Production of drawings with the aid of a CAD Package

by
Anna Shekersavva

Project report submitted to

The department of Civil Engineering
of the
Higher Technical Institute

Nicosia - Cyprus

in partial fulfillment of the requirements
for the diploma of

Technician Engineer

IN

CIVIL ENGINEERING

June 1995

HIGHER TECHNICAL INSTITUTE
PROJECT NO.

1.0 Acknowledgements

I would like to thank Mr. K. Anastasiades, my project supervisor, for his assistance and guidance to me during the preparation of this project.

I am also very grateful to the staff of CYTA and EAC for helping me learn the AutoCAD program.

Production of drawings with the aid of a CAD Package

by

Anna Shekersavva

2.0 Summary

The purpose of this project is to verify the applicaton of the AutoCAD software in the production of:

- Architectural drawings
- Graphs
- Drawing for electrical, civil, mechanical and chemical engineering applications.
- Plots of mathematical & Scientific functions
- Line drawings for fine arts etc.

The application of Computer aided packages, like the AutoCAD, have contributed to the advancement of the work involved with regard to:

(a) the extend of work that can be done
(b) the quality of work produced
(c) the speed by which the work is produced

Contents

Section Page

1.0 Acknowledgements....1

2.0 Summary....2

3.0 Introduction....3

4.0 CAD History....5

5.0 Equipment Requirements....6

5.1 A basic computer system....6

5.2 Display Monitor....6

5.3 Laser plotter....7

5.4 Mouse, Digitizing tablet, Light Pen....7

5.4.1 Mouse....7

5.4.2 Digitizing tablet....7

5.4.3 Light Pen....9

6.0 About AutoCAD Release 12....10

7.0 AutoCAD's Operating System....11

7.1 The AutoCAD screen....11

7.2 Basic Concepts....13

7.2.1 AutoCAD Drawing....13

7.2.2 Co-ordinates....13

7.2.3 Drawing Units....13

7.2.4 Zooming and Panning....14

7.2.5 Display....14

7.2.6 UCS....15

7.3 Controlling the Commands....16

7.4 Utility commands....18

7.4.1 Help....18

7.4.2 New....18

7.4.3 Save....19
7.4.4 Open....19
7.4.5 Plot....20
7.5 Starting a drawing....21
7.5.1 Full Scale Drawing....21
7.5.2 Limits....21
7.5.3 Drawing accurately....21
7.5.3.1 Grid....21
7.5.3.2 Snap....22
7.5.3.3 Object Snap....22
7.5.3.4 Function Keys....23
7.6 Basic drawing....24
7.6.1 Line....24
7.6.2 Circles and Arcs....24
7.6.3 Polyline....24
7.6.4 Donut, Polygons, Ellipses....25
7.7 Advanced Commands....26
7.7.1 Move, Copy....26
7.7.2 Array....26
7.7.3 Offset....26
7.7.4 Trim....27
7.7.5 Scale....27
7.7.6 Change....27
7.8 Special Commands....28
7.8.1 Layers....28
7.8.2 Blocks....30
7.8.3 Hatch....31
7.8.4 Dim....32
7.8.5 Text....33
8.0 3-Dimension....34
9.0 Conclusions....35

9.0 Conclusions.....35
10.0 Drawings.....36
References.....37