VDOT GEOPAK Survey 1 Training

Table of Contents

Session: Introduction **1-1**

1.1 File Names 1-1
1.2 Accessing GEOPAK 1-1
1.3 User Preferences 1-2
1.4 Feature Preferences 1-4

Lab Exercise: User Preferences **Lab: 1-1**

1.1 Introduction ..... Lab: 1-1

Session: Coordinate Geometry **2-1**

2.1 Introduction 2-1
2.2 Accessing COGO 2-1
2.3 Coordinate Geometry Dialog 2-2
2.4 COGO Navigator 2-16
2.5 COGO Best Fit 2-19
2.6 Additional Information 2-26

Lab Exercise: Coordinate Geometry **Lab: 2-1**

2.1 Basic Alignments ..... Lab: 2-1
2.2 Additional Alignments – Graphical COGO ..... Lab: 2-9
2.3 Additional Alignments – Spirals ..... Lab: 2-12
2.4 Additional Alignments – Import PLT ..... Lab: 2-17
2.5 Right of Way Commands in COGO ..... Lab: 2-19
2.6 Translate & Rotate ..... Lab: 2-26
2.7 Best Fit ..... Lab: 2-28
2.8…Export to ASCII ..... Lab: 2-30

Session: Digital Terrain Model **3-1**

3.1 Introduction 3-1
3.2 Accessing 3-1
3.3 Settings 3-2
3.4 Extract Graphics 3-3
3.5 Build Tools 3-6
3.6 Reports 3-8
3.7 Utilities 3-8
3.8 Load DTM Features 3-9
3.9 Edit Tools 3-10
3.10 Analysis Tools 3-11
3.11 Digital Elevation Models - Importing DEM Files 3-13

Lab Exercise: Digital Terrain Modeling **Lab: 3-1**

3.1 Accessing DTM Tools ..... Lab: 3-1
3.2 Extract Graphic Elements ..... Lab: 3-1

3.3 Build TIN ..... Lab: 3-5
3.4 Display DTM Features ..... Lab: 3-6
3.5 Analysis Tools ..... Lab: 3-8
3.6 Prismoidal Volumes ..... Lab: 3-13
3.7 TIN Editing ..... Lab: 3-15
3.8 Digital Elevation Models - Importing DEM Files ..... Lab: 3-17

Session: Existing Ground Cross Sections 4-1

4.1 Introduction 4-1
4.2 Pattern Lines 4-2
4.3 Generating Cross Sections 4-3
4.4 Cross Section Navigator 4-5
4.5 Summary - Basic Steps to Creating Ground Cross Sections from a DTM 4-6

Lab Exercise: Existing Ground Cross Sections Lab: 4-1

4.1 Draw Patterns ..... Lab: 4-1
4.2 Generate Existing Ground Cross Sections ..... Lab: 4-3
4.3 Review Cross Sections ..... Lab: 4-4
4.4 Generating Additional Cross Sections (Borrow Pit) ..... Lab: 4-4
4.5 Closure Report ..... Lab: 4-6

Session: Design and Computation Manager 5-1

5.1 Introduction 5-1
5.2 Accessing the Design and Computation Manager 5-4
5.3 Operational Mode - Design 5-5

Lab Exercise: D&C Manager – Plans Production Lab: 5-1

5.1 Accessing Design and Computation Manager ..... Lab: 5-1
5.2 Drawing Alignments ..... Lab: 5-1

Session: Existing Ground Profiles 6-1

6.1 Introduction 6-1
6.2 Reviewing 6-2

Lab Exercise: Existing Ground Profile Lab: 6-1

6.1 Extract Existing Ground Profile ..... Lab: 6-1
6.2 Drawing Profiles ..... Lab: 6-4