

CIVIL EDITION

MICROSTATION fundamentals V8i (SELECTseries 1)



envision

SEE THE CAD POSSIBILITIES



Envision - Education

MicroStation V8i (SELECTseries 1) Fundamentals Exercise Workbook

Prepared by:
The Envision Group, Inc.
Copyright © 2010

envision

SEE THE CAD POSSIBILITIES



The Envision Group – About Us

The Envision Group is a provider of training solutions for MicroStation and select InRoads products. We also utilize our knowledge to assist with organization managing data and workflow tasks through consulting and/or outsourced CADD management roles. Additionally, we provide visualization services that assist in the conveyance of design concepts and alternatives. These services include but are not limited to: Illustration, solar studies, line-of-sight studies, and animation.

We offer training at our headquarters in Madison, at satellite locations around the country, on-site at your location or by virtual classrooms.

For additional information, pricing, or schedules, visit our website at envisioncad.com or call 1-608-836-3903.

The Envision Group – Guaranteed Training

Our guarantee is simple.

Any student can retake any class at anytime for any reason without additional charge.

Bentley Systems, Inc.

Bentley Systems, Inc. is a technology provider for software solutions are used to design, engineer, build, and operate large constructed assets such as roadways, bridges, buildings, industrial and power plants and utility networks. Bentley's reach spans the globe, serving more than 300,000 professionals and more than 20,000 companies and organizations.

To contact Bentley visit www.Bentley.com or call 1-800-BENTLEY.



Copyright

Warning. Copyright 2010 The Envision Group, Inc. - Madison, Wisconsin.

ALL RIGHTS RESERVED WORLDWIDE. All portions of this manual including printed material, electronic data, notes, and supplemental handouts, unless otherwise specified, are the exclusive property of The Envision Group and are protected under United States and international copyright laws. No part of this document may be reproduced, adapted, translated, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher.

We vigorously protect our copyright interests. By possessing this material, you agree that any infringement that you commit shall be considered a willful infringement and agree that the fair and reasonable fee for infringing use of any portion thereof shall be no less than US \$5,000 for each infringement.

Please note that all copies of this material, whether provided or sold, are documented and logged.

Please respect our copyright protections and encourage others to do the same. These materials were generated with a considerable investment of time and materials. Illegally copying this material deprives us of the compensation necessary for us to continue to provide you with a high level of service and the means to produce additional material for your benefit.

To discuss reproduction rights or to report a copyright violation or concern, E-mail info@EnvisionCAD.com, or call 1-608-836-3903.

Limitation of Liability

The Envision Group is not liable for any damages suffered resulting from use of this material. The Envision Group is not liable for any indirect, incidental, punitive, special or consequential damage (including loss of business, revenue, profits, use, data or other economic advantage) however it arises through use of, or use of information contained in, these materials.

You agree to hold the publisher of this material harmless from, and you agree not to sue the publisher for any claims arising from, use of this material or instruction from this material.

Trademarks

MicroStation, InRoads, InRoads Site, InRoads Survey, InRoads Bridge, InRoads Storm & Sanitary, InRoads Rail, and SelectCAD are registered trademarks of Bentley Systems, Inc. AutoCAD is a registered trademark of Autodesk, Inc. Windows is a registered trademark of Microsoft Corporation. Other brands and product names are trademarks of their respective owners.



Introduction

Welcome to MicroStation V8i Select Series 1 Fundamentals training. This course was developed with the new user in mind. The format for this course is a lecture followed by a set of exercises for the student to accomplish. This will facilitate the learning process and allow the student to further experiment with the program.

Document Conventions

Several conventions are used throughout this document to indicate actions to be taken or to highlight important information. The conventions are as follows:

<u>Item</u>	<u>Meaning</u>
Place Text	a command name or a file that you are to select
Tools > Options	a command path that you are to select – usually from the pull-down menus
Key in	entering data with the keyboard
<i>Document name</i>	style used when referring to another document
Note: Text information about a command or process that you should pay particular attention to	
Emphasis	an important word or phrase
1. Numbered Steps	actions to be performed as part of the lab activities
<D> or Data	press the data button on the mouse
<R> or Reset	press the reset button on the mouse
<T> or Tentative	press the tentative button on the mouse



AutoCAD Tip: In various locations throughout this manual, the author has provided AutoCAD tips. These tips are designed to serve as a reference between AutoCAD and MicroStation terms.



TABLE OF CONTENTS

The Envision Group – About Us ii

The Envision Group – Guaranteed Training..... ii

Bentley Systems, Inc. ii

Copyright..... iii

Limitation of Liability iii

Trademarks..... iii

Introduction iv

Document Conventions iv

TABLE OF CONTENTS.....v

1. MicroStation Basics..... 1-3

 What is a MicroStation Design File? 1-3

 Starting MicroStation 1-3

 MicroStation Manager 1-3

 Creating Drawings..... 1-5

 From MicroStation Manager 1-5

 From the Graphics Environment 1-5

 Using Seed Files..... 1-6

 Opening Drawings 1-6

 From MicroStation Manager 1-6

 From the Graphics Environment 1-6

 From Recent File History 1-7

 Saving Drawings 1-8

 Automatic Save 1-8

 Manual Save 1-8

 Save Settings..... 1-9

 Closing Drawings..... 1-9

 Lab 1 – MicroStation Basics 1-10

 Objectives 1-10

 Start MicroStation 1-10

 Using MicroStation Manager..... 1-11

 Create New Design Files..... 1-12

 Open Existing Files 1-16

 Initiate the Save Settings Command 1-19

 Close the Design File..... 1-19

 Chapter 1 Review Questions..... 1-20

2. The MicroStation Graphics Environment 2-1

 MicroStation Interface 2-1

 Menu Pull-Down Options 2-1



Table of Contents

Tool Boxes and Tasks	2-2
Primary Tools Tool Box	2-2
Standard Tool Box	2-8
Attributes Tool Box	2-8
Tasks Toolbox	2-10
Tasks	2-10
Main task tools	2-11
Task tabs 2D and 3D.....	2-13
Positional Keyboard Mapping	2-15
Main toolbar	2-15
Task Navigation	2-15
Opening Tool Boxes and Tool Frames	2-16
Closing Tool Boxes and Tool Frames	2-16
Showing/Hiding Tools	2-17
Docking/Detaching Tool Boxes and Tool Frames	2-17
Dockable and Floating Dialogs	2-18
Docked tools as tabs	2-18
Docking Indicators	2-18
Auto Hide.....	2-20
Transparent Dialogs	2-21
Transparent Dialog Preference.....	2-21
Tool Settings	2-22
Status Bar	2-23
Additional Keyboard Focus	2-25
Workmodes	2-26
DGN Workmode	2-26
V7 Workmode	2-26
DWG Workmode	2-26
Key-In Window	2-27
Mouse Mechanics	2-28
Right Click Preference.....	2-31
Mouse Wheel Preferences.....	2-32
Delete Element Tool	2-32
Undo	2-33
Redo	2-34
DGN File Settings	2-34
User Preferences	2-35
Modal Dialog Box	2-35
Nonmodal Dialog Box	2-36
Lab 2A – MicroStation Design Environment	2-37
Objectives.....	2-37
Open the Design File	2-37
Mouse Mechanics Review.....	2-37



Reset 2-38

Show and Hide Icons/Tools 2-38

“Dock” Tool Boxes..... 2-39

Undock Tool Boxes from the Perimeter 2-40

Explore the Task dialog..... 2-40

Examine the Contents of the Status Bar 2-44

Open Tool Boxes 2-47

Close Tool Boxes 2-47

Lab 2B – Additional Exercises 2-48

 Objectives 2-48

 Open the Design File..... 2-48

 Key-in Browser 2-48

 Primary Toolbar 2-50

 PopSet 2-51

 Explore V7 and DWG Workmodes 2-52

Chapter 2 Review Questions..... 2-55

3. Viewing Your Drawing 3-1

Viewing Tools and How to Access Them..... 3-1

 View Control Toolbar..... 3-1

 View Control Tool Box..... 3-1

 View Control Floating Menu 3-2

 Viewing Tools and Commands 3-2

View Windows 3-4

 Opening and Closing View Windows 3-5

 Arranging View Windows..... 3-5

View Groups..... 3-7

 What is a View Group? 3-7

View Groups Tool Box 3-7

 View Group Drop-Down Menu 3-7

 Manage View Group Icon 3-8

 View Toggles..... 3-8

Saved Views..... 3-8

 Accessing the Saved View Dialog Box 3-8

 Creating Saved Views 3-9

 Editing Saved View Properties 3-10

 Deleting Saved Views 3-10

 Filtering Saved Views 3-11

 Updating Saved Views 3-11

 Importing Saved Views..... 3-11

 Recalling Views 3-12

The Saved View Toolbox..... 3-12

View Attributes..... 3-13

Lab 3A – Viewing your Drawing 3-14

 Objectives 3-14

 Open the Design File..... 3-14



Table of Contents

Using the Viewing Tools	3-14
Working with Multiple Views	3-18
Working with Saved Views	3-21
Creating View Groups	3-25
Lab 3B – Additional Exercises	3-27
Objectives.....	3-27
Open the Design File	3-27
View Clip Volume and Mask	3-27
View Attributes	3-30
Mouse Practice	3-31
Chapter 3 Review Questions.....	3-33
4. Drawing Basics.....	4-1
Starting a Drawing Command	4-1
Basic Drawing Tools.....	4-2
Linear – Task toolbox	4-2
Polygons – Task toolbox	4-9
Circle Toolbox	4-12
Lab 4 – Drawing Basics.....	4-15
Objectives.....	4-15
Open the Design File	4-15
Use Elements from the Linear Tool Box	4-16
Use Elements from the Circles Tool Box.....	4-21
Use Elements from the Polygons Tool Box	4-25
Chapter 4 Review Questions.....	4-32
5. Locks and Snapping	5-1
What is a MicroStation Lock?.....	5-1
Activating Locks	5-1
Locks Dialog Box	5-2
Lock Toggles Dialog Box.....	5-2
Frequently used Locks	5-3
Annotation Scale Lock.....	5-3
Association Lock	5-3
Axis Lock	5-3
Graphic Group Lock	5-3
Level Lock.....	5-4
Snap Lock	5-4
Unit Lock	5-4
Snapping.....	5-4
What is a Snapping?	5-4
Snapping with the Tentative Button.....	5-5
Snapping with AccuSnap	5-6
Snap Modes.....	5-6
Activating a Snap Mode	5-6
Snap Mode Button Bar	5-7



Default vs. Active Snap Mode 5-12

Multi-snap Sets..... 5-13

AccuSnap Settings..... 5-13

Lab 5 – Locks and Snapping 5-15

 Objectives 5-15

 Open the Design File..... 5-15

 Change the Default Snap Mode 5-15

 Use AccuSnap with other Drafting Tools..... 5-16

 Change the Divisor Setting..... 5-26

 Locks 5-28

Chapter 5 Review Questions..... 5-32

6. AccuDraw 6-1

 AccuDraw Basics 6-1

 Toggle AccuDraw 6-1

 AccuDraw Window 6-1

 Rectangular Configuration Mode..... 6-2

 Polar Configuration Mode 6-2

 AccuDraw Compass 6-3

 Rectangular Compass..... 6-3

 Polar Compass..... 6-3

 Compass Orientation 6-3

 Relocating the Compass Origin 6-4

 Compass Axes 6-5

 “On-the-Fly” Axis Indexing 6-5

 Axis Indexing using Smart Lock..... 6-5

 Nudging the Compass Axis 6-6

 Index Bar 6-6

 AccuDraw and AccuSnap 6-6

 Pop-up Calculator 6-7

 AccuDraw Settings 6-7

 Operation..... 6-7

 Display 6-8

 Coordinates..... 6-8

Lab 6A – AccuDraw 6-10

 Objectives 6-10

 Open the Design File..... 6-10

 Set Design File Settings..... 6-11

 Set AccuDraw Settings 6-11

 Create the Mail Box Front View..... 6-12

 Create the Mail Box Side View 6-18

Lab 6B – AccuDraw 6-22

 Objectives 6-22

 Open the Design File..... 6-22

 Draw the Retention Pond 6-22

 Add a Parcel using Polar Mode 6-25



Table of Contents

- Lab 6C – AccuDraw 6-28**
 - Objectives..... 6-28
 - Open the Design File 6-28
 - Set Design File Settings..... 6-29
 - Set AccuDraw Settings..... 6-29
 - Create the Guardrail Barrier..... 6-29
- Challenge Lab 1 - AccuDraw..... 6-40**
- Challenge Lab 2 – AccuDraw 6-41**
- Challenge Lab 3 - AccuDraw..... 6-42**
- Chapter 6 Review Questions..... 6-43**
- 7. Modifying and Manipulating Elements..... 7-1**
 - Manipulate Toolbox 7-1**
 - Modify Tool Box..... 7-4
 - Lab 7 – Modification and Manipulating Elements..... 7-8**
 - Objectives..... 7-8
 - Open the Design File 7-8
 - Manipulate Elements in the Site Layout 7-8
 - Modify Elements in the Site Layout 7-15
 - Challenge Lab - Modifying and Manipulating Elements 7-28**
 - Chapter 7 Review Questions..... 7-29**
- 8. Element Selection..... 8-1**
 - Element Selection Tool..... 8-1**
 - Handles 8-3
 - Additional Selection Criteria 8-5
 - Fence Tool Box..... 8-6**
 - Select By Attributes 8-9**
 - Lab 8 – Element Selection..... 8-10**
 - Objectives..... 8-10
 - Open the Design File 8-10
 - Using the Element Selection Tool 8-10
 - Working with Fences 8-13
 - Use Copy/Move Fence Contents to File Command 8-17
 - Using Element Selection Options 8-19
 - Using the Select By Attributes Utility 8-23
 - Challenge Lab - Element Selection 8-24**
 - Chapter 8 Review Questions..... 8-25**
- 9. Complex Elements and Grouping..... 9-1**
 - MicroStation Groups..... 9-1**
 - Temporary Group..... 9-1
 - Semi-Permanent Group..... 9-1
 - What is a Complex Element? 9-1**
 - Creating Complex Element Status..... 9-1**



Groups Tool box..... 9-1

Dropping Complex Element Status 9-4

Graphic Groups 9-4

 What is a Graphic Group?..... 9-4

 Quicksets..... 9-5

 Named Groups 9-6

 Displaysets 9-7

 Permanent Group 9-8

Lab 9 – Complex Elements and Grouping 9-9

 Objectives 9-9

 Open the Design File..... 9-9

 Create a Complex Chain 9-9

 Create a Complex Shape 9-13

 Dropping Complex Status 9-15

 Managing Groups 9-16

 Managing Graphic Groups 9-17

Chapter 9 Review Questions..... 9-19

10.Levels and Attribute Control 10-1

What is a MicroStation Level? 10-1

Active Level 10-1

 Setting/Changing the Active Level 10-1

Display of Levels 10-2

 Attributes Tool Box..... 10-2

 Level Display Dialog Box..... 10-3

Managing Levels 10-4

 Level Manager Dialog Box..... 10-4

 What is “Locking” a Level? 10-10

 What is a “Frozen” Level? 10-11

Change Attributes Tool Box 10-11

Element Information 10-14

Lab 10A – Managing and Utilizing Levels 10-15

 Objectives 10-15

 Open the Design File..... 10-15

 Add Levels to the Design File and Assign Level Attributes 10-15

 Export Existing Levels..... 10-18

 Delete Levels..... 10-18

 Import Levels 10-19

 Change the Display of Levels 10-20

 Change the Active Level..... 10-22

 Create and Manage Level Filters 10-23

Lab 10B –Attribute Control 10-26

 Objectives 10-26

 Open the Design File..... 10-26

 Turn on View Attributes Options..... 10-26

 Change the Element Symbology 10-27



Table of Contents

Change the Element Symbology using ByLevel Symbology.....	10-29
Use the Change Element Attributes Tool.....	10-31
Use the Match All Element Settings Tool.....	10-35
Use Level Display as an Aide in Changing Attributes of Existing Elements	10-38
Implement Level Overrides.....	10-40
Challenge Lab - Levels and Attribute Control	10-43
Chapter 10 Review Questions.....	10-44
11. Annotating Drawings	11-1
Text Styles	11-1
Text Styles Dialog Box	11-1
Text Tool Box.....	11-2
Detailing Symbols Toolbox	11-9
Cloud Toolbox	11-9
Lab 11 – Annotating Drawings	11-10
Objectives.....	11-10
Open the Design File	11-10
Create Text Styles	11-10
Place Text using the Place Text Tool.....	11-13
Place Leader Notes.....	11-23
Edit Existing Text.....	11-26
Match and Change Text Attributes of Existing Text	11-28
Create Enter Data Fields.....	11-33
Manually Add Text to Empty Enter Data Fields	11-35
Automatically Fill Text into Empty Enter Data Fields.....	11-36
Challenge Lab - Annotating Drawings	11-38
Chapter 11 Review Questions.....	11-39
12. Models.....	12-1
What is a MicroStation Model?	12-1
Model Basics.....	12-1
Design and Sheet Models	12-1
Activating a Model	12-2
Active File and Link Set Mode	12-3
Creating a Model	12-3
Copying a Model.....	12-4
Editing Model Properties.....	12-4
Deleting a Model	12-5
Importing a Model.....	12-5
Define Sheet Boundary.....	12-5
Model Filter.....	12-5
Annotation Scale.....	12-6
Drawing Scale.....	12-6
Lab 12A – Models.....	12-7



Objectives 12-7
Open the Design File..... 12-7
Activate a Model 12-7
Edit the Properties of a Model..... 12-10
Create a New Design Model..... 12-11
Create a New Model by Copying an Existing Model 12-12
Import a Model into the Active Design File..... 12-13
Lab 12B – Annotation Scale 12-14
 Objectives 12-14
 Open the Design File..... 12-14
 Place text using Fields..... 12-14
 Place text using Annotation Scale..... 12-18
 Modify Annotation Scale..... 12-20
Chapter 12 Review Questions..... 12-22
13.Cells..... 13-1
 What is a Cell? 13-1
 Types of Cells 13-1
 Cell Library..... 13-1
 Cell Library Dialog Box 13-1
 Creating a Cell 13-2
 Cells Tool Box 13-3
 Cell Selector 13-6
 Creating a Cell Selector file..... 13-6
 Resetting the Cell Selector Defaults..... 13-6
 Reload the Cell Library..... 13-6
 Loading Additional Cell Libraries 13-7
 Place Cells Using Cell Selector..... 13-7
 Configure Cell Selector Button..... 13-8
 Saving a Cell Selector file 13-8
 Lab 13 – Cells..... 13-9
 Objectives 13-9
 Open the Design File..... 13-9
 Attach the Signs - Plan View Cell Library..... 13-9
 Create a Cell by Saving the Graphics to an Attached Cell Library 13-10
 Place Plan View Cells into the Drawing..... 13-15
 Detach the Signs - Plan View Cell Library 13-17
 Attach the Signs - Front View Cell Library..... 13-17
 Place Front View Cells into the Drawing..... 13-18
 Create a Cell by Copying a Model inside the Cell Library File..... 13-22
 Utilize the Cell Selector File Utility 13-25
 Chapter 13 Review Questions..... 13-28
14.Patterning and Hatching 14-1
 Patterns Tool Box 14-1
 Lab 14 – Patterning and Hatching..... 14-5



Table of Contents

Objectives.....	14-5
Open the Design File	14-5
Create a Concrete Pattern using the Element Method	14-5
Create an Associative Earth Pattern using the Element Method	14-7
Create an Earth Pattern using the Points Method	14-9
Create a Rock Pattern using the Points Method	14-10
Create an Earth Pattern using the Flood Method.....	14-11
Create a Concrete Pattern using the Flood Method.....	14-12
Create a Hatch and Crosshatch	14-13
Create a Hatch and Crosshatch locating Interior Features and Text	14-16
Create Multiple Hatches in one Hatching Operation	14-21
Create Hatches by Matching the Attributes of Existing Hatches	14-23
Challenge Lab – Patterning and Hatching.....	14-27
Chapter 14 Review Questions.....	14-28
15.Dimensioning.....	15-1
Dimension Tools.....	15-1
Dimension Styles.....	15-1
Dimension Styles Dialog Box.....	15-1
Dimension Tool Box	15-2
Editing Dimension Text	15-5
Modifying Dimensions.....	15-6
Lab 15 – Dimensioning.....	15-7
Objectives.....	15-7
Open the Design File	15-7
Create Dimension Styles	15-7
Dimension the Roadway Detail using the Linear Dimension Tool	15-10
Add a Dimension to a Dimension String	15-12
Delete a Dimension from a Dimension String	15-13
Change the Attribute Settings of a Dimension	15-14
Element Dimension Tool and the Linear Dimension Tool.....	15-15
Copy a Dimension	15-20
Reassociate a Dimension.....	15-21
Modify a Dimension	15-21
Edit Dimension Text	15-23
Change the Settings of a Dimension Style	15-23
Challenge Lab 1 - Dimensioning	15-25
Challenge Lab 2 - Dimensioning	15-26
Chapter 15 Review Questions.....	15-27
16.Measuring.....	16-1
Measure Tool Box.....	16-1
Lab 16 – Measuring.....	16-4
Objectives.....	16-4
Open the Design File	16-4
Use the Measure Distance Tool.....	16-4



Use the Measure Radius Tool 16-7
Use the Measure Angle Tool 16-8
Use the Measure Length Tool 16-9
Use the Measure Area Tool..... 16-10
Chapter 16 Review Questions..... 16-12

17.Referencing 17-1
What is a Reference? 17-1
Reference Dialog Box 17-1
References Tool Box 17-1
Additional Reference Tools 17-8
Reference Level Display 17-9
Lab 17A – Referencing..... 17-10
Objectives 17-10
Open the Design File 17-10
Control the Display of the Attached Reference 17-10
Attach a Plan Reference 17-11
Attach a Sheet Border Reference 17-13
Attach the Profile Reference 17-16
Manipulate the Profile References 17-17
Attach the Profile Elevations 17-18
Lab 17B – Referencing..... 17-22
Objectives 17-22
Open the Design File 17-22
Attach Reference 17-22
Treat Attachment as Element for Manipulation..... 17-24
Activate Reference for editing 17-25
Chapter 17 Review Questions..... 17-28

18.Printing..... 18-1
Print Dialog Box 18-1
General Settings 18-1
Printer and Paper Size..... 18-2
Print Scale and Position..... 18-3
Print Attributes 18-4
Print Preferences..... 18-4
3D Plotting Options..... 18-5
Pentables..... 18-5
Text Substitutions 18-6
Map Pen Colors..... 18-6
Map Pen Weights 18-6
Pen Table Options..... 18-7
Element Section Processing Order 18-8
Element Selection Criteria 18-8
Element Output Actions 18-9
Print Organizer..... 18-10



Table of Contents

Print Organizer Dialog	18-10
Print Definition Settings	18-10
Print Styles.....	18-11
Lab 18 – Printing	18-12
Objectives.....	18-12
Open the Design File	18-12
Scaling the Printing Graphics	18-12
Define the Print Boundary	18-13
Select a Printer Driver	18-13
Create a Logical Name for the References.....	18-13
Create a Pen Table.....	18-14
Edit the Pen Table.....	18-15
Adjust the Print Settings	18-19
Check the Print Attributes	18-21
Preview the Print.....	18-22
Print to PDF File Format	18-23
Challenge Lab 1 - Printing.....	18-24
Chapter 18 Review Questions.....	18-25
19.3D Basics.....	19-1
Drawing in 2D	19-1
2D Design Plane.....	19-1
Drawing in 3D	19-1
3D Design Cube	19-1
Active Depth	19-2
Display Depth	19-2
3D Drawing Tools.....	19-3
Appendix: Answers to Review Questions.....	I
Chapter 1 – MicroStation Basics.....	I
Chapter 2 – The MicroStation Graphics Environment	II
Chapter 3 – Viewing Your Drawing	IV
Chapter 4 – Drawing Basics	V
Chapter 5 – Locks and Snapping.....	VI
Chapter 6 – AccuDraw.....	VII
Chapter 7 – Modifying and Manipulating Elements.....	VIII
Chapter 8 – Element Selection	IX
Chapter 9 – Complex Elements and Grouping.....	X
Chapter 10 – Levels and Attribute Control	XI
Chapter 11 – Annotating Drawings	XII
Chapter 12 – Models	XIII
Chapter 13 – Cells	XIV
Chapter 14 – Patterning and Hatching	XVI
Chapter 15 – Dimensioning	XVII



Chapter 16 – Measuring XVIII
Chapter 17 – Referencing XIX
Chapter 18 – Printing.....XX



envision

TRAINING

SEE THE CAD POSSIBILITIES

Each manual includes a dataset that can be downloaded from our website.

www.EnvisionCAD.com/courseware



Contact us if you have any questions.
info@EnvisionCAD.com



TRAINING

Bentley Systems® MicroStation®

- MicroStation V8 2004 Edition Update
- MicroStation V8 2004 Edition Fundamentals
- MicroStation V8 2004 Edition Power Users
- MicroStation V8 XM Edition Update
- MicroStation V8 XM Edition Fundamentals
- MicroStation V8i Edition Update
- MicroStation V8i Edition Fundamentals
- MicroStation V8i SELECTseries 1 Update
- MicroStation V8i SELECTseries 1 Fundamentals
- Mastering MicroStation AccuDraw
- MicroStation Everything 3D
- CADscript Fundamentals
- Bentley Map V8i Fundamentals

Bentley Systems® InRoads®

- InRoads Update
- InRoads Fundamentals
- InRoads Site
- InRoads Survey

MANUALS for PURCHASE

	Print	eBook
MicroStation V8 2004 Edition Fundamentals	\$95	-
MicroStation V8 XM Edition Update	\$65	-
MicroStation V8 XM Edition Fundamentals	\$125	-
MicroStation V8i Edition Update	\$65	\$45
MicroStation V8i Edition Fundamentals	\$125	\$75
MicroStation V8i SELECTseries 1 Update	\$65	\$45
MicroStation V8i SELECTseries 1 Fundamentals	\$125	\$75
CADscript Fundamentals	\$65	\$45
Bentley Map V8i Fundamentals	\$65	\$45
Customized Manuals	Contact us	

* 2004 V8 & XM Fundamentals Manuals Available in Civil and Architectural Disciplines
 * eBooks are digital copies of our conventionally printed manuals delivered as a managed PDF

SERVICES

Consulting

We can help you analyze what software to buy, what systems to run, and what equipment and configurations to implement. We can also help establish CAD standards and procedures, develop custom applications, provide ongoing user support, workflow optimization and project assistance.

Programming

Maximize your productivity with our custom programming services. Eliminate tedious and repetitive tasks. Reduce errors. Add new functionality. Integrate your Autodesk and Bentley products with other applications.