Residual Current Circuit Breaker</b>
<b>R.C.D</b>	<b>:</b>	<b>Residual Current Device</b>
<b>M.C.B</b>	<b>:</b>	<b>Miniature Circuit Breaker</b>
<b>c.p.c</b>	<b>:</b>	<b>Circuit Protective Conductor</b>
<b>c.s.a</b>	<b>:</b>	<b>Cross Sectional Area</b>
<b>E.A.C</b>	<b>:</b>	<b>Electricity Authority of Cyprus</b>
<b>I.E.E</b>	<b>:</b>	<b>Institution of Electrical Engineers</b>
<b>E.F.L.I</b>	<b>:</b>	<b>Earth Fault Loop Impedance</b>
<b>S.O</b>	<b>:</b>	<b>Socket Outlet</b>
<b>W/P</b>	<b>:</b>	<b>Water Proof</b>
<b>S.P</b>	<b>:</b>	<b>Single Phase</b>
<b>T.P</b>	<b>:</b>	<b>Three Phase</b>
<b>e.f.l.i.</b>	<b>:</b>	<b>Earth Fault Loop Impedance</b>
<b>H.P</b>	<b>:</b>	<b>Horse Power</b>
<b>cct</b>	<b>:</b>	<b>Circuit</b>
<b>pvc</b>	<b>:</b>	<b>Poly Vinyl Chloride</b>
<b>S.W.A</b>	<b>:</b>	<b>Steel Wire Armoured</b>
<b>F.C.U</b>	<b>:</b>	<b>Fan Coil Unit</b>
<b>S.T.P</b>	<b>:</b>	<b>Shielded Twisted Pair</b>
<b>U.T.P</b>	<b>:</b>	<b>Unshielded Twisted Pair</b>
<b>T.S</b>	<b>:</b>	<b>Test Socket</b>
<b>A.T.S</b>	<b>:</b>	<b>Auxiliary Test Socket</b>
<b>T.P.P</b>	<b>:</b>	<b>Telephone Patch Panel</b>
<b>E.P.A.B.X</b>	<b>:</b>	<b>Electronic Private Automatic Branch Exchange</b>
<b>E.L</b>	<b>:</b>	<b>Exchange Line</b>
<b>Ext</b>	<b>:</b>	<b>Extension</b>

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