



TDOT
Department of
Transportation

CADD V8

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Acrobat pdf document containing documentation for T.D.O.T. Roadway Design
Division CADD standards.

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Table of Contents

Table of Contents	i
Preface.....	vii
Introduction.....	1
Standard Parameters	1
Standard File Extensions.....	2
Standard Filenames	2
<i>Survey DGN project Filenames.....</i>	<i>2</i>
<i>Survey Project File Types.....</i>	<i>3</i>
<i>Design DGN Project Filenames.....</i>	<i>3</i>
<i>Design Project File Types:.....</i>	<i>4</i>
<i>GEOPAK File Types:.....</i>	<i>5</i>
<i>Cross Section File Types:.....</i>	<i>5</i>
<i>Standard Sheet File Types:.....</i>	<i>6</i>
Example Project Folders Structure.....	7
Tennessee County Listings.....	9
Data Exchange between Survey & Design Personnel	10
<i>GPK Naming Conventions.....</i>	<i>10</i>
<i>Graphical Survey Data</i>	<i>11</i>
<i>Project Data Workflow</i>	<i>11</i>
<i>Non-phased Project Data Workflow</i>	<i>12</i>
<i>Phased Project Data Workflow.....</i>	<i>13</i>
Final Scoping Report Phase.....	13
Phase 1.....	13
Phase 2.....	14
<i>Additional Information.....</i>	<i>15</i>
Submitting Additional Information Request	15
Processing Additional Information Request	16
<i>GEOPAK COGO Input Files.....</i>	<i>16</i>
<i>To load a GEOPAK COGO input file ...</i>	<i>17</i>
Standard MicroStation Seed Files	19
<i>SEED2D.DGN & SEED3D.dgn</i>	<i>19</i>
<i>SURVSEED.dgn.....</i>	<i>19</i>

<i>SEEDZ.dgn</i>	20
<i>SEEDXS.dgn (2D)</i>	20
<i>Index and Standard Drawings.dgn (2D)</i>	20
<i>Box Culvert Section.dgn (2D)</i>	21
<i>Drop Off Notes Traffic Control.dgn (2D)</i>	21
<i>ESPC Notes.dgn (2D)</i>	21
<i>General Notes.dgn (2D)</i>	21
<i>Sheet 3 ROW Notes Utility Notes Utility Owners.dgn (2D)</i>	22
<i>Special Notes.dgn (2D)</i>	22
<i>Standard Roadway Drawings.dgn (2D)</i>	22
<i>Standard Structure Drawings.dgn (2D)</i>	22
<i>Standard Traffic Operations and Structure Drawings.dgn (2D)</i>	23
<i>Standard Traffic Operations Drawings.dgn (2D)</i>	23
<i>BLANK SHEET FOR 2ND SHEET NOTES.dgn (2D)</i>	23
<i>Title Sheet.dgn (2D)</i>	23
Standard Office Templates	24
<i>Roadway Design Forms & Letters</i>	25
<i>Roadway Design Forms & Letters (Continue)</i>	26
<i>Roadway Design 2nd Sheets</i>	27
<i>TDOT English Tabulated Quantities</i>	28
<i>Field Survey Documents</i>	29
Standard Plot Control Files	30
<i>MicroStation Print</i>	31
<i>Standard Line Weights\Thickness</i>	32
<i>Standard MicroStation Libraries</i>	33
<i>Standard Color Table - STDCOLOR.TBL</i>	33
<i>Standard Cell Area Patterning</i>	37
<i>Standard Text Sizes</i>	39
<i>Standard Fonts - TDOTFONT.RSC</i>	40
<i>Standard Characters & Symbols</i>	41
<i>Standard Special Symbols</i>	46
<i>Standard Text Styles – TDOTmain.dgnlib</i>	47
<i>Standard Line Styles - TDOTLINE.RSC</i>	49
<i>Custom Line Style Name List</i>	51
Standard MicroStation Macros	55

<i>Visual Basic Applications</i>	55
<i>MicroStation Configuration Variables</i>	100
<i>Standard MicroStation Level Mapping Files</i>	100
<i>Plan Phase Stamps</i>	101
<i>Standard Aerial Survey Files</i>	103
<i>Standard GEOPAK Files</i>	103
Design & Computation Manager	103
DTM/TIN Graphic Displays	104
Label Style Files	104
Horizontal Alignment Spiral Curve Design Tables	104
Horizontal Alignment Turning path Design Tables	105
Vertical Alignment Curve K Value Design Tables	105
Superelevation Preferences	105
Drainage Files.....	106
<i>Plan & Profile Sheet Production</i>	108
Cross Section Sheet Production.....	108
<i>Typical Sections and Criteria Files</i>	109
Roadway Typical Sections	111
Non-Roadway Typical Sections.....	114
Criteria Files.....	115
Criteria Files Not Used Directly By The Typical Sections.....	118
Construction Criteria Files	122
3PC Files for D&C Manager	123
Special Ditch & Benching Control.....	128
Special Ditches	129
Benching.....	130
Standard Level Filters - TDOTmain.dgnlib.....	132
<i>Sheet Level Structure Summary & Cross Reference TDOTmain.dgnlib</i>	137
<i>Standard Levels and Element Parameters - TDOTmain.dgnlib</i>	149
TDOTmain.dgnlib → Concept	150
TDOTmain.dgnlib → Construction.....	157
TDOTmain.dgnlib → Design.....	158
TDOTmain.dgnlib → Geotechnical.....	180
TDOTmain.dgnlib → Structure	183
TDOTmain.dgnlib → Survey.....	187

Standard Cell Library Index.....	218
<i>STDS.CEL</i>	218
AREA PATTERNS.....	218
AREA PATTERN EXAMPLES.....	219
AREA PATTERNS - GEOTECHNICAL.....	221
AREA PATTERN EXAMPLES - GEOTECHNICAL.....	222
CRASH CUSSION.....	223
CURB RAMP	223
EXISTING CONTOURS	223
EXISTING DRAINAGE	224
EXISTING NATURAL FEATURES.....	224
EXISTING NON-TRANSPORTATION FEATURES.....	224
EXISTING R.O.W. & PROPERTY LINE FEATURES	225
EXISTING SIGNS & TRAFFIC CONTROL	225
EXISTING TRANSPORTATION FEATURES	227
EXISTING UTILITIES	227
MISCELLANEOUS CELLS.....	228
NATURAL STREAM DESIGN	229
PERMIT & FORMS.....	231
PROPOSED CENTERLINE	231
PROPOSED CROSS SECTIONS	232
PROPOSED DRAINAGE	232
PROPOSED EROSION CONTROL.....	237
PROPOSED LIGHTNING.....	241
PROPOSED R.O.W.....	242
PROPOSED TRAFFIC CONTROL - PERMENANT	242
PROPOSED TRAFFIC CONTROL - TEMPORARY	245
PROPOSED TRANSPORTATION FEATURES.....	248
PROPOSED UTILITIES	248
PUBLIC HEARING	249
SHEETS	250
STANDARD DRAWINGS	257
SURVEY CONTROL DATA.....	257
TYPICAL SECTIONS	258
<i>SIGNS.CEL</i>	261
BLANK SIGNS.....	261
CONSTRUCTION SIGNS	261

DESTINATION SIGNS	264
ROUTE MARKER SIGNS	266
REGULATORY SIGNS.....	268
SCHOOL SIGNS	274
SPECIAL SIGNS	274
TENNESSEE SIGNS.....	275
WARNING SIGNS	278
OBJECT MARKERS & MISCELLANEOUS SIGNS	284
OTHER SIGN CELLS.....	285
<i>GEOTECHNICAL.CEL</i>	287
GEOTECHNICAL	287
<i>STRUCTURES.CEL</i>	288
AASHTO BEAMS	288
BOX BEAMS.....	288
REBAR	289
REBAR CALL-OUT.....	289
STRUCTURE STANDARD DRAWINGS.....	290
STRUCTURE SIGNATURES	291
PATTERNINGS	291
OTHER STRUCTURE CELLS	292
<i>TYPICAL.CEL</i>	294
TYPICAL SECTIONS - PAVEMENT ITEMS.....	294
TYPICAL SECTIONS - RD11-TS-1 CELLS	296
TYPICAL SECTIONS - RD11-TS-1A CELLS.....	296
TYPICAL SECTIONS - RD11-TS-2 CELLS	297
TYPICAL SECTIONS - RD11-TS-2A CELLS.....	297
TYPICAL SECTIONS - RD11-TS-2B CELLS.....	297
TYPICAL SECTIONS - RD11-TS-3 CELLS	297
TYPICAL SECTIONS - RD11-TS-3A CELLS.....	298
TYPICAL SECTIONS - RD11-TS-3B CELLS.....	298
TYPICAL SECTIONS - RD11-TS-3C CELLS.....	298
TYPICAL SECTIONS - RD11-TS-4 CELLS	298
TYPICAL SECTIONS - RD11-TS-5 CELLS	299
TYPICAL SECTIONS - RD11-TS-5A CELLS.....	300
TYPICAL SECTIONS - RD11-TS-5B CELLS.....	300
TYPICAL SECTIONS - RD11-TS-5W CELLS.....	300

TYPICAL SECTIONS - RD11-TS-6 CELLS	301
TYPICAL SECTIONS - RD11-TS-6A CELLS	301
TYPICAL SECTIONS - RD11-TS-6B CELLS	302
TYPICAL SECTIONS - RD11-TS-6C CELLS.....	303
TYPICAL SECTIONS - RD11-TS-7, 7A & 7B CELLS	303
TYPICAL SECTIONS - RD11 ROUNDABOUT CELLS.....	304
TYPICAL SECTIONS - MISCELLANEOUS CELLS.....	304
Index	305
Manual Revisions	310
<i>June 2020</i>	<i>310</i>
<i>April 2020.....</i>	<i>310</i>
<i>August 2018.....</i>	<i>311</i>
<i>December 2017</i>	<i>311</i>
<i>March 2017.....</i>	<i>313</i>
<i>December 2010</i>	<i>317</i>
<i>June 2010</i>	<i>318</i>
<i>December 2009</i>	<i>322</i>
<i>June 2009</i>	<i>326</i>

Preface

We support our personnel/software users in the development of roadway projects using Computer Aided Drafting and Design (CADD) in the most accurate and efficient manner available thereby making the best possible use of time and resources.

Introduction

This manual shall be used as the standard for all computer aided drafted and designed plans development produced by and for the Design Division of the Tennessee Department of Transportation.

Survey submissions shall be in accordance with this manual and/or modification contained in the consultant's contract or as prescribed by the Regional Survey Supervisor.

Standard Parameters

In order to establish standard parameters by which drawings are to be created, the following parameters have been established:

1. Accuracy Control through working units and resolution providing statewide coverage of the state coordinate system on a design plane. This provides direct correlation of design data point input to the coordinate plane reference point. Coordinates are based on NAD/83(1995).
2. Standard level, color, and weight assignments of design elements assigned according to the type of sheet being generated.
3. Standard level names and text styles established through design file level libraries **TDOTmain.dgnlib** & **TDOTxsection.dgnlib**.
4. Cell development of over 1100 cells relating to design elements, signing, sheet generation, etc. The standard cell libraries are **STDS.CEL** & **SIGN.CEL** for English-unit projects. **(As of October 13, 2008, as per Instructional Bulletin 08-15, metric drawings are no longer being produce by the Tennessee Department of Transportation.)**
5. Custom line style development of over 500-line styles in resource file **TDOTLINE.rsc** for standardized display of linear design elements.
6. Standard color table **STDCOLOR.TBL** for standardized display of color-coded design elements.

Standard File Extensions

The following table lists the TDOT standard file extensions. In order to provide consistency with TDOT standard programs, these extensions shall be used with ***all*** Survey and Design files.

.CEL	Cell Library
.DGN	Project Graphics Design File
.SHT	Project Sheet Graphics Design File
.DGNLIB	DGN Level & Text Style Library File
.GPK	GEOPAK Coordinate Geometry Database
.TIN	GEOPAK Digital Terrain Model File
.RSC	Miscellaneous Resource File
.TBL	Features, Color, etc., Table
.TXT	ASCII Text File

Standard Filenames

All graphical information is to be drawn at actual size at its corresponding state plane coordinate location. **Only** text and symbols (MicroStation cells) are scaled to appear correctly when plotted.

Survey DGN project Filenames

The project's Survey DGN filename will consist of the two-digit county abbreviation, three-digit project Route, the GPS project number and the file type. All files should use a DGN extension.

No spaces or extra periods should be used in any filename.

The following is a more detailed explanation of the standard Survey DGN filename:

11222-33FileType.DGN

The filename shall consist of the following parts:

- 11 Two (2) numbers to identify the project county location.
(See county listing at the end of this section.)
- 222 Three (3) numbers to identify the project route
- 33 Dash + two (2) numbers to identify the GPS project
number
- FileType File type as described below
- DGN Standard file extension

Survey Project File Types

- Survey Survey Topography and Profile data
Example: DV155-01Survey.DGN
- SurveySUE Survey Subsurface Utility Engineering data
Example: DV155-01SurveySUE.DGN

Design DGN Project Filenames

The project's Design DGN filenames will consist of the two-digit county abbreviation, the road name, and the file type name. All files should use a DGN extension except for sheet files which should have .SHT for the extension.

For plan sheet files other than cross sections, the filename shall consist of the sheet number only. Sheet numbers should include "0" prefixes as needed to ensure alphabetic sorting (Example for sheet 9A: 009A.SHT).

No spaces or extra periods should be used in any filename due to compatibility issues with some software.

The following is a more detailed explanation of the standard Design DGN filename:

CoRoadnameFileType.DGN

The filename shall consist of the following parts:

Co	Two (2) letters to identify the project county location. (See county listing at the end of this section)
Roadname	Alphanumeric to identify the state route number or road name if not a state route
FileType	File type as described below
DGN	Standard file extension (SHT for all plans sheets)

Design Project File Types:

These files are used for the development of project data which is referenced to project plan sheets.

Alignments	Proposed Horizontal & Vertical alignment data <i>Example: DVSR155Alignments.DGN</i>
Proposed	Proposed Horizontal & Vertical data other than alignments shown on main plan sheets. <i>Example: DVSR155Proposed.DGN</i>
PropertyMap	Property Map data <i>Example: DVSR155PropertyMap.DGN</i>
TrafficControl	Traffic Control data <i>Example: DVSR155TrafficControl.DGN</i>
ESPC	Erosion Prevention and Sediment Control data <i>Example: DVSR155ESPC.DGN</i>
ExistingContours	Existing Contour data <i>Example: DVSR155ExistingContours.DGN</i>
DrainageMap	Drainage Map data <i>Example: DVSR155DrainageMap.DGN</i>
ProposedContours	Proposed Contour data <i>Example: DVSR155ProposedContours.DGN</i>
Signalization	Proposed Intersection Signalization data <i>Example: DVSR155Signalization.DGN</i> NOTE: File in which all signalization work for intersections on the project will be done.

Utilities Proposed Utilities data
Example: *DVSR155Utilities.DGN*

GEOPAK File Types:

SEShapes Proposed GEOPAK superelevation shapes
Example: *DVSR155SEShapes.DGN*

RoadwayPattern Roadway Cross Section pattern lines. Includes mainline &
side road pattern lines with a different symbology for each
roadway.
Example: *DVSR155RoadwayPattern.DGN*

CulvertPattern Culvert Cross Section Pattern lines
Example: *DVSR155CulvertPattern.DGN*

PvtDrivePattern Private Drive Pattern lines
Example: *DVSR155PvtDrivePattern.DGN*

Cross Section File Types:

(Use seed file SEEDXS.DGN)

RoadwayXSections Roadway Cross Section data. Substitute a specific name for
roadway, mainline or side road. Each roadway's cross
sections will be in a separate DGN file.
Example: *DVSR155MainlineXSections.DGN*

CulvertXSections Culvert Cross Section data
Example: *DVSR155CulvertXSections.DGN*

PvtDriveProfiles Private Drive Profile data
Example: *DVSR155PvtDriveProfiles.DGN*

Standard Sheet File Types:

(Use SHT extension)

sht#

All plan sheets, one sheet per file, sheet number only

Examples: Sheet 4 → 004.SHT

Sheet 4A → 004A.SHT

Sheet 24 → 024.SHT

Sheet 24A → 024A.SHT

RoadwayXSections

Roadway Cross Section sheets.

Substitute a specific name for *roadway*, mainline or side road. Each roadway's cross section sheets will be in a separate DGN file.

Example: SR155XSections.SHT

RoadwayCulvertXSections

Culvert Cross Section sheets.

Example: SR155CulvertXSections.SHT

Example Project Folders Structure

The screenshot shows a Windows File Explorer window titled 'Project Folders Structure'. The address bar indicates the path: 'This PC > Desktop > Project Folders Structure >'. The left pane shows a tree view of the folder structure, and the right pane shows a list view of the folders with columns for Name, Date modified, and Type.

Name	Date modified	Type
BaseDrawings	3/11/2020 12:39 PM	File folder
Correspondence	3/2/2020 1:38 PM	File folder
Cost Estimates	3/2/2020 1:36 PM	File folder
Environmental	3/2/2020 1:36 PM	File folder
Geopak	3/2/2020 1:36 PM	File folder
Geotech	3/2/2020 1:36 PM	File folder
Multimodal	3/2/2020 1:36 PM	File folder
Pavement Design	3/2/2020 1:36 PM	File folder
Quantities	3/2/2020 1:35 PM	File folder
Railroad	3/11/2020 12:32 PM	File folder
Structures	3/2/2020 1:35 PM	File folder
Submittals	3/11/2020 12:33 PM	File folder
Survey	3/11/2020 12:36 PM	File folder
Traffic	3/11/2020 12:53 PM	File folder

The folder structure shown in the left pane includes:

- Project Folders Structure
 - BaseDrawings
 - Sheet Files
 - Correspondence
 - Cost Estimates
 - Construction Estimate
 - Preliminary Estimate (ROW)
 - Environmental
 - Permit Sketches
 - Geopak
 - Geotech
 - Multimodal
 - Pavement Design
 - Quantities
 - Embedded and Linked Files
 - Railroad
 - Structures
 - Submittals
 - Construction
 - Construction Field Review
 - Final Plans Review
 - Initial Studies
 - Preliminary
 - Preliminary Field Review
 - Public Meeting
 - Revisions
 - ROW
 - ROW Field Review
 - Site Review
 - Survey
 - Additional Survey
 - TIR
 - Traffic
 - Signals
 - Signs
 - TMP and Workzone Significance Determination
 - Traffic Control
 - Traffic Data

- Base Drawings:** All DGN files and sheet files
- Correspondence:** All correspondence including: emails, letters, memos, or documented meeting notes that should be broken down into subject matter so that it is easy to find. This would not include your official submittal packet information (i.e. Field reviews, turn-ins)
- Cost Estimate:** Contains monetary estimates received from the Bid and Estimates Office.
- Environmental:** Includes all environmental documentation and calculations, EX: EBR, NEPA, Mitigation, ...
- Geopak:** Contains all files from Geopak design, including: Proposed tins, Criteria Files, Earthwork files, .inp files, etc.
- Geotech:** Contains all Geotech information
- Multimodal:** Contains all Multimodal information
- Pavement Design:** Includes all pavement design iterations and relevant information
- Quantities:** Contains Preliminary Estimate, ROW Estimate, and Construction Estimate. These are item quantities. Also includes sub-folder labeled Embedded and Linked Files. This sub-folder will include any files that are linked or embedded into your DGN or SHT files.
- Structures:** This includes all Structure documents and relevant information (add subfolder about retaining walls)
- Submittals:** This would include the items in Deliverable Request and Reports folder. Subfolders should include Initial Studies, Preliminary Field Review, Preliminary, Site Review, ROW Field Review, ROW, Construction Field Review, Final Plans Review, Construction, and Revisions. QA/QC, Sign in sheet, Field review report. (these will be stored in each file.)
- Survey:** Contains all Survey material and calculations. Save both the 2D file and 3D file to this location. All original survey files, including the TIR, will be saved here as well.
- Traffic:** Contains all traffic material and calculations

Tennessee County Listings

Number	County	Number	County		
1	AN	Anderson	53	LO	Loudon
2	BD	Bedford	54	MM	McMinn
3	BN	Benton	55	MN	McNairy
4	BS	Bledsoe	56	MC	Macon
5	BT	Blount	57	MD	Madison
6	BR	Bradley	58	MA	Marion
7	CM	Campbell	59	MS	Marshall
8	CN	Cannon	60	MU	Maury
9	CA	Carroll	61	ME	Meigs
10	CR	Carter	62	MR	Monroe
11	CT	Cheatham	63	MT	Montgomery
12	CH	Chester	64	MO	Moore
13	CB	Claiborne	65	MG	Morgan
14	CL	Clay	66	OB	Obion
15	CO	Cocke	67	OV	Overton
16	CF	Coffee	68	PE	Perry
17	CK	Crockett	69	PI	Pickett
18	CU	Cumberland	70	PO	Polk
19	DV	Davidson	71	PU	Putnam
20	DE	Decatur	72	RH	Rhea
21	DK	DeKalb	73	RO	Roane
22	DS	Dickson	74	RB	Robertson
23	DY	Dyer	75	RF	Rutherford
24	FA	Fayette	76	SC	Scott
25	FE	Fentress	77	SQ	Sequatchie
26	FR	Franklin	78	SE	Sevier
27	GB	Gibson	79	SH	Shelby
28	GI	Giles	80	SM	Smith
29	GG	Grainger	81	ST	Stewart
30	GR	Greene	82	SL	Sullivan
31	GD	Grundy	83	SU	Sumner
32	HB	Hamblen	84	TI	Tipton
33	HT	Hamilton	85	TR	Trousdale
34	HC	Hancock	86	UC	Unicoi
35	HM	Hardeman	87	UN	Union
36	HD	Hardin	88	VB	Van Buren
37	HK	Hawkins	89	WR	Warren
38	HW	Haywood	90	WS	Washington
39	HS	Henderson	91	WA	Wayne
40	HY	Henry	92	WE	Weakley
41	HI	Hickman	93	WH	White
42	HO	Houston	94	WM	Williamson
43	HU	Humphreys	95	WI	Wilson
44	JK	Jackson			
45	JF	Jefferson			
46	JN	Johnson			
47	KN	Knox			
48	LA	Lake			
49	LD	Lauderdale			
50	LW	Lawrence			
51	LE	Lewis			
52	LI	Lincoln			

Data Exchange between Survey & Design

Personnel

At different points in a project's life prior to submittal for construction certain files will be created, used and appended to by both Survey & Design personnel.

These files include:

GEOPAK GPK coordinate/geometric database

MicroStation DGN topography graphics

GEOPAK TIN digital terrain model

With this in mind the following procedures shall be followed.

GPB Naming Conventions

GPB files shall be named with the project Region number plus an alphanumeric job number assigned by the Regional Survey Supervisor. *Example:* For a GEOPAK project in Region 2 ... **job2p4.GPB**

The names for any object stored in the GPB file can be up to a maximum of 15 characters.

All **points, curves & spirals** shall be created with a specific alpha prefix plus any other letters or numbers desired by the user. This procedure must be followed in order to prevent overwriting data stored previously by other personnel.

The following prefixes will be used to name all points and curves stored in the GPB file:

Division	Prefix	Point Example	Curve Example	Spiral Example
Survey	S	S105	SC105	SC105A
Design	D	D105	DC105	DC105A

Chain & profile names shall be named using a descriptive form (such as the road name) so that it can be easily distinguishable by all personnel (Examples: **SR95, Campbell**). Groundline profiles should include the letters **GRN** in their names such as **SR95GRN** or **CampbellGRN** so that they can be distinguished from proposed profiles. Design personnel should maintain the names of chains that are associated with the existing R.O.W. flags whenever possible in order to minimize update time as alignments are adjusted.

Parcel names should be based on the property tract numbers assigned to them. Proposed parcels are stored separately from the original parcel and their names should start with the property tract number followed by text to indicate the type. Examples are shown below.

Present property Tract 5	5
R.O.W. Area to be Acquired from Tract 5	5ACQ
Permanent Drainage Easement on Tract 5	5DRA
Temporary Slope Easement on Tract 5	5SLP
Temporary Construction Easement on Tract 5	5CON

In cases where multiple proposed parcels of a given type are required on a parcel then their names should be numbered in order as they occur along the roadway. For example, if parcel 5 has 3 different slope easement areas their parcel names would be **5SLP1, 5SLP2 & 5SLP3**.

Graphical Survey Data

All Survey graphics files shall be in 3D MicroStation DGN format. No DXF files, IGES files, or other translation files will be accepted.

Project Data Workflow

The following two sections describe the workflow in non-phased and phased projects. Projects not done in phases are described first since this is the way most projects are done. Additional information procedures are the same for either phased or not and is described following the phased project description.

Non-phased Project Data Workflow

by Survey personnel...

Topo Graphics	*.DGN	Field survey data is used to build 3D topographic DGN file. If aerial survey data is available, then it is combined with field survey topo DGN for turn in version for Design.
Digital Terrain Model	*.TIN	Field survey data is used to build TIN file. If aerial survey data is available, then it is combined with field survey TIN file for turn in version for Design.
COGO Database	*.GPK	Survey sets up initial GPK file for the project with all existing data including preliminary & existing alignments, topo, etc.

by Design personnel...

Topo Graphics	*.DGN	Adopt 3D topo DGN submitted by Survey. This file is the official Topo file for the project. Changes in label locations are done as needed to enhance plans appearance.
Digital Terrain Model	*.TIN	No changes are to be done.
COGO Database	*.GPK	Adopt GPK file submitted by Survey. This file is the official GPK file for the project. Further development is done as needed to complete project design.

Note concerning preliminary centerlines: Once the GPK file is received from Survey, Design personnel should review preliminary centerline chains submitted by Survey for use as final proposed centerlines. If they need to be adjusted, the chain should first be saved under a different name for later reference as needed. Then the chain should be adjusted as required **without being re-named**. Once the centerline chains are set, they can be displayed in the Design Alignments DGN file as proposed centerlines for inclusion in the plans. **All** alignments should be investigated completely before any additional information on a project is requested.

Phased Project Data Workflow

Final Scoping Report Phase

Aerial Mapping shall be used for preliminary alignment and grade studies. Preliminary alignment and grade will be included as part of Final Scoping Report (FSR) document for use in survey. Other Sections shall perform environmental and historical evaluations.

by Design personnel...

Topo Graphics	*.DGN	Use 3D DGN submitted by Aerial Surveys for reference only. No changes are to be done.
Digital Terrain Model	*.TIN	Create temporary TIN file from DGN digital terrain model graphics file submitted by Aerial Surveys or with USGS DEM data for alignment investigation.
COGO Database	*.GPK	In temporary GPK file, horizontal & vertical alignments are developed. These chains & profiles are then submitted to Survey in GEOPAK COGO input files for inclusion in the official GPK file.

Phase 1

Under phase 1, survey personnel will provide the designer with aerial mapping and minimal field survey information for preliminary design. Scanned Tax Map property information shall be used for preliminary property work. Designer shall calculate proposed horizontal and vertical alignments and send them to survey section when complete.

by Survey personnel...

Topo Graphics	*.DGN	Aerial Mapping plus Survey phase 1 Collections sent to Design when phase 1 is complete as 3D file.
Digital Terrain Model	*.TIN	Original Model as compiled from Aerial Mapping and/or the phase 1 Survey collections.

COGO Database	*.GPK	Created By Survey Division
by Design personnel...		
Topo Graphics	*.DGN	Use 3D DGN submitted by Survey for reference only. No changes are to be done.
Digital Terrain Model	*.TIN	No changes are to be done.
COGO Database	*.GPK	In phase 1 GPK file, horizontal & vertical alignments are developed. These chains & profiles are then submitted to Survey in GEOPAK COGO input files for inclusion in the official GPK file.

Phase 2

Under Phase 2 survey will be completed on: property, existing right-of-way, drainage not included in Phase 1, and on utilities not included in Phase 1. Designer will begin plans development after receipt of Phase 2 survey.

by Survey Personnel...

Topo Graphics	*.DGN	Survey phase 1 *.DGN plus anything that has been added since phase 1. Submit final 3D Topo file to Design.
Digital Terrain Model	*.TIN	Survey phase 1 *.tin plus any changes that have been updated since the phase 1 submittal.
COGO Database	*.GPK	Survey phase 1 *.GPK plus alignments entered by using input files, as well as any additional data collected and processed by the surveyor since the phase 1 submittal.

by Design Personnel...

Topo Graphics	*.DGN	Adopt final 3D version of phase 2 DGN submitted by Survey. This file is official Topo file for the project. Changes in label locations are done as needed to enhance plans appearance.
Digital Terrain Model	*.TIN	No changes are to be done.

COGO Database	*.GPK	In phase 2 GPK file submitted by Survey; further development is done as needed to complete project design.
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Additional Information

Submitting Additional Information Request

by Design Personnel...

Topo Graphics	*.DGN	Submit current Topo DGN and alignments DGN file with documentation of additional Topo and/or digital terrain model information needed. Documentation may take the form of typed information in letter or email or notes in DGN file or on plots. No changes are to be done in Topo file from this point until received back from Survey.
Digital Terrain Model	*.TIN	No changes are to be done.
COGO Database	*.GPK	In project GPK file further development is done as needed to continue project design. When alignment changes have been done, new information is sent to Survey using GEOPAK COGO input files.

Processing Additional Information Request

by Survey Personnel...

Topo Graphics	*.DGN	Modify project Topo DGN if needed. Return with documentation of additions and deletions done to existing data. Documentation may take the form of typed information in letter or email or notes in DGN file or on plots.
Digital Terrain Model	*.TIN	Final Survey TIN plus any additional information and/or updates requested.
COGO Database	*.GPK	Additional info shall be sent to Design by using GEOPAK COGO input files.

After Additional Information is received

by Design Personnel...

Topo Graphics	*.DGN	Adopt updated version of Topo DGN submitted by Survey. Changes in label locations are done as needed to enhance plans appearance.
Digital Terrain Model	*.TIN	No changes are to be done.
COGO Database	*.GPK	In project GPK file load additional info input file to bring GPK up to date. Further development is done as needed to continue project design.

GEOPAK COGO Input Files

To create a GEOPAK COGO input file open the GEOPAK COGO dialog and on the command line enter the keyin ...

MAKE INPUT FILE file-name element-list where:

filename	Name of the input file where GEOPAK commands are written. The name should include a descriptive word for contents plus the GPK number. The extension should include the letter "i" plus the user's two letter user code. See example below.
element-list	List of GEOPAK elements for which input file commands are to be created. The format for the element-list must include at least one of the following:

CHAIN	name
CURVE	name
PARCEL	name
Point number or range of point numbers	
PROFILE	name
LINE	name
SURVEY CHAIN	name
SPIRAL	name
ALL	

NOTE: The element names may include wild card characters. Selection of a chain implies the inclusion of the store chain command but also implies the inclusion of additional store commands for each individual component element (e.g., point, curve, or spiral comprising the chain). It **will not** store points used to store curves originally that are not actually part of the chain such as PI points. These will need to be saved separately.

Example

For user Joe Smith to create an input file for GPK project # 203 with a revised version of the chain named Campbell for Campbell Rd. on his project ...

MAKE INPUT FILE campbell203.ijs chain campbell

To load a GEOPAK COGO input file ...

1. Change the last 2 letters in the input filename's extension to match your operator code used in GEOPAK. If the job number is different from the one used for your project, change it to match yours. If you created the input file originally, this step should not be necessary.
2. Start MicroStation and then open GEOPAK COGO.
3. From the coordinate geometry dialog, access the pull-down **File > File Utility** or if available click the icon.

4. Click on the name you wish to load, set the utility option to **Load** and hit **Apply**.
The name listed will be the filename of the input file minus the job number and extension. The file will be loaded into the COGO editor which you can open for review if desired.
5. Then access the pull-down **Edit > Read All** or if available click the icon. You could key in **Read** on the COGO command line as well. The information will be stored. Note that if you need to overwrite COGO elements it will be necessary to click the **Redefine** option on.

Standard MicroStation Seed Files

<C:\Users\Public\MicroStation Standards\seed>

Seed files are used as outlines to set up new design files. They contain the standard parameters used as defaults. The following are standard TDOT design file parameters:

Angle format:	Conventional format, measured in degrees, minutes seconds and decimal accuracy at least .04.
Data readout:	Master units only, decimal accuracy at least .04 (English)
Fonts:	Arial active.
Cell Library:	English, STDS.CEL
Color Table:	STDCOLOR.TBL
Level Names/Filters & Text Styles:	TDOTmain.dgnlib

SEED2D.DGN & SEED3D.dgn

Global Coordinate System:	English, Coordinate 0, 0, 0 is set at UOR position -1200000000, -1200000000, 0 from the center of the design plane.
Working units:	English, Master Units = Survey Feet, Sub Units = Tenths, Resolution = 1000 per Survey Foot

SURVSEED.dgn

Global Coordinate System:	English, Coordinate 0, 0, 0 is set at UOR position -1200000000, -1200000000, 0 from the center of the design plane. This 3D seed file is set up for use by Survey personnel. This file is the same as SEED3D.DGN but also includes graphics needed in topographic DGN files.
Working units:	English, Master Units = Survey Feet, Sub Units = Tenths, Resolution = 1000 per Survey Foot

SEEDZ.dgn

English, Coordinate 0, 0, 0 is set at UOR position -1200000000, -1200000000, 0 from the center of the design plane. This 3D seed file is set up for use by Aerial Survey personnel. This file is the same as SEED3D.DGN but includes settings required for use with Aerial Survey software. Uses special Aerial Survey color table **AerialColorTable.tbl**.

Global Coordinate System:

Working units: English, Master Units = Survey Feet, Sub Units = Survey Feet, Resolution = 1000 per Survey Foot

SEEDXS.dgn (2D)

English, Coordinate 0, 0 is set at the lower left corner of the design plane.

Global Coordinate System:

Working units: English, Master Units = Survey Feet, Sub Units = Tenths, Resolution = 10000 per Survey Foot

Index and Standard Drawings.dgn (2D)

English, Coordinate 0, 0, 0 is set at UOR position -1200000000, -1200000000, 0 from the center of the design plane.

Global Coordinate System:

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Box Culvert Section.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Drop Off Notes Traffic Control.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

ESPC Notes.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

General Notes.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Sheet 3 ROW Notes Utility Notes Utility Owners.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Special Notes.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Standard Roadway Drawings.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Standard Structure Drawings.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Standard Traffic Operations and Structure Drawings.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Standard Traffic Operations Drawings.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

BLANK SHEET FOR 2ND SHEET NOTES.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Title Sheet.dgn (2D)

Global Coordinate System: English, Coordinate 0, 0, 0 is set at UOR position - 1200000000, -1200000000, 0 from the center of the design plane.

Working units: English, Master Units = Survey Feet, Sub Units = Tenths Resolution = 1000 per Survey Foot

Standard Office Templates

When a new file is created in Microsoft Word or Excel with the **My Templates** option, the template dialog box is opened showing the various blank documents/templates (*.dotx or *.xltx) which can be used to create new documents. See documentation file

[2ndSheetsV8.pdf](#) for instructions on the use of Roadway Design 2nd Sheets templates in conjunction with MicroStation. These files are set up specifically for use with Office 365 and MicroStation V8i. **As of February 2020, [2ndSheets.zip](#), [DDocs.zip](#) and [SDocs.zip](#) will no longer be available on the [CADD Files](#) download page. The files can now be access at the new [Roadway Design Documents](#) page.**

Roadway Design Forms & Letters

Formally TDOT Letters, Roadway Design Forms & Letters have been renamed and will no longer be available with the DDocs.exe. Designers can now access the files here:

<https://www.tn.gov/tdot/roadway-design/design-standards/tdot-documents.html>

Disclaimers

CADD Plan Files Disclaimer	Word
Utility CADD Plan Files Disclaimer	Word

Letterhead

Design Division Letterhead 12th Floor	Word
Roadway Design Division Letterhead	Word

NEPA

NEPA Green Sheet Certification	Word
NEPA Re-Evaluation	Word
NEPA Resurfacing Plans Certification of Scope of Work	Word

Others

Construction Plans Submittal	Word
Field Review Notifications	Word
Proposed Retaining Wall Design	Word
Road Diet Questionnaire	Word
Site Reviews	Word

Pavement

Pavement Design Request	Word
Pavement Design Review	Word

Public Meeting

Public Meeting Notice	Word
Public Meeting Checklist	Word
Public Meeting Pre-Questionnaire	Word

Requests

Additional Survey Request Form	Word
Crash Data Request	Word
Design Exception Request	Word
Design Waiver Request	Word
Incidental Funding Approval Request	Word
Initial Studies Request	Word
Initial Studies Request Re-Evaluation	Word
ROW Incidental Approval Request	Word
Soils and Geology Report Request	Word
Traffic Report Request	Word

Roadway Design Forms & Letters (Continue)

<https://www.tn.gov/tdot/roadway-design/design-standards/tdot-documents.html>

Revisions

Construction Plans Revision	Word
Estimate Revision Request	Word
Letting Plans Revision	Word
ROW Plans Revision	Word

R.O.W.

ROW Incidental or Utility Coordination Funding Approval Request	Word
ROW Incidental Funding Request	Word
ROW or Utilities Only Funding Approval Request	Word
ROW Plans Submittal	Word

Work Zone

Work Zone Design Deviation	PDF
Work Zone Significance Determination Form	PDF

Roadway Design 2nd Sheets

Formally 2nd Sheets, Roadway Design 2nd Sheets have been renamed and will no longer be available with the 2ndSheets.exe. Designers can now access the files here:

<https://www.tn.gov/tdot/roadway-design/design-standards/tdot-documents.html>

Local Programs Files

The following files is designed for 'Local Programs' ONLY.

Files should only be used for Local Program projects.

EPSC Notes Local Program Projects Only	Word
General Notes Local Programs Projects Only	Word
ROW Notes Utility Notes Utility Owners Local Program Projects Only	Word
Special Notes Local Program Projects Only	Word
Blank Sheet for 2nd Sheet Notes	Word
Construction Index of Sheets	Word
ESPC Notes.dotx	Word
Estimated Roadway Quantities	Excel
General Notes	Word
Index and Standard Drawings	Word
Items.dat	DAT File
Pavement Edge Drop-Off Traffic Control Notes	Word
Preliminary Index of Sheets	Word
Project Commitments	Excel
Right Of Way Index of Sheets	Word
ROW Notes Utility Notes Utility Owners	Word
Special Notes	Word
Standard Roadway Drawings	Word
Standard Structure Drawings	Word
Standard Traffic Operations and Structure Drawings	Word
Standard Traffic Operations Drawings	Word

TDOT English Tabulated Quantities

<C:\Users\Public\Office Standards\TDOT English Tab Quantities>

Box Culvert or BR XS Drainage Data	Excel
Box Slab	Excel
Bridge Drains	Excel
Concrete Median Barrier	Excel
Drainage Data for Drainage Map	Excel
Enhanced Silt Fence Check Design Dimensions	Excel
Guardrail Tab Builder	Excel
Pipe Culvert Profile Data No Quantity	Excel
Pipe Culvert Profile Data Quantity	Excel
Pipe Culvert XS Drainage Data	Excel
Storm Drainage Pipe Tab Builder	Excel
Storm Drainage Structure Tab Builder	Excel

Field Survey Documents

Formally Survey, Field Survey Documents have been renamed and will no longer be available with the SDocs.exe. Designers can now access the files here:

<https://www.tn.gov/tdot/roadway-design/design-standards/tdot-documents.html>

Access Database

gpscontr.mdb	Access
gpscontr.mdw	Access

Others

ROW Acquisition Table	Excel
Survey Check List Field	Word
Survey Check List Office	Word
Survey Contact Letter and R.O.W. Acquisition Table Creator	PDF
Survey Weekly Progress Report	Excel
Survey Contact Acquisition Create	Excel
Survey Submittal Checklist	Word
Survey Contact Avery 5160 Labels	Word
Survey Contact Envelopes	Word
Utility Owners.xltx	Excel

Property Owners

Property Owner Contact Letter - Aerial Flagging.dotm	Word
Property Owner Contact Letter - Geotechnical Staking.dotm	Word
Property Owner Contact Letter - ROW Staking.dotm	Word
Property Owner Contact Letter - Survey.dotm	Word

Survey Letterhead

Region 1 Survey Letterhead	Word
Region 2 Survey Letterhead	Word
Region 3 Survey Letterhead	Word
Region 4 Survey Letterhead	Word

Standard Plot Control Files

Copies of these plot control files are made available to outside sources. However, applicability is *not* guaranteed.

Iplot

C:\Program Files\Common Files\Interplot\IPLLOT\misc
and C:\Program Files\Interplot Client\settings

In order to produce the correct thickness for lines on plots using Iplot software, design scripts are used. The standard design scripts for Iplot are:

For Roadway plans production ...

Name	Application
PDF.FUL	B/W Full size for PDF document generation
PDFColor.FUL	Color Full size for PDF document generation

For Standard Drawing production **only** ...

Name	Application
IRP336.STD	Standard drawing full size
IRP336.HLF	Standard drawing half size
IRP336c.HLF	Standard drawing color plotter half size

Interplot Client settings files are used by Design Division personnel and Consultants to apply specific design scripts and to send plots to local plot queues using Iplot in MicroStation or with Interplot Organizer for batch plotting. PDF settings files can also be used with MicroStation PDF Composer.

Settings File	Design Script	Application
PdfEnglishColorFul.set	PDFColor.FUL	Color full size
PdfEnglishFul.set	PDF.FUL	B/W full size
PdfEnglishPermitLand.set	PDF.FUL	8 ½ X 11 B/W Landscape
PdfEnglishPermitLandColor.set	PDFColor.FUL	8 ½ X 11 B/W Landscape Color
PdfEnglishPermitPort.set	PDF.FUL	8 ½ X 11 B/W Portrait
PdfEnglishPermitPortColor.set	PDFColor.FUL	8 ½ X 11 B/W Portrait Color
PdfEnglishXSful.set	PDF.FUL	B/W XS full size

MicroStation Print

<C:\Users\Public\MicroStation Standards\pltcfg>

In order to produce the correct thickness for lines on plots using MicroStation's print function, printer configuration files are used. **Tdotplot.tbl** is a MicroStation pen table called by printer configuration files to set the date and file specification stamps on sheets as well as setting "Snap point" text to not plot. The standard printer configuration files for MicroStation are:

For Roadway plans production ...

Units	Name	Application
English	TdotEngFull.pltcfg	B/W Full size
	TdotEngHaf.pltcfg	B/W Half size
	TdotEngFullc.pltcfg	Color full size
	TdotEngHafc.pltcfg	Color half size

For Raster Image Generation ...

Type	Name	Application
JPEG	Tdotjpeg.pltcfg	Full size vectors(B/W), raster (color)
	Tdotjpegc.pltcfg	Full size vectors(color), raster (color)
	Tdotjpeghaf.pltcfg	Half size vectors(B/W), raster (color)
	Tdotjpeghafc.pltcfg	Half size vectors(color), raster (color)
TIFF	Tdottiff.pltcfg	Full size vectors(B/W), raster (color)
	Tdottiffc.pltcfg	Full size vectors(color), raster (color)
	TdotTiffhaf.pltcfg	Half size vectors(B/W), raster (color)
	TdotTiffhafc.pltcfg	Half size vectors(color), raster (color)

For PDF File Generation ...

Units	Name	Application
English	Tdotpdful.pltcfg	Full size vectors(B/W), raster (B/W)
	Tdotpdfulc.pltcfg	Full size vectors(color), raster (color)
	Tdotpdfhaf.pltcfg	Half size vectors(B/W), raster (B/W)

For Standard Drawing production **only** ...

Units	Name	Application
English	TdotStdEngFull.pltcfgr	Standard drawing full size
	TdotStdEngHaf.pltcfgr	Standard drawing half size
	TdotStdEngHafhp.pltcfgr	Standard drawing color plotter half size

Standard Line Weights\Thickness

Weight	English (In.)
WT = 0	0.0060
WT = 1	0.0075
WT = 2	0.0090
WT = 3	0.0105
WT = 4	0.0120
WT = 5	0.0143
WT = 6	0.0176
WT = 7	0.0210
WT = 8	0.0243
WT = 9	0.0276
WT = 10	0.0310
WT = 11	0.0332
WT = 12	0.0354
WT = 13	0.0376
WT = 14	0.0398
WT = 15	0.0420

Weight	English (In.)
WT = 16	0.0442
WT = 17	0.0464
WT = 18	0.0486
WT = 19	0.0508
WT = 20	0.0530
WT = 21	0.0555
WT = 22	0.0580
WT = 23	0.0605
WT = 24	0.0630
WT = 25	0.0655
WT = 26	0.0680
WT = 27	0.0705
WT = 28	0.0730
WT = 29	0.0755
WT = 30	0.0780
WT = 31	0.0805

Standard MicroStation Libraries

Type	Library File	Application
Color Table:	STDCOLOR.tbl	All projects
Standard Cell Libraries:	STDS.cel	English projects
Sign Cell Libraries:	SIGN.cel	English projects
Font Resource:	TDOTFONT.rsc	All projects
Line Style Resource:	TDOTLINE.rsc	All projects
Level, Level Filter & Text Style Library:	TDOTmain.dgnlib	All projects

Standard Color Table - STDCOLOR.TBL

<C:\Users\Public\MicroStation Standards\data>

The following table lists the TDOT standard color table parameters. In order to provide consistency with older drawings, this table shall be used with **all** Survey and Design drawings.

Number	Color	Intensities		
		Red	Green	Blue
0	White	255	255	255
1	Gray	135	135	135
2	Manila	255	205	150
3	Light Blue	0	205	255
4	Dark Sky Blue	60	60	255
5	Orange	255	135	0
6	Red	255	0	0
7	Yellow	255	255	0
8	Green	0	255	0
9	Purple	170	0	170
10	Violet	235	0	235
11	Light Purple	205	155	255
12	Dark Tan	135	85	85
13	Light Brown	205	130	100
14	Olive	170	255	160
15	Dark Red	190	0	90
16	Pink	250	0	150
17	Dark Blue	0	0	185
18	Light Gray	215	215	215
19	Dark Purple	110	45	130
20	Light Green	50	225	140

Number	Color	Intensities		
		Red	Green	Blue
21	Light Pink	255	170	200
22	Pale Blue	0	255	255
23	Pale Green	180	255	185
24	Yellow Green	150	255	0
25	Copper	255	165	50
26	Rose	255	85	85
27	Blue-Violet	150	0	255
28	Dark Green	0	175	0
29	Light Violet	145	85	115
30	Apricot	195	85	85
31	Brown	185	135	135
32	Magenta	235	135	150
33		50	205	100
34		205	155	100
35		195	105	13
36		10	255	217
37		181	0	214
38		175	255	85
39		84	41	31
40		51	105	255
41		210	86	84
42		204	84	38
43		49	226	235
44		136	255	172
45		161	255	175
46		129	255	205
47		129	128	128
48		128	170	85
49		85	170	170
50	Black	0	0	0
51		51	0	255
52		255	168	171
53		0	85	170
54		174	180	180
55		180	180	85
56		85	244	245
57		220	111	128
58		143	139	69
59		19	249	250
60		210	255	213
61		0	218	165
62		32	189	185
63		108	95	157
64	Off White	222	217	177
65	Blue	60	60	255
66	Dark Brown	135	85	85

Number	Color	Intensities		
		Red	Green	Blue
67	TDOT Logo Dark Green (2004-2008)	0	190	60
68	TDOT Logo Light Green (2004-2008)	0	215	35
69		127	255	212
70		132	112	255
71		189	183	107
72		208	32	144
73		214	68	41
74		72	61	139
75		255	222	173
76		255	192	203
77		46	139	87
78		255	99	71
79		255	140	0
80		213	0	25
81		0	48	50
82		208	211	139
83		255	213	0
84		0	136	206
85		157	218	235
86		217	215	182
87		173	83	69
88		241	178	220
89		249	56	34
90		146	193	233
91		164	214	94
92		208	211	212
93		255	205	0
94		242	198	162
95		238	97	25
96		191	83	182
97		238	221	130
98		173	255	47
99		0	191	255
100		119	136	153
101		102	205	170
102		255	165	0
103		188	143	143
104		255	245	238
105		216	191	216
106		238	191	86
107		197	21	84
108		109	69	106
109		57	69	166
110		51	203	208

Number	Color	Intensities		
		Red	Green	Blue
111		186	232	106
112		0	50	152
113		241	89	142
114		99	134	191
115		211	211	211
116		224	255	255
117		255	250	205
118		218	112	214
119		233	150	122
120		255	105	180
121		46	139	87
122		35	53	87
123		216	89	94
124		0	122	130
125		246	208	218
126		183	217	177
127		0	206	209
128		48	96	116
129		255	102	94
130		251	245	155
131		101	66	138
132		180	224	230
133		0	159	214
134		113	230	207
135		75	96	82
136		156	143	106
137		0	169	179
138		252	226	0
139		77	110	118
140		176	224	230
141		163	33	104
142		235	226	124
143		0	188	109
144		80	129	178
145		136	119	178
146		153	50	204
147		250	240	230
148	TDOT Logo Blue	23	74	124
149	TDOT Logo White	249	249	249
150	TDOT Logo Red	238	53	36
151	Florescent Orange	255	103	0
152	Florescent Yellow Green	204	255	0
153	Florescent Yellow	222	242	44
154	Florescent Green	39	247	63
155	Evergreen	0	106	77

Number	Color	Intensities		
		Red	Green	Blue
156	Royal Blue	0	86	150
161	Dark Gray	85	85	85
253	PDF Plot Border Purple	147	112	219
254	Plot Border Blue	60	60	255

Standard Cell Area Patterning

Note that in some cases where dot patterns are used on large areas, MicroStation will issue a warning that a large number of graphics are about to be produced & asks if are you sure you wish to do this. If you are sure that your pattern scale is set correctly you can ignore this message and go on. If you are not sure, cancel and go check your scale.

Table Legend: AS = Active Scale F = Factor EF = English Factor
 V = Value (#) = Small Dots Plot Spacing

Pattern Style	AP Cell	Pattern Scale	Pattern Angle	Pattern Delta (Row,Column) (V = F x AS)
Small Base Stone	bstone0.5x	AS	0	0,0
Earth	dearth	AS	0	0,0
Extra Large Dots	ddot6x	AS	0	V,V EF=.08
Drainage Easement	linee	AS	60	V,0 EF=.15
Loss of Access	linee	AS	60	V,0 EF=.15
Small Dumped Rock	dmprk0.5x	AS	0	0,0
Rip Rap	riprap	AS	0	0,0
Concrete	conc16	AS	0	0,0
Reinforced Concrete	hatch	AS	0	0,0
Crown Vetch or Metal	metal	AS	0	V1,V2 EF=.05,.02
Scarify	zz	AS	0	0,0
Horizontal Lines	line	AS	0	V,0 EF=.20
Vertical Lines	line	AS	90	V,0 EF=.20
Dumped Rock	dmprk	AS	0	0,0
45 Degree Lines	line	AS	45	V,0 EF=.20
135 Degree Lines	line	AS	135	V,0 EF=.20
Base Stone	bstone	AS	0	0,0
Small Dots at 60 Deg. (.08")	ddot	AS	60	V,V EF=.08
Small Dots at 90 Deg. (.07")	ddot	AS	90	V,V EF=.07

Pattern Style	AP Cell	Pattern Scale	Pattern Angle	Pattern Delta (Row,Column) (V = F x AS)
Small Dots at 45 Deg. (.07")	ddot	AS	45	V,V EF=.07
Small Dots at 90 Deg. (.06")	ddot	AS	90	V,V EF=.06
Small Dots at 60 Deg. (.06")	ddot	AS	60	V,V EF=.06
Small Dots at 90 Deg. (.05")	ddot	AS	90	V,V EF=.05
Small Dots at 45 Deg. (.05")	ddot	AS	45	V,V EF=.05
Small Dots at 90 Deg. (.04")	ddot2x	AS	90	V,V EF=.04
Construction Easement (.04")	ddot2x	AS	45	V,V EF=.04
Small Dots at 90 Deg. (.03")	ddot2x	AS	90	V,V EF=.03
Slope Easement (.03")	ddot2x	AS	45	V,V EF=.03
Small Dots at 90 Deg. (.02")	ddot2x	AS	90	V,V EF=.02
Wetlands Mitigation Area (.02")	ddot2x	AS	45	V,V EF=.02
Pvt. Drive Shading (.02")	ddot2x	AS	45	V,V EF=.02
Traffic Control Work Zone	linewz	AS	60	V,0 EF=.20
Dewatering Structure	dewatr	AS	0	0,0
Erosion Control Blanket	ecblanket	AS	0	0,0
Slope Surface Roughening	ecroughen	AS	0	0,0
Turf Reinforcement Mat	turfrm	AS	60	0,0
Functional Bridge	funbr	AS	0	0,0
Functional pavement	Funpvm	AS	0	0,0
Functional ROW	funrow	AS	0	0,0

Standard Text Sizes

The following table provides CADD standard text sizes and weights for English-unit projects. Note that, for plot scales other than 1, text sizes can easily be extrapolated by multiplying the text size (at AS=1) by the scale.

Plot Text Size (inch) AS=1	Text Line Spacing 75% AS=1	Weight	Scale Text Size (feet) LS = 0.75 times text size					
			20	40	50	100	200	400
.100	.075	2	2.0	4.0	5.0	10.0	20	40
.120	.090	2	2.4	4.8	6.0	12.0	24	48
.140	.105	4	2.8	5.6	7.0	14.0	28	56
.175	.131	7	3.5	7.0	8.75	17.5	35	70
.200	.150	10	4.0	8.0	10.0	20.0	40	80
.240	.180	10	4.8	9.6	12.0	24.0	48	96
.290	.218	13	5.8	11.6	14.5	29.0	58	116
.350	.263	13	7.0	14.0	17.5	35.0	70	140
.425	.319	14	8.5	17.0	21.3	42.5	85	170
.500	.375	17	10.0	20.0	25.0	50.0	100	200
.700	.525	20	14.0	28.0	35.0	70.0	140	280

For all projects, the line spacing (LS=__) should **always** be set to 75% of text size at any scale.

Standard Fonts - TDOTFONT.RSC

<C:\Users\Public\MicroStation Standards\symb>

The standard text font is **Arial**. This is an equal-space font, designed to approximate the appearance of standard lettering used on plans. Arial should **always** be used for TDOT work, unless there is a good reason to use another one. **Arial Narrow** is a proportional-space version of Arial. It may use when available space for text is small and it is desirable not to reduce the text size. **Arial Black** and **Arial Unicode MS** is a modified version of Arial, which is used for Standard Drawings only and is not applicable to plans development. **LEROYMON (#3)** and **LEROYSTD (#5)** are old fonts used in the past by the Design Division and are kept supporting old project data. **They should not** be used for any new data.

TERRAMODEL (#6), **PLUS3SYM (#9)**, **CONTINENTAL (#90)**, **Features (#93)** and **ALIGNMENT (#94)** are old symbol fonts used in the past by the Design Division and are kept to support old project data. **They should not** be used for any new data.

USERNOTE (#64) is a special "red-lining" font, which will not plot when the standard lplot pen tables are used. It should be used when it is desirable to make notes in a project file which should not appear on the project prints.

Windows based true type font **Arial** is used with Office files which are linked to MicroStation design files. **Blue Highway Condensed (#195)** was used in the past with Office and is still provided to support old project data.

All fonts specifically used by the Design Division are described above. Several other fonts are found in the font resource file. These include the standard fonts used by the Structures Division. A combined font resource file is used to provide for the sharing of files between divisions.

Standard Characters & Symbols

The following table shows which characters or symbols are available in a given font, along with the octal code for that symbol. A check mark in a column for a font indicates that the symbol described at left is available in that font. A character or symbol other than a check mark indicates that the octal code is used for the symbol shown for that font, rather than the standard symbol. A blank indicates that the symbol is not available and that the octal code is undefined in that particular font (in a design file, an undefined character will appear as a blank).

DEC	OCT	char	name	0	1	2	3	5	7	11	12	13	23	41	42
008	010	^H	backspace		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
009	011	^I	horizontal tab		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
032	040		space	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
033	041	!	exclamation point	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
043	042	"	double quote	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
035	043	#	number sign	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
036	044	\$	dollar sign	✓	✓	✓	✓	φ ¹	✓	✓	✓	✓	✓	✓	✓
037	045	%	per cent sign	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
038	046	&	ampersand	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
039	047	'	apostrophe	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
040	050	(	open parenthesis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
041	051	)	close parenthesis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
042	052	*	asterisk	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
043	053	+	plus	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
044	054	,	comma	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
045	055	-	hyphen	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
046	056	.	period	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
047	057	/	slash	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓
048	060	0	zero	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
049	061	1	one	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
050	062	2	two	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
051	063	3	three	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
052	064	4	four	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
053	065	5	five	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
054	066	6	six	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
055	067	7	seven	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
056	070	8	eight	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
057	071	9	nine	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
058	072	:	colon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
059	073	;	semicolon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

¹ diameter symbol

DEC	OCT	char	name	0	1	2	3	5	7	11	12	13	23	41	42
060	074	<	less than	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓
061	075	=	equal	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
062	076	>	greater than	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓
063	077	?	question mark	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
064	100	@	commercial at	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
065	101	A	upper-case A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
066	102	B	upper-case B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
067	103	C	upper-case C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
068	104	D	upper-case D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
069	105	E	upper-case E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
070	106	F	upper-case F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
071	107	G	upper-case G	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
072	110	H	upper-case H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
073	111	I	upper-case I	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
074	112	J	upper-case J	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
075	113	K	upper-case K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
076	114	L	upper-case L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
077	115	M	upper-case M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
078	116	N	upper-case N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
079	117	O	upper-case O	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
080	120	P	upper-case P	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
081	121	Q	upper-case Q	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
082	122	R	upper-case R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
083	123	S	upper-case S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
084	124	T	upper-case T	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
085	125	U	upper-case U	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
086	126	V	upper-case V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
087	127	W	upper-case W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
088	130	X	upper-case X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
089	131	Y	upper-case Y	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
090	132	Z	upper-case Z	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
091	133	[	open bracket	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
092	134	\	backslash	✓	✓	± ²	±	±		✓	✓	✓	✓		
093	135	]	close bracket	✓	✓	✓	✓	✓		✓	✓	✓	✓		
094	136	^	circumflex	✓	✓	° ³	°	°		✓	✓	✓	✓		
095	137	_	underline	✓	✓	✓	✓	✓		✓	✓	✓	✓		
096	140	`	grave accent	✓	✓	⊖ ⁴	⊖	⊖	✓	✓	✓	✓	✓		
097	141	a	lower-case a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
098	142	b	lower-case b	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓

² plus-or-minus symbol

³ degree symbol

⁴ theta

DEC	OCT	char	name	0	1	2	3	5	7	11	12	13	23	41	42
099	143	c	lower-case c	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
100	144	d	lower-case d	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
101	145	e	lower-case e	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
102	146	f	lower-case f	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
103	147	g	lower-case g	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
104	150	h	lower-case h	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
105	151	i	lower-case i	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
106	152	j	lower-case j	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
107	153	k	lower-case k	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
108	154	l	lower-case l	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
109	155	m	lower-case m	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
110	156	n	lower-case n	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
111	157	o	lower-case o	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
112	160	p	lower-case p	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
113	161	q	lower-case q	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
114	162	r	lower-case r	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
115	163	s	lower-case s	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
116	164	t	lower-case t	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
117	165	u	lower-case u	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
118	166	v	lower-case v	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
119	167	w	lower-case w	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
120	170	x	lower-case x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
121	171	y	lower-case y	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
122	172	z	lower-case z	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
123	173	{	open brace	✓	✓	✓	cl ⁵	cl		✓	✓	✓	✓		
124	174	|	vertical line	✓	✓	cl	✓	✓		✓	✓	✓	✓		
125	175	}	close brace	✓	✓	✓	pl ⁶	bl ⁷		✓	✓	✓	✓		
126	176	~	tilde	✓	✓	Δ ⁸	Δ	Δ		✓	✓	✓	✓		
129	201	1/2	fraction 1/2	✓	✓	✓	✓	✓					✓		
130	202	1/4	fraction 1/4	✓	✓	✓	✓	✓					✓		
131	203	3/4	fraction 3/4	✓	✓	✓	✓	✓					✓		
132	204	1/8	fraction 1/8	✓	✓	✓	✓	✓					✓		
133	205	3/8	fraction 3/8	✓	✓	✓	✓	✓					✓		
134	206	5/8	fraction 5/8	✓	✓	✓	✓	✓					✓		
135	207	7/8	fraction 7/8	✓	✓	✓	✓	✓					✓		
136	210	1/16	fraction 1/16	✓	✓	✓	✓	✓					✓		
137	211	3/16	fraction 3/16	✓	✓	✓	✓	✓					✓		

⁵ centerline symbol⁶ property line symbol⁷ baseline symbol⁸ delta

DEC	OCT	char	name	0	1	2	3	5	7	11	12	13	23	41	42
138	212	⁵ / ₁₆	fraction 5/16	✓	✓	✓	✓	✓					✓		
139	213	⁷ / ₁₆	fraction 7/16	✓	✓	✓	✓	✓					✓		
140	214	⁹ / ₁₆	fraction 9/16	✓	✓	✓	✓	✓					✓		
141	215	¹¹ / ₁₆	fraction 11/16	✓	✓	✓	✓	✓					✓		
142	216	¹³ / ₁₆	fraction 13/16	✓	✓	✓	✓	✓					✓		
143	217	¹⁵ / ₁₆	fraction 15/16	✓	✓	✓	✓	✓					✓		
144	220	¹ / ₃₂	fraction 1/32	✓	✓	✓	✓	✓					✓		
145	221	³ / ₃₂	fraction 3/32	✓	✓	✓	✓	✓					✓		
146	222	⁵ / ₃₂	fraction 5/32	✓	✓	✓	✓	✓					✓		
147	223	⁷ / ₃₂	fraction 7/32	✓	✓	✓	✓	✓					✓		
148	224	⁹ / ₃₂	fraction 9/32	✓	✓	✓	✓	✓					✓		
149	225	¹¹ / ₃₂	fraction 11/32	✓	✓	✓	✓	✓					✓		
150	226	¹³ / ₃₂	fraction 13/32	✓	✓	✓	✓	✓					✓		
151	227	¹⁵ / ₃₂	fraction 15/32	✓	✓	✓	✓	✓					✓		
152	230	¹⁷ / ₃₂	fraction 17/32	✓	✓	✓	✓	✓					✓		
153	231	¹⁹ / ₃₂	fraction 19/32	✓	✓	✓	✓	✓					✓		
154	232	²¹ / ₃₂	fraction 21/32	✓	✓	✓	✓	✓					✓		
155	233	²³ / ₃₂	fraction 23/32	✓	✓	✓	✓	✓					✓		
156	234	²⁵ / ₃₂	fraction 25/32	✓	✓	✓	✓	✓					✓		
157	235	²⁷ / ₃₂	fraction 27/32	✓	✓	✓	✓	✓					✓		
158	236	²⁹ / ₃₂	fraction 29/32	✓	✓	✓	✓	✓					✓		
159	237	³¹ / ₃₂	fraction 31/32	✓	✓	✓	✓	✓					✓		
160	240	¹ / ₆₄	fraction 1/64	✓	✓	✓	✓	✓					✓		
161	241	³ / ₆₄	fraction 3/64	✓	✓	✓	✓	✓					✓		
162	242	⁵ / ₆₄	fraction 5/64	✓	✓	✓	✓	✓					✓		
163	243	⁷ / ₆₄	fraction 7/64	✓	✓	✓	✓	✓					✓		
164	244	⁹ / ₆₄	fraction 9/64	✓	✓	✓	✓	✓					✓		
165	245	¹¹ / ₆₄	fraction 11/64	✓	✓	✓	✓	✓					✓		
166	246	¹³ / ₆₄	fraction 13/64	✓	✓	✓	✓	✓					✓		
167	247	¹⁵ / ₆₄	fraction 15/64	✓	✓	✓	✓	✓					✓		
168	250	¹⁷ / ₆₄	fraction 17/64	✓	✓	✓	✓	✓					✓		
169	251	¹⁹ / ₆₄	fraction 19/64	✓	✓	✓	✓	✓					✓		
170	252	²¹ / ₆₄	fraction 21/64	✓	✓	✓	✓	✓					✓		
171	253	²³ / ₆₄	fraction 23/64	✓	✓	✓	✓	✓					✓		
172	254	²⁵ / ₆₄	fraction 25/64	✓	✓	✓	✓	✓					✓		
173	255	²⁷ / ₆₄	fraction 27/64	✓	✓	✓	✓	✓					✓		
174	256	²⁹ / ₆₄	fraction 29/64	✓	✓	✓	✓	✓					✓		
175	257	³¹ / ₆₄	fraction 31/64	✓	✓	✓	✓	✓					✓		
176	260	³³ / ₆₄	fraction 33/64	✓	✓	✓	✓	✓					✓		
177	261	³⁵ / ₆₄	fraction 35/64	✓	✓	✓	✓	✓					✓		
178	262	³⁷ / ₆₄	fraction 37/64	✓	✓	✓	✓	✓					✓		

DEC	OCT	char	name	0	1	2	3	5	7	11	12	13	23	41	42
179	263	³⁹ / ₆₄	fraction 39/64	✓	✓	✓	✓	✓					✓		
180	264	⁴¹ / ₆₄	fraction 41/64	✓	✓	✓	✓	✓					✓		
181	265	⁴³ / ₆₄	fraction 43/64	✓	✓	✓	✓	✓					✓		
182	266	⁴⁵ / ₆₄	fraction 45/64	✓	✓	✓	✓	✓					✓		
183	267	⁴⁷ / ₆₄	fraction 47/64	✓	✓	✓	✓	✓					✓		
184	270	⁴⁹ / ₆₄	fraction 49/64	✓	✓	✓	✓	✓					✓		
185	271	⁵¹ / ₆₄	fraction 51/64	✓	✓	✓	✓	✓					✓		
186	272	⁵³ / ₆₄	fraction 53/64	✓	✓	✓	✓	✓					✓		
187	273	⁵⁵ / ₆₄	fraction 55/64	✓	✓	✓	2 ⁹	✓					✓		
188	274	⁵⁷ / ₆₄	fraction 57/64	✓	✓	✓	3 ¹⁰	✓					✓		
189	275	⁵⁹ / ₆₄	fraction 59/64	✓	✓	✓	φ ¹¹	✓					✓		
190	276	⁶¹ / ₆₄	fraction 61/64	✓	✓	✓	μ ¹²	✓					✓		
191	277	⁶³ / ₆₄	fraction 63/64	✓	✓	✓	bl ₁₃	✓					✓		
200	310	±	plus/minus							✓		✓			

⁹ superscript 2 (squared)

¹⁰ superscript 3 (cubed)

¹¹ diameter symbol

¹² mu (micro symbol)

¹³ baseline symbol

Standard Special Symbols

Arial (TrueType Font)		
For:	Enter:	Description
centerline symbol		Icon located in cell library*
property line symbol		
baseline symbol		
delta (Δ)		
theta (Θ)		
micro (μ)		
degree ($^\circ$)	%%d	Degree Symbol
plus-or-minus (\pm)	%%p	Plus/Minus Symbol
diameter (\varnothing)	%%c	Diameter System

LEROYMON (Font #3)		
For:	Enter:	Description
centerline symbol	{ or \123	left brace
property line symbol	} or \125	right brace
baseline symbol	63/64 or \191	⁶³ / ₆₄
delta (Δ)	~ or \126	tilde
theta (Θ)	` or \96	left single quote (accent)
degree ($^\circ$)	^ or \94	caret
plus-or-minus (\pm)	\ or \92	backslash
diameter (\varnothing)	59/64 or \189	⁵⁹ / ₆₄
micro (μ)	61/64 or \190	⁶¹ / ₆₄
squared (superscript 2; ²)	55/64 or \187	⁵⁵ / ₆₄
cubed (superscript 3; ³)	57/64 or \188	⁵⁷ / ₆₄

LEROYSTD (Font #5)		
Font #5 is to be used only on Standard Drawings.		
For:	Enter:	Description
centerline symbol	{ or \123	left brace
baseline symbol	} or \125	right brace
delta (Δ)	~ or \126	tilde
theta (Θ)	` or \96	left single quote (accent)
degree ($^\circ$)	^ or \94	caret
plus-or-minus (\pm)	\ or \92	backslash
diameter (\varnothing)	\$ or \36	dollar

* Arial does not create the keyboard shortcut. Symbols can be found in the cell library.

Standard Text Styles – TDOTmain.dgnlib

<C:\Users\Public\MicroStation Standards\dgnlib>

The dgnlib file contains standard text styles which can be used for placing general labels or notes not automatically placed by special functions or other programs. DGN seed files have the same text styles loaded by default as well. Text styles accessed through MicroStation's text tools set the basic text parameters based on a scale of 50 and the desired color. To use these to their best advantage they should be accessed through the special VBA programs Text **Styles Plus** and **XS Text Styles Plus**. These programs not only set the appropriate text style but also the level and weight required. The text sizes are automatically updated based on the current active scale and the current active color is set to match the text style color in case leader lines are required. They can be accessed via the TDOT drop down menu or from GEOPAK's D&C Manager.

Text Style List

Aerial Survey - Photo Control	Profile - Prop.
Building - Exist.	Profile Curve - Prop.
Business - Functional	Profile Drainage - Natural
Centerline - Exist. Road	Profile Drainage - Prop.
Centerline - Prelim.	Profile Drainage Bridge - Exist.
Centerline - Prop.	Profile Drainage Pipe & Culvert - Exist.
Centerline Curve - Exist. Road	Profile Drainage Storm Sewer - Exist.
Centerline Curve - Prelim.	Profile Drainage Storm Sewer - Prop.
Centerline Curve - Prop.	Profile Existing Road
Drainage - Natural	Profile Ground Line
Drainage - Prop.	Profile Project Info - Exist.
Drainage Area Shape - Exist.	Profile Project Info Name - Exist.
Drainage Br. & Cross Drain Size Prop.	Profile Survey Control
Drainage Br. Deck - Exist.	Profile Utilities Cable – Exist.
Drainage Br. Hydraulic Data - Exist.	Profile Utilities Electric - Exist.
Drainage Bridge - Exist.	Profile Utilities Gas - Exist.
Drainage Pipe & Culvert - Exist.	Profile Utilities OH - Exist.
Drainage Storm Sewer - Exist.	Profile Utilities Sanitary Sewer - Exist.
Easement - Exist.	Profile Utilities Telephone - Exist.
Erosion Control	Profile Utilities Water - Exist.
Guardrail - Exist.	Project Info - Exist.
Guardrail - Prop.	Project Limits
Lighting - Prop.	Property Line - Exist.
Non-Transportation - Exist.	Property Marker - Exist.
Pavement Marking - Exist.	Property Owner
Pavement Marking - Prop.	Property Tract/Parcel Number
Political Boundary	Railroad - Exist.

Roads - Exist
Roads - Functional
Roads - Prop.
Roadside Barriers - Exist.
Roadside Barriers - Prop.
ROW & Easements - Prop.
ROW - Exist.
ROW - Functional
ROW Bearing & Distance - Prop.
ROW Marker - Exist.
ROW Sta. & Offset - Exist.
ROW Sta. & Offset - Prop.
Scarification - Prop.
Scratch
Signalization - Prop.
Signs - Exist.
Signs - Prop.
Signs - Temporary
Slope Line - Prop.
Survey Control
Survey Control - Temporary
Traffic Control - Exist.
Traffic Control - Prop.
Traffic Control - Temporary
Transportation - Exist.
Transportation - Prop.
Transportation Urban - Exist.
Transportation Urban - Prop.
Utilities Cable UG - Exist.
Utilities Cable OH - Prop.
Utilities Cable UG - Prop.
Utilities Electric & Cable OH - Prop.
Utilities Electric OH - Exist.
Utilities Electric OH - Prop.
Utilities Electric Tele. & Cable OH - Prop.
Utilities Electric UG - Exist.
Utilities Electric UG - Prop.
Utilities Fiber Optic UG - Exist.
Utilities Fiber Optic OH - Prop.
Utilities Fiber Optic UG - Prop.
Utilities Gas - Exist.
Utilities Gas - Prop.
Utilities Lighting - Exist.
Utilities Lighting - Prop.
Utilities Owners - Exist.
Utilities Poles - Exist.
Utilities Sanitary Sewer - Exist.
Utilities Sanitary Sewer - Prop.
Utilities Telephone OH - Exist.
Utilities Telephone OH - Prop.
Utilities Telephone UG - Exist.
Utilities Telephone UG - Prop.
Utilities Water - Exist.
Utilities Water - Prop.
Vegetation - Exist.
Vegetation - Prop.
XS Bridge Limits - Prop.
XS Drainage - Exist.
XS Drainage - Prop.
XS Finished Grade - Prop.
XS Finished Grade Slopes - Prop.
XS Pavement - Exist.
XS Retaining Wall - Prop.
XS ROW - Exist.
XS ROW - Prop.
XS Subgrade Slopes - Prop.
XS Superelevation Limits - Prop.

Standard Line Styles - TDOTLINE.RSC

<C:\Users\Public\MicroStation Standards\symb>

This file contains custom line styles used by the Design Division. The file was created in 2D so line styles can be used in 2D or 3D design files. All line styles are created at a scale of 1. Custom line styles are used automatically by GEOPAK's D&C manager DDB database and SMD feature table.

To use a line style at a particular scale, make the appropriate settings as follows:

1. Go to the **Attributes** toolbox and under line style selection choose the line style by name, go to the drop down menu option **Element > Line Styles > Custom** or keyin **LINestyle SETTINGS** and choose the line style from the **Line Styles** dialog by double clicking on it.
2. To set the scale, in the **Line Styles** dialog click on the **Scale Factor** button if not already on and set the scale factor to the scale value desired. In GEOPAK's D&C manager go to the drop-down option **Settings > Design**.
3. Use whatever element placement tool needed and appearance will be as desired.

To change the scale of element(s) using a custom linestyle:

1. Fence the elements or group together with a selection set if you wish to apply the new scale to multiple elements at one time.
2. From the TDOT drop down menu bar under **Custom Line Styles** pick tool **Change Line Style Scale**. In the tool's dialog enter the desired scale.
Or keyin **CHANGE LINestyle SCALE** (new scale).
3. Data point to accept the fence contents or to identify a single element to set the scale. Active selection sets are automatically updated to the new scale.

To change the location of text or symbols on an element using a custom linestyle to improve readability or appearance:

1. On the **Change Attributes** toolbox get the **Modify Linestyle** command. Set the tool settings bar to **Shift**.
2. Identify element with a data point and then move cursor left or right to shift symbols.
3. Data point to accept new location.

NOTE: You can also access this through the keyin... MODIFY LIFESTYLE SHIFT or from the TDOT drop down menu bar under Custom Line Styles.

Example: This is a great way to fix short property lines on which a PL symbol did not show up.

To flip or reverse the display of a custom linestyle

1. On the ***B Spline Modify Curves*** toolbox get the ***Change Element Direction*** command.
2. Identify the beginning of element with a data point and then data point near the other end to indicate the new beginning location.

NOTE: You can also access this through the keyin... CHANGE DIRECTION or from the TDOT drop down menu bar under *Custom Line Styles*. Custom line styles which include text are set up to auto-rotate and are not affected when this function is used.

Custom Line Style Name List

0 BLANK	14"ST LINE	20"SUE WATER LINE
1"GAS LINE	14"SUE GAS LINE	20"WATER LINE
1"GAS LINE PROP	14"SUE SA LINE	20"WATER LINE PROP
1"SUE GAS LINE	14"SUE WATER LINE	22"FMS LINE
1"SUE WATER LINE	14"WATER LINE	22"FMS LINE PROP
1"WATER LINE	14"WATER LINE PROP	20"GAS LINE
1"WATER LINE PROP	15"GAS LINE	20"GAS LINE PROP
1-1/2"GAS LINE	15"GAS LINE PROP	22"SA LINE
1-1/2"GAS LINE PROP	15"SA LINE	22"SA LINE PROP
1-1/2"WATER LINE	15"SA LINE PROP	22"ST LINE
1-1/2"WATER LINE PROP	15"ST LINE	22"SUE GAS LINE
1-1/4"GAS LINE	15"SUE GAS LINE	22"SUE SA LINE
1-1/4"GAS LINE PROP	15"SUE SA LINE	22"SUE WATER LINE
1-1/4"SUE GAS LINE	15"SUE WATER LINE	22"WATER LINE
1-1/4"SUE WATER LINE	15"WATER LINE	22"WATER LINE PROP
1-1/4"WATER LINE	15"WATER LINE PROP	24"FMS LINE
1-1/4"WATER LINE PROP	16"FMS LINE	24"FMS LINE PROP
1/2"GAS LINE	16"FMS LINE PROP	24"GAS LINE
1/2"GAS LINE PROP	16"GAS LINE	24"GAS LINE PROP
1/2"SUE GAS LINE	16"GAS LINE PROP	24"SA LINE
1/2"SUE WATER LINE	16"SA LINE	24"SA LINE PROP
1/2"WATER LINE	16"SA LINE PROP	24"ST LINE
1/2"WATER LINE PROP	16"ST LINE	24"SUE GAS LINE
10"FMS LINE	16"SUE GAS LINE	24"SUE SA LINE
10"FMS LINE PROP	16"SUE SA LINE	24"SUE WATER LINE
10"GAS LINE	16"SUE WATER LINE	24"WATER LINE
10"GAS LINE PROP	16"WATER LINE	24"WATER LINE PROP
10"SA LINE	16"WATER LINE PROP	26"FMS LINE
10"SA LINE PROP	18"FMS LINE	26"FMS LINE PROP
10"ST LINE	18"FMS LINE PROP	26"GAS LINE
10"SUE GAS LINE	18"SA LINE	26"GAS LINE PROP
10"SUE SA LINE	18"SA LINE PROP	26"SA LINE
10"SUE WATER LINE	18"ST LINE	26"SA LINE PROP
10"WATER LINE	18"SUE GAS LINE	26"WATER LINE
10"WATER LINE PROP	18"SUE SA LINE	26"WATER LINE PROP
12"FMS LINE	18"SUE WATER LINE	27"SA LINE
12"FMS LINE PROP	18"WATER LINE	27"SA LINE PROP
12"GAS LINE	18"WATER LINE PROP	27"ST LINE
12"GAS LINE PROP	2"FMS LINE	27"SUE GAS LINE
12"SA LINE	2"FMS LINE PROP	27"SUE SA LINE
12"SA LINE PROP	2"GAS LINE	27"SUE WATER LINE
12"ST LINE	2"GAS LINE PROP	27"WATER LINE
12"SUE GAS LINE	2"SUE GAS LINE	27"WATER LINE PROP
12"SUE SA LINE	2"SUE WATER LINE	28"FMS LINE
12"SUE WATER LINE	2"WATER LINE	28"FMS LINE PROP
12"WATER LINE	2"WATER LINE PROP	28"SA LINE
12"WATER LINE PROP	20"FMS LINE	28"SA LINE PROP
14"FMS LINE	20"FMS LINE PROP	3"GAS LINE
14"FMS LINE PROP	20"SA LINE	3"GAS LINE PROP
14"GAS LINE	20"SA LINE PROP	3"SUE GAS LINE
14"GAS LINE PROP	20"ST LINE	3"SUE WATER LINE
14"SA LINE	20"SUE GAS LINE	3"WATER LINE
14"SA LINE PROP	20"SUE SA LINE	3"WATER LINE PROP

3/4"GAS LINE	40"SUE GAS LINE	8"SA LINE PROP
3/4"GAS LINE PROP	40"SUE SA LINE	8"SUE GAS LINE
3/4"SUE GAS LINE	40"SUE WATER LINE	8"SUE SA LINE
3/4"SUE WATER LINE	40"WATER LINE	8"SUE WATER LINE
3/4"WATER LINE	40"WATER LINE PROP	8"WATER LINE
3/4"WATER LINE PROP	42"SA LINE	8"WATER LINE PROP
30"FMS LINE	42"SA LINE PROP	BARRICADE
30"FMS LINE PROP	42"ST LINE	BARRIER WALL PORT
30"GAS LINE	42"SUE GAS LINE	BERM
30"GAS LINE PROP	42"SUE SA LINE	BRIDGE DRAIN 18" PROP
30"SA LINE	42"SUE WATER LINE	BRUSH LINE
30"SA LINE PROP	42"WATER LINE	C&G 4-30 M
30"ST LINE	42"WATER LINE PROP	C&G 4-30 RM
30"SUE GAS LINE	45"SA LINE	C&G 4-36 M
30"SUE SA LINE	45"SA LINE PROP	C&G 4-42 M
30"SUE WATER LINE	45"ST LINE	C&G 6-30
30"WATER LINE	45"SUE SA LINE	C&G 6-33 M
30"WATER LINE PROP	45"SUE WATER LINE	C&G 6-36
32"SA LINE	48"SA LINE	C&G 6-39 M
32"SA LINE PROP	48"SA LINE PROP	C&G 6-42
32"ST LINE	48"ST LINE	C&G 6-45 M
32"SUE GAS LINE	48"SUE SA LINE	CABLE
32"SUE SA LINE	48"SUE WATER LINE	CABLE (UG)
32"SUE WATER LINE	5/8"GAS LINE	CABLE (UG) PROP
32"WATER LINE	5/8"GAS LINE PROP	CABLE PROP
32"WATER LINE PROP	54"SA LINE	CENTER LINE
34"SA LINE	54"SA LINE PROP	CITY LINE
34"SA LINE PROP	54"ST LINE	CLTEMP
34"ST LINE	54"SUE SA LINE	COCONUT FIBER ROLL
34"SUE GAS LINE	6"FMS LINE	COMPOST FILTER BERM
34"SUE SA LINE	6"FMS LINE PROP	CONTINUOUS
34"SUE WATER LINE	6"GAS LINE	COUNTY LINE
34"WATER LINE	6"GAS LINE PROP	CROSSWALK
34"WATER LINE PROP	6"SA LINE	CROSSWALK LONGITUDINAL
36"GAS LINE	6"SA LINE PROP	CURB
36"GAS LINE PROP	6"SUE GAS LINE	CURB 4" M TYPE A
36"SA LINE	6"SUE SA LINE	CURB 4" M TYPE B
36"SA LINE PROP	6"SUE WATER LINE	CURB 6" M TYPE A
36"ST LINE	6"WATER LINE	CURB 6" M TYPE B
36"SUE GAS LINE	6"WATER LINE PROP	CURB 6" TYPE A
36"SUE SA LINE	60"SA LINE	CURB 6" TYPE B
36"SUE WATER LINE	60"SA LINE PROP	DASH
36"WATER LINE	60"ST LINE	DASH3
36"WATER LINE PROP	60"SUE SA LINE	DIMENSION LINE
4"FMS LINE	66"SA LINE	DITCH SPEC
4"FMS LINE PROP	66"SA LINE PROP	DITCH SPEC SHORT
4"GAS LINE	66"ST LINE	DIV CHAN TEMP
4"GAS LINE PROP	66"SUE SA LINE	DOTS
4"SA LINE	72"SA LINE	EROSION CONTROL BLANKET TYPE 1
4"SA LINE PROP	72"SA LINE PROP	EROSION CONTROL BLANKET TYPE 2
4"SUE GAS LINE	72"ST LINE	EROSION CONTROL BLANKET TYPE 3
4"SUE WATER LINE	72"SUE SA LINE	EROSION CONTROL BLANKET TYPE 4
4"WATER LINE	8"FMS LINE	FENCE
4"WATER LINE PROP	8"FMS LINE PROP	FENCE HIGH VISIBILITY
40"SA LINE	8"GAS LINE	FIBER (UG)
40"SA LINE PROP	8"GAS LINE PROP	FIBER (UG) PROP
40"ST LINE	8"SA LINE	FIBER OPTIC

FIBER OPTIC PROP	MEDIAN SLOPE	PVMT MRK TEMP STRIP
FILTER BARRIER	MULCH FILTER BERM	PROFILEGRID
FILTER SOCK 12"	OH WIRE XING	PROPERTY W/FN
FILTER SOCK 18"	P/C	RAILROAD
FILTER SOCK 24"	P/C PROP	RADIUS SLOPE
FILTER SOCK 8"	P/T	RETAINING WALL
FLEXIBLE CHANNEL LINER CLASS 3	P/T PROP	ROCK WALL
FLEXIBLE CHANNEL LINER CLASS 4	P/T/C	ROW CA FENCE PROP
FLOATING TURBIDITY CURTAIN	P/T/C PROP	ROW CA PROP
FMS LINE	PAP LOC CL	ROW FENCE EX
FMS LINE PROP	PIPE CULVERT 18" PROP	ROW LINE
FOREST LINE	PIPE CULVERT 18" TEMP	RUMBLE STRIP 16" CONT
GAS LINE	PIPE CULVERT 24" PROP	RUMBLE STRIP 16" NON-CONT
GAS LINE PROP	PIPE CULVERT 24" TEMP	RUMBLE STRIP 36" CONCRETE
GR BR END PROP	PIPE CULVERT 30" PROP	RUMBLE STRIPE 4" NON-CONT
GR BR RAIL PROP	PIPE CULVERT 30" TEMP	RUMBLE STRIPE 8" NON-CONT
GR TERM INLINE	PIPE CULVERT 36" PROP	SA LINE
GR TERM TYPE 12	PIPE CULVERT 36" TEMP	SA LINE PROP
GR TERM TYPE 13	PIPE CULVERT 42" PROP	SA SEWER
GR TERM TYPE 21	PIPE CULVERT 42" TEMP	SAND BAG
GR TERM TYPE 38	PIPE CULVERT 48" PROP	SAND BAG2
GRID LINE	PIPE CULVERT 48" TEMP	SEDIMENT TUBE 12"
GUARDRAIL LT	PIPE CULVERT 54" PROP	SEDIMENT TUBE 18"
GUARDRAIL MED	PIPE CULVERT 54" TEMP	SEDIMENT TUBE 20"
GUARDRAIL MED PROP	PIPE CULVERT 60" PROP	SEDIMENT TUBE 24"
GUARDRAIL RT	PIPE CULVERT 60" TEMP	SEDIMENT TUBE 8"
GUARDRAIL SIN PROP	PIPE CULVERT 66" PROP	SIDE DRAIN 24" PROP
GUY	PIPE CULVERT 66" TEMP	SIDE DRAIN 30" PROP
GUY PROP	PIPE CULVERT 72" PROP	SIDE DRAIN 36" PROP
HANDICAP RAMP	PIPE CULVERT 72" TEMP	SIDE DRAIN 42" PROP
HATCH IN (CW)	PIPE CULVERT 78" PROP	SIDE DRAIN 48" PROP
HATCH OUT (CW)	PIPE CULVERT 84" PROP	SIDE DRAIN 54" PROP
HAY BALES	POWER	SIDE DRAIN 60" PROP
HEDGE	POWER (UG)	SIDE DRAIN 66" PROP
INSTREAM DIVERSION	POWER (UG) PROP	SIGNAL LOOP WIRE
JACKED BORED CONDUIT 1"	POWER PROP	SIGNAL LOOP WIRE OFF PVMT
JACKED BORED CONDUIT 2"	POWER/CABLE	SIGNAL SPAN WIRE
JACKED BORED CONDUIT 3"	POWER/CABLE PROP	SILT FENCE
JACKED BORED CONDUIT 4"	PROPERTY	SILT FENCE BACKED
LEADER LARGE	PVMT MRK 10-30 W 4"	SILT FENCE ENHANCED
LEADER LINE	PVMT MRK 10-30 W 6"	SLOPE DRAIN 10" TEMP
LEADER SMALL	PVMT MRK 2-4 W 4"	SLOPE DRAIN 12" TEMP
LIVE FASCINE	PVMT MRK 2-4 W 6"	SLOPE DRAIN 15" PERM
LIVE SILTATION	PVMT MRK 2-4 W 8"	SLOPE DRAIN 15" TEMP
LONG DASH DOT	PVMT MRK 3-12 W 8"	SLOPE DRAIN 18" PERM
LONG SHORT DASH	PVMT MRK DBL 10-30 LT Y 4"	SLOPE DRAIN 18" TEMP
LONG TWO SHORT	PVMT MRK DBL 10-30 RT Y 4"	SLOPE DRAIN 24" PERM
LONGITUDINAL STONE TOE	PVMT MRK DBL SOL Y 4"	SLOPE DRAIN 30" PERM
MB GLARE WALL	PVMT MRK REMOVE STRIP	SLOPE DRAIN 36" PERM
MB GLARE WALL-PIER	PVMT MRK SOL W 12"	SLOPE DRAIN 8" TEMP
MB SINGLE SLOPE WALL	PVMT MRK SOL W 24"	SOLID
MB SINGLE SLOPE WALL-HALF	PVMT MRK SOL W 4"	ST SEWER
MB SINGLE SLOPE WALL-PIER	PVMT MRK SOL W 6"	ST SEWER 12" PROP
MB WALL	PVMT MRK SOL W 8"	ST SEWER 12" PROP CL4
MB WALL-GR	PVMT MRK SOL Y 12"	ST SEWER 12" PROP CL5
MB WALL-HALF	PVMT MRK SOL Y 4"	ST SEWER 15" PROP
MB WALL-PIER	PVMT MRK SOL Y 6"	ST SEWER 15" PROP CL4

ST SEWER 15" PROP CL5	ST SEWER 66" PROP	STOP LINE
ST SEWER 18" PROP	ST SEWER 66" PROP CL4	STREAM
ST SEWER 18" PROP CL4	ST SEWER 66" PROP CL5	SUE FIBER
ST SEWER 18" PROP CL5	ST SEWER 66" PROP UNSPECIFIED	SUE GAS LINE
ST SEWER 18" PROP UNSPECIFIED	ST SEWER 72" PROP	SUE P/T
ST SEWER 24" PROP	ST SEWER 72" PROP CL4	SUE POWER
ST SEWER 24" PROP CL4	ST SEWER 72" PROP CL5	SUE SA SEWER
ST SEWER 24" PROP CL5	ST SEWER 72" PROP UNSPECIFIED	SUE TV
ST SEWER 24" PROP UNSPECIFIED	ST SEWER 78" PROP	SUE UNKNOWN
ST SEWER 30" PROP	ST SEWER 78" PROP CL4	SUE WATER LINE
ST SEWER 30" PROP CL4	ST SEWER 78" PROP CL5	SWAMP LINE
ST SEWER 30" PROP CL5	ST SEWER 78" PROP UNSPECIFIED	T/C
ST SEWER 30" PROP UNSPECIFIED	ST SEWERM 1050 PROP	T/C PROP
ST SEWER 36" PROP	ST SEWERM 1050 PROP UNSPECIFIED	TELEPHONE
ST SEWER 36" PROP CL4	ST SEWERM 1200 PROP	TELEPHONE (UG)
ST SEWER 36" PROP CL5	ST SEWERM 1200 PROP UNSPECIFIED	TELEPHONE (UG) PROP
ST SEWER 36" PROP UNSPECIFIED	ST SEWERM 1350 PROP	TELEPHONE PROP
ST SEWER 42" PROP	ST SEWERM 1350 PROP UNSPECIFIED	TRENCH DRAIN
ST SEWER 42" PROP CL4	ST SEWERM 1500 PROP	TURF REINFORCEMENT MAT CLASS 1
ST SEWER 42" PROP CL5	ST SEWERM 1500 PROP UNSPECIFIED	TURF REINFORCEMENT MAT CLASS 2
ST SEWER 42" PROP UNSPECIFIED	ST SEWERM 300 PROP	TURF REINFORCEMENT MAT CLASS 3
ST SEWER 48" PROP	ST SEWERM 300 PROP UNSPECIFIED	TV(UG)
ST SEWER 48" PROP CL4	ST SEWERM 375 PROP	TYPE 12 SLOPE
ST SEWER 48" PROP CL5	ST SEWERM 375 PROP UNSPECIFIED	TYPE 21 SLOPE
ST SEWER 48" PROP UNSPECIFIED	ST SEWERM 450 PROP	TYPE 38 SLOPE
ST SEWER 54" PROP	ST SEWERM 450 PROP UNSPECIFIED	WATER LINE
ST SEWER 54" PROP CL4	ST SEWERM 600 PROP	WATER LINE PROP
ST SEWER 54" PROP CL5	ST SEWERM 600 PROP UNSPECIFIED	YIELD LINE
ST SEWER 54" PROP UNSPECIFIED	ST SEWERM 750 PROP	
ST SEWER 60" PROP	ST SEWERM 750 PROP UNSPECIFIED	
ST SEWER 60" PROP CL4	ST SEWERM 900 PROP	
ST SEWER 60" PROP CL5	ST SEWERM 900 PROP UNSPECIFIED	
ST SEWER 60" PROP UNSPECIFIED	STATE LINE	

Standard MicroStation Macros

These customized programs/tools are used to provide access to cells or other programs, produce graphics or manipulate them and to perform calculations. All cell access dialogs include a button for MicroStation's Cell Tools for special placement options such as placement with a spin to set the angle or placement along another element at a user defined spacing.

All of these are available through the TDOT drop down menu or through GEOPAK's D&C Manager. The VBA program **TDOT Design Division Toolbox** is another alternate way to access most of the most commonly used tools. See PDF documentation file [TDOTDesignDivisionPrograms.pdf](#) for complete workflows and methods of use for these programs.

Visual Basic Applications

[C:\Users\Public\MicroStation Standards\vba](#)

AerialSurveyGraphicsLevelFix.mvba

Generates a selection set of all graphics in the file and then reads graphic group numbers to determine levels graphics should be on and then changes the level as needed. This program is set up specifically to fix old Aerial Survey project design files converted to V8.

AerialSurveysProcessSurfaceTextFiles.mvba

This program is set up for use by Aerial Survey personnel to generate DTM surface graphics from ASCII text files and then check this surface information by building surfaces from them. It automatically reads the text files and displays spot points and break lines in the DGN file and then sets up the views for reviewing. Various aerial survey software functions including creating a surface, displaying & deleting contours and ultimately saving the surface are started for the user when requested. A list box with all surface ASCII text files from the current folder is provided for selection for batch processing. The following command buttons are provided for the surface review process: Create DGN File, Open DGN File, Build Surface & Review then View Contours & Set Front View, Delete Contours & Save Surface then Set Up Final Views.

AerialSurveysUpdateSurfaceFile.mvba

This program is set up for use by Aerial Survey personnel to use when checking surface information and building surfaces from them. It automatically converts the files to V8, sets up views for reviewing and automatically starts various aerial survey software functions for setting coordinate system, creating a surface, displaying & deleting contours and ultimately saving the surface and creating an

updated V7 DGN file. A list box with all DGN files from the current folder is provided for selection for batch processing. The following command buttons are provided for the surface review process: Open Selected File, Build Surface & Review then View Contours & Set Front View, Delete Contours & Save Surface then Set Up Final Views, Finalize DGN & Save as V7 (This function paces V7 files in sub folder UpdatedV7DGNs under the current folder. If it does not exist, the sub folder is created).

AerialSurveyUpdateContours.mvba

This program deletes the current Aerial Survey contour graphics, compresses the file and using ISEE software updates the surface and generates new contours. Finally, the program reactivates the ISSD software.

AerialSurveySurfaceGraphicsLevelFix.mvba

This program generates a selection set of all graphics in the file and then reads the type to trap for lines. If the line only has 2 vertices that match within a tolerance, they are moved to level number 325 for points. If the line has more than 2 vertices or 2 different vertices, they are moved to level number 29 for breaklines. This program is set up specifically to fix surface files generated by others in which the graphics are on the wrong level for our use. The program allows processing of multiple files. A message box comes up when all files are processed.

AerialSurveyTools.mvba

This program provides a dialog access point to various aerial survey tools not automatically used by aerial survey software including the following programs:

- MFC to DTM

 - Convert Aerial Survey topographic data to DTM specifications

- View On 1 to 4

 - Set views in Aerial Survey files for photo review and clean up

- Update Contours

 - Delete contour graphics, update the ISEE Surface, generate new contours & restart ISSD software.

- Fix Topo Levels by ISFC Feature Number

 - Fix topographic graphics levels by ISFC feature number

- Fix levels in DTM files by Element Type

 - Fix surface graphics levels in DTM files by MicroStation element type

AerialSurveyUpdateContours.mvba

This program deletes the current Aerial Survey contour graphics, compresses the file and using ISEE software updates the surface and generates new contours. Finally, the program reactivates the ISSD software.

ArcRadiusLengthLabel.mvba

Calculates the radius and length from an arc element and sets it up for placement as a label. Text can be placed at the angle of the tangent line at the point of identification or it can be placed horizontal to the view with a leader line as a flag. Program will process arcs in complex strings. Metric application includes both metric & English measurements.

AreaPatterns.mvba

This program provides access to Design Division area pattern cells. Clicking on any area pattern in the dialog list will make all settings for that area pattern, start the area pattern tool and show an example in the preview window. In addition, it sets the active level used for the area pattern. The active scale is given in a keyin field which is used to control the pattern scale and pattern delta. Command buttons are provided to Change pattern Element Level, place Area pattern (to restart the area pattern command) and Change Shape To Fill Solid Black.

BarrierRailCells.mvba

This program provides access to TDOT Structure Division STD Design cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

BatchTextEditor.mvba

This program looks for the specified text string in the selected DGN files and changes it to the new text string given. It uses the MicroStation Find/Replace text tool to make the changes. Match Case and Edit Text in Cells is enabled. No confirmation is offered and all changes are automatically done so it is critical that a full example of the text string is provided to avoid changing the wrong text.

This tool was specifically created to edit project numbers when they change but can be used to edit any text string in multiple DGN files.

BeamTypeCells.mvba

This program provides access to TDOT Structure Division Beam Type, Bulb Tee and etc. cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

BlankSignCells.mvba

Access blank sign and sign component cells.

BoxBeamcells.mvba

This program provides access to TDOT Structure Division Box Beam Design cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

BridgeLevelModify.mvba

This program activates TDOT Structure Data and sets the active level, color, weight and style. The current active scale is shown with a keyin field to reset as needed. Scale is used to control the text size in conjunction with the standard size associated with the text style. This includes all text styles except for those used on cross sections.

Clicking on any text style description in the dialog list, activates the text style and sets the appropriate active level, color and weight.

A command button is provided to access TDOT Structure Division visual basic application which is used to set any standard text size based on active scale (command button: Alternate STD Text Size). A command button is provided to access the Place Label with Leader Line vba program.

CellPlaceRotateTools.mvba

This example will place a cell then dynamically rotate it so it can be placed at a user defined angle.

CellTools.mvba

This program provides the following tools to facilitate placement of cells. They are called automatically by cell dialogs when alternate cell placement options are chosen. Programs will function without input from those dialogs since they just use the currently active cell.

CenterlineCells.mvba

This program provides access to TDOT Design Division centerline cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Place/Rotate. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect. Special cell placement methods are processed by visual basic application CellTools.mvba. A command button is provided to restart cell placement at the currently selected cell placement type.

ChangeLinestyleScale.mvba

This program is used to change the line style scale on existing lines that have a custom line style applied on them. The current active scale is read at program start up and is shown in a keyin field. This value which can be set as needed by the user is used to build the keyin to change the line style scale. After setting the scale desired the user can immediately apply by identifying an element or accepting the fence contents if a fence is active. Active selection sets are automatically updated to the new scale. A command button is provided to restart the command with the current specified scale after using other MicroStation commands.

CodePavementLayers.mvba

Place pavement schedule pavement codes with vertical or dynamic leader and a dot terminator.

ConceptLevelModify.mvba

This program activates TDOT STID and sets the active level, color, weight and style. The current active scale is shown with a keyin field to reset as needed. Scale is used to control the text size in conjunction with the standard size associated with the text style. This includes all text styles except for those used on cross sections.

Clicking on any text style description in the dialog list, activates the text style and sets the appropriate active level, color and weight.

A command button is provided to access TDOT STID visual basic application which is used to set any standard text size based on active scale (command button: Alternate STD Text Size).

A command button is provided to access the Place Label with Leader Line vba program.

ConceptSheetcells.mvba

Access STID sheet title cells.

ConditionCodesEtccells.mvba

This program provides access to TDOT STID Division Condition Codes and Etc. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

ConstructionSignCells.mvba

Access construction sign cells. Includes tools for placement of annotation, leader lines and symbols as permanent or temporary signs.

CountyMapConvertTools.mvba

This program provides access to CADD Support tools used in converting Mapping Division (Planning) county map DGNS to Design Division standards for later use in our plans.

Program includes tools to area pattern boundaries of cities and other political entities as well as water surface features. These are set up as plotter patterns as used by Mapping, which we no longer use.

Clicking on any area pattern description in the dialog list, will make all needed settings for that area pattern, start the area pattern tool and show an example in the preview window. In addition, it sets the active level used for the area pattern and sets the pattern cell as the active cell for review as needed. The current active scale is shown with a keyin field to reset as needed. Scale is used to control the pattern scale and pattern delta which is applied.

The Reset Area Pattern command button is provided to make all area pattern settings based on the current selection and restart the area pattern command without re-selecting from the area pattern list. Since shapes are sometimes defined as holes, a command button, Change Hole to Solid, is provided which starts MicroStation tool Change Area to change them to solids so that they can be area patterned.

The Change Pattern Element Level command button turns on the graphic group lock and starts the change level command so user can correct area pattern's level as needed.

The Change Pattern Shape Level to Scratch Level command button is provided to level move pattern shapes to the scratch level after patterning is finished.

The Set Up NAD 27 DGN For Reference to Design DGN and Set Up NAD 83 DGN For Reference to Design DGN command buttons are provided to set up a Mapping Division DGN saved view used to reference to a Design Division DGN based on the NAD27 or NAD83 datums respectively. They also add lines drawn to specific coordinate values which are used when saving the view and during attachment later.

The Set Levels - Boundary Chk command button is provided to turn levels off and on as needed to check patterning with boundary lines as they are shown on the map

The Make Final DGN Settings command button makes various settings to finalize the county map DGN for distribution. These include levels displayed, views 2-8 off, fill on, view 1 fitted, references detached, file compressed, and final settings saved.

CrashIdentifierCells.mvba

This program provides access to TDOT STID Division Crash Identifier cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

CrashLegendCells.mvba

This program provides access to TDOT STID Division Crash Legend cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

CrossDrain_TabInfo.mvba

DeleteAllXSectionGrids.mvba

Deletes all working cross section grids by level name. When the program is executed, it records all levels currently shown in view 1, turns all levels off and then turns all working cross section grid levels on using their names. It then sets up a temporary fence and does a void delete on all graphics. Finally, it restores the levels originally displayed in view 1.

DeleteEarthWorkShapes.mvba

Deletes all earthwork shape graphics by level name. When the program is executed, it records all levels currently shown in view 1, turns all levels off and then turns the earthwork shape level on using its name. It then sets up a temporary fence and does a void delete on all graphics. Finally, it restores the levels originally displayed in view 1.

DeletePropXSectionGraphics.mvba

Deletes all proposed cross section graphics by level name. When the program is executed, it records all levels currently shown in view 1, turns all levels off and then turns all proposed cross section levels on using their names. It then sets up a temporary fence and does a void delete on all graphics. Finally, it restores the levels originally displayed in view 1.

DistanceBearingLabel.mvba

Calculates the bearing angle and distance from a line or line string segment and sets it up for placement as a label. Text can be placed at the angle of the line or it can be placed horizontal to the

view with a leader line as a flag. Program will process line or line strings in complex strings. Metric application includes both metric & English measurements.

DPprofile.mvba

This program was primarily designed to issue a data point based on station and elevation on the profile. It also includes options to dynamically track station and elevation values on the profile and to place labels for them. Dynamic tracking options include dynamic graphic label, station lock and elevation lock. Locks allow dynamic tracking on just station or elevation. GEOPAK accuracy format controls are provided for station and elevation. These control values placed with labels and when using the dynamic tracking function. When placing labels, the current active element symbology and text settings are used to control all aspects of the labels which are placed. For this reason, a command button is provided to access the Text Styles plus program to aide in making these settings. The length of the leader line which is placed with the labels is controlled dynamically by the user. Annotation may be placed above or below the profile point being labeled.

DrainagePlanCells.mvba

Access drainage plan view cells. Includes access to programs to place box culverts or bridges, pipe endwalls and to draw flow direction.

DrainageProfileCells.mvba

Access drainage profile view cells. Includes access to programs to place box culverts or bridges, slab culverts or bridges and pipes.

DrawBoxPlan.mvba

This program draws proposed box culverts or bridges in the plan view. Options are provided in the dialog for the structure's number of barrels, barrel width, barrel height, short wing wall length, long wing wall length, wall thickness, skew angle and skew direction. Label options include scale to control the size of text and terminator cell, choice to place label as a flag with leader lines and a drop-down list for the terminator type including None, Large Arrow, Standard Arrow & Small Arrow.

The wing wall dimensions are optional, and the structure can be placed without them. The long wing wall length value is only used with skews other than 90 degrees.

The wall thickness value is in feet or meters and is only used to check the span length along the roadway to aide in determining whether structure graphics should go on the bridge level at a weight of

4 or on the cross-drain level at a weight of 2. It also controls whether the text label specifies it as a culvert or a bridge.

Skew angles may be entered as degrees or degrees, minutes and seconds.

When started the dialog displays and the user can enter the required structure dimensions. When these are set, click the Draw Box command button. The user is prompted to identify the left end of the structure. After providing a data point at that location, the structure is shown dynamically, and you are prompted to identify the right end. After receiving the second data point the structure graphics are drawn and control passes to the requested label function. If placing as a flag, you are first prompted to identify the point for the end of the leader at the structure. Then the flag is shown dynamically so that it can be positioned with another data point. If the option to place the label as a flag is clicked off, then the text is set up at the angle of the structure and is offered to the user for placement after the structure is drawn in.

A reset during structure placement backs you up to the identify the left end prompt. A reset during label placement skips labeling and stops the tool. At any time during placement, control values for the structure in the dialog can be adjusted.

All structure graphics are placed in a single graphic group. The text and leader lines form a separate graphics group as well allowing ease in removal as needed.

DrawBoxProfile.mvba

This program draws proposed or existing box culverts or bridges in the profile view. Options are provided in the dialog for the structure's number of barrels, barrel width, barrel height, outside wall thickness, inside wall thickness, top slab thickness, bottom slab thickness, skew angle, skew direction, label scale and vertical exaggeration.

At the top of the dialog are the options to place either an Existing or Proposed structure. Depending on the program call which was used, this specification is set automatically although you can change that after program activation.

The barrel dimensions are in feet and all thicknesses are entered as inches. The combination of barrel width, wall thicknesses and skew are used to check the span length along the roadway to aide in determining whether proposed structure graphics should be for a bridge or for a culvert. This controls whether the proposed text label specifies it as a culvert or a bridge. All existing box structures are specified as culverts.

Skew angles may be entered as degrees or degrees, minutes and seconds. Skew direction is only used as part of the text labeling provided for the box structures.

The Vertical Exaggeration value refers to the amount of exaggeration applied to the vertical scale. In a normal English set up of 1"=50' horizontal and 1"=5' vertical that comes out as an exaggeration factor of 10 which is the default value.

A command button is provided to open the Data Point Station and Elevation visual basic application. If the user wishes to identify the flow point for placement of the structure by station and elevation it is recommended that you start that first. When you are ready to place the structure, you can send the required data point for the flow line location with that tool.

When started the dialog displays and the user can enter the required structure dimensions. When these are set, click the Draw Structure command button. The structure is shown dynamically, and you are prompted to identify the flow line point at centerline. This data point can be entered manually with the cursor or by station and elevation using the DP station Elevation tool. After providing the data point at the flow line, the structure graphics are drawn, and control passes to the label function. If placing an existing structure, the size and skew are provided as text for placement. For proposed structures the drainage data block for box structures on profiles is provided for placement. The structure size and skew data items are filled in for you in the drainage data block. A single data point places the label provided.

For proposed box structures after initial placement, the outside shape of the structure is identified as a solid and the barrels as holes so that structure slabs and walls are filled for better visibility in the plans. All existing structures are placed as line strings at line code 3.

At any time during structure placement, control values for the structure in the dialog can be adjusted. All structure graphics are placed in a single graphic group. The proposed structure drainage data block and fill in text is combined as a separate graphic group as well allowing ease in removal as needed.

DrawCurbRamp.mvba

This program draws proposed Curb ramps in the plan view based on standard roadway drawings MM-CR-2 to MM-CR-9 and RP-J-26. Options in the dialog for type, location, ramp width, landing length, sidewalk width, grass separator width and roadway curb width are given to determine the Curb ramp dimensions. Additional check box controls are offered to match parallel ramps to the sidewalk width when greater than minimum, set perpendicular ramp landing beginning to the sidewalk when the grass separator width plus the curb offset is greater than minimum of 8 feet and to place a leader line with text labels. As different types and locations are chosen, the default values and information on the dialog face are changed. If a control is not used for a given type or location, then it is specified as N/A or non-applicable.

When the user clicks the Draw Curb Ramp command button, they are first prompted to identify the curb line. Depending on the ramp location, the steps that follow vary. Listed below are the basic steps the user goes through to place the various types of Curb ramps.

Perpendicular or Parallel at radius midpoint:

Identify radius curb

Identify text placement point

Identify label leader line begin point (optional)

Identify label leader line end point (optional)

Perpendicular or Parallel within radius:

Identify radius curb

Identify point for ramp center at curb

Identify text placement point

Identify label leader line begin point (optional)

Identify label leader line end point (optional)

Perpendicular or Parallel at radius end:

Identify radius curb

Identify roadway curb beyond radius

Identify point at radius end

Identify text placement point

Identify label leader line begin point (optional)

Identify label leader line end point (optional)

Perpendicular or Parallel along roadway:

Identify roadway curb

Identify point for ramp center at curb

Identify point to indicate side of curb for placement

Identify text placement point

Identify label leader line begin point (optional)

Identify label leader line end point (optional)

Concrete Island:

Identify curb along concrete island
Identify point for ramp center at curb
Identify point to indicate side of curb for placement

Concrete Median:

Identify curb on beginning side of median
Identify curb on ending side of median
Identify begin point for ramp center at curb
Identify end point for ramp center at curb

Splitter Island:

Identify curb on beginning side of island
Identify curb on ending side of island
Identify begin point for ramp center at curb
Identify end point for ramp center at curb

Bicycle Ramp:

Identify roadway curb
Identify sidewalk edge
Identify begin point for ramp center at curb
Identify end point for ramp center at sidewalk
Identify point to indicate side for concrete flare
(Left for entry to sidewalk or Right for exit from sidewalk)

When the curb lines are identified, information from those elements are read and combined with the control information provided in the dialog to determine the ramp dimensions, etc. For placements along the roadway, at concrete islands, concrete medians, splitter islands or bicycle ramps the ramp is shown dynamically to aid the user in identifying the final point needed to finish the placement.

The outer limits of all ramps are created as a shape using the Curb ramp line style so that later area calculations can be done with GEOPAK's D&C Manger quantity calculation tools. All graphics are combined into a graphic group.

The identify radius curb function only looks for arcs. The identify roadway curb function recognizes arcs, lines and line strings which can be a part of complex strings as well. These curb lines can be at any level, weight, color or style.

If a perpendicular ramp is placed which exceeds the limits specified by the widths of the sidewalk and grass separator then additional lines are drawn from the back of the ramp to aide in adjusting the back of the sidewalk to accommodate the ramp. A message dialog is brought up indicating that these lines need to be used to adjust the sidewalk to maintain a 4'-foot path transition back to the normal sidewalk. Since this message would appear every time you place a Curb ramp, a clickable option to suppress the message during that session is provided.

The concrete median and splitter island functions check the length to ensure that the minimum lengths of 4' and 6' are achieved but will allow placement anyway if you so desire.

DrawFlowDirection.mvba

Draws drainage flow direction graphics when given 2 user defined points to set begin & end of leader for drainage maps, creeks, streams or rivers.

DrawHandicapRamp.mvba

This program draws proposed handicap ramps in the plan view based on standard roadway drawings MM-CR-2 to MM-CR-9 and RP-J-26. Options in the dialog for type, location, ramp width, landing length, sidewalk width, grass separator width and roadway curb width are given to determine the handicap ramp dimensions. Additional check box controls are offered to match parallel ramps to the sidewalk width when greater than minimum, set perpendicular ramp landing beginning to the sidewalk when the grass separator width plus the curb offset is greater than minimum of 8 feet and to place a leader line with text labels. As different types and locations are chosen, the default values and information on the dialog face are changed. If a control is not used for a given type or location, then it is specified as N/A or non-applicable. When the user clicks the Draw Handicap Ramp command button, they are first prompted to identify the curb line. When the curb line(s) are identified, information from those elements are read and combined with the control information provided in the dialog to determine the handicap ramp dimensions, etc. For placements along the roadway, at concrete islands, concrete medians, splitter islands or bicycle ramps the ramp is shown dynamically to aid the user in identifying the next point needed to finish the placement. The outer limits of all ramps are created as a shape using the handicap ramp line style so that later area calculations can be done with GEOPAK's D&C Manger quantity calculation tools.

If a perpendicular ramp is placed which exceeds the limits specified by the widths of the sidewalk and grass separator then additional lines are drawn from the back of the ramp to aide in adjusting the back of the sidewalk to accommodate the ramp. A message dialog is brought up indicating that these lines need to be used to adjust the sidewalk to maintain a 4-foot path transition back to the normal sidewalk.

Since this message would appear every time you place a handicap ramp, a clickable option to suppress the message during that session is provided.'

DrawPermSlopeDrain.mvba

Draws in a permanent slope drain with inlet symbol and rip-rap pad at the outlet end. The pipe is drawn in with the appropriate custom line style. GEOPAK Adhoc data for pay item number, description, unit and roadway side slope is added to the pipeline element so that quantities can be calculated later by GEOPAK's D&C Manager. The pipe size and side slope value are used to calculate the 45-degree bend location in the slope drainpipe. The side slope is also used during final quantity calculations to adjust the measured horizontal length of pipe since these pipes follow the roadway side slope. On the Draw permanent Slope Drain dialog is a command button for pay Item Info. When the user clicks on this option, the User Specified pay Item Values dialog opens. This dialog contains fields for entering pay item number, description, unit and roadway side slope information with options to modify or read pay item information assigned to previously placed graphics.

DrawPipeProfile.mvba

This program draws proposed or existing pipes culverts in the profile view. Options are provided in the dialog for the pipe height, pipe width, number of pipes, space between pipes, skew angle, skew direction, label scale, vertical exaggeration and pipe type.

At the top of the dialog are the options to place either an Existing or Proposed pipe. Depending on the program call, which was used, this specification is set automatically although you can change that after program activation. The Existing and Proposed option controls the options provided in the drop-down list for Pipe Type. Existing pipe options include CMP, RCP and {blank} which control the text that is provided in the label for the pipe(s). Proposed pipe options include Cross Drain, Storm Drainage and Side Drain. These options control the level of placement as well as the format of labeling that is provided.

The pipe dimensions are in inches or millimeters. Pipe Width is optional and is only needed if the pipe is not circular. Note that a minimum width of 42" is used on all pipes drawn at any vertical exaggeration greater than 1. This is done to maintain visibility when placed on the profile.

Skew angles may be entered as degrees or degrees, minutes and seconds. Skew direction is only used as part of the text labeling provided for the Pipe structures.

The Vertical Exaggeration value refers to the amount of exaggeration applied to the vertical scale. In a normal English set up of 1"=50' horizontal and 1"=5' vertical that comes out as an exaggeration factor of 10 which is the default value.

A command button is provided to open the Data Point Station and Elevation visual basic application. If the user wishes to identify the flow point for placement of the structure by station and elevation it is recommended that you start that first. When you are ready to place the structure, you can send the required data point for the flow line location with that tool.

When started the dialog displays and the user can enter the required pipe dimensions with other control values. When these are set, click the Draw Pipe command button. The pipe(s) is shown dynamically, and you are prompted to identify the flow line point at centerline. This data point can be entered manually with the cursor or by station and elevation using the DP station Elevation tool. After providing the data point at the flow line, the pipe graphics are drawn, and control passes to the label functions.

If placing an existing pipe or a proposed side drain the size and skew are provided as text for placement. For proposed cross drains the drainage data block for pipes on profiles is provided for placement. The pipe size and skew data items are filled in for you in the drainage data block. A single data point places either of these label types. For proposed storm drainage, the standard storm drainage code cell for endwalls is provided first for placement. After placement of this cell, the user is prompted for a second point to place a leader line from the code cell to the pipe. A reset may be entered to skip placement of the leader line.

At any time during pipe placement, control values for the pipe in the dialog can be adjusted.

All pipe graphics are placed in a single graphic group. The proposed cross drain drainage data block with its fill in text as well as the proposed storm drainage code cell with its leader line are combined as a separate graphic group. This is done to provide ease in removal as needed.

DrawPlotBorder.mvba

This program sets symbology, etc. and provides a tool for users to draw plot border shapes on plans sheets. This is intended for use on older jobs where sheets were used that did not include plot shapes as they do now. A plot Border Type option is provided to place either standard or PDF plot border shapes. Once the type is set, the user can click on the Draw plot Shape command button to start placement which prompts the user for 2 points to define the diagonal of the desired block shape. The shape is displayed dynamically during placement. The Open DGN command button is provided to go to the File Open dialog so the user can jump to the next sheet file.

DrawProfileGrid.mvba

Draws a working profile grid in profile area with stations and elevations. A dialog is provided for entry of scales, station limits and elevation limits. The resulting range of the profile is shown dynamically

prior to placement so that adjustment can be made as needed. This program supports English or metric application.

DrawSlabProfile.mvba

This program draws proposed or existing slab culverts or bridges in the profile view. Options are provided in the dialog for the structure's number of barrels, barrel width, barrel height, outside wall thickness, inside wall thickness, top slab thickness, footing slab thickness, skew angle, skew direction, label scale and vertical exaggeration.

At the top of the dialog are the options to place either an Existing or Proposed structure. Depending on the program call, which was used, this specification is set automatically although you can change that after program activation.

The barrel dimensions are in feet and all thicknesses are entered as inches. The combination of barrel width, wall thicknesses and skew are used to check the span length along the roadway to aide in determining whether proposed structure graphics should be for a bridge or for a culvert. This controls whether the proposed text label specifies it as a culvert or a bridge. All existing box structures are specified as culverts.

Skew angles may be entered as degrees or degrees, minutes and seconds. Skew direction is only used as part of the text labeling provided for the box structures.

The Vertical Exaggeration value refers to the amount of exaggeration applied to the vertical scale. In a normal English set up of 1"=50' horizontal and 1"=5' vertical that comes out as an exaggeration factor of 10 which is the default value.

A command button is provided to open the Data Point Station and Elevation visual basic application. If the user wishes to identify the flow point for placement of the structure by station and elevation it is recommended that you start that first. When you are ready to place the structure, you can send the required data point for the flow line location with that tool.

When started the dialog displays and the user can enter the required structure dimensions. When these are set, click the Draw Structure command button. The structure is shown dynamically, and you are prompted to identify the flow line point at centerline. This data point can be entered manually with the cursor or by station and elevation using the DP station Elevation tool. After providing the data point at the flow line, the structure graphics are drawn, and control passes to the label function. If placing an existing structure, the size and skew are provided as text for placement. For proposed structures the drainage data block for slab structures on profiles is provided for placement. The structure size and skew data items are filled in for you in the drainage data block. A single data point places the label provided.

All proposed box structures are placed as filled shapes for better visibility in the plans. All existing structures are placed as line strings at line code 3.

At any time during structure placement, control values for the structure in the dialog can be adjusted. All structure graphics are placed in a single graphic group. The proposed structure drainage data block and fill in text is combined as a separate graphic group as well allowing ease in removal as needed.

DrawTempSlopeDrain.mvba

Draws in a temporary slope drain with inlet symbol and optional riprap at the outlet end. The pipe is drawn in with the appropriate custom line style. GEOPAK Adhoc data for pay item number, description, unit and roadway side slope is added to the pipeline element so that quantities can be calculated later by GEOPAK's D&C Manager. The side slope value is used during final quantity calculations to adjust the measured horizontal length of pipe since these pipes follow the roadway side slope. On the Draw Temporary Slope Drain dialog is a command button for pay Item Info. When the user clicks on this option, the User Specified pay Item Values dialog opens. This dialog contains fields for entering pay item number, description, unit and roadway side slope information with options to modify or read pay item information assigned to previously placed graphics.

DrawTypeAEndwall.mvba

This program draws proposed type "A" endwalls in plan view (D-PE-1). Options in the dialog for pipe size, pipe type, skew and skew direction are given to determine the endwall dimensions & quantities. The default side slope: 2:1 is displayed but is not adjustable.

As noted on the dialog, skews may be entered as degrees or degrees, minutes & seconds. Pipe Type is used to determine the level that the endwall should be placed on.

When the user clicks the Draw Endwall command button they are prompted to identify the endwall location at the end of the pipe. After the initial data point, the endwall is shown dynamically and the user is prompted to identify the other end of the pipe. These 2 points, the angle between them and the control information given in the dialog are used then to draw the endwall into graphics.

Endwall definition data with required standard drawings and quantities is written as Geopak adhoc data attributes on the line string which forms the endwall. Pop up information in MicroStation will display some of these data items but the Draw Endwall dialog includes a command button to Review Endwall Data. This opens the Review Endwall Data Values dialog which lists all data types. On that dialog, click the Read Endwall command button and data point on any endwall. The dialog is populated with the information from the endwall for review. This can be used to check current endwalls that have been placed in the project to determine if they are correct and reflect the latest

proposed roadway side slopes, etc. This data is read by computation programs to compile pipe and endwall quantities as requested.

DrawTypeLEndwall.mvba

DrawTypeSEndwall.mvba

This program draws proposed type "SEW" & "12D" endwalls in plan view (D-SEW-1A & 12D). Options in the dialog for pipe size, pipe type, side slope and grates (with or w/o grate) are given to determine the endwall dimensions & quantities. The default skew: 90° is displayed but is not adjustable.

Pipe sizes 18" are the only sizes which may be used with the 12:1 side slope.

When the user clicks the Draw Endwall command button they are prompted to identify the endwall location at the end of the pipe. After the initial data point, the endwall is shown dynamically and the user is prompted to identify the other end of the pipe. These 2 points, the angle between them and the control information given in the dialog are used then to draw the endwall into graphics.

Endwall definition data with required standard drawings and quantities is written as Geopak adhoc data attributes on the line string which forms the endwall. Pop up information in MicroStation will display some of these data items but the Draw Endwall dialog includes a command button to Review Endwall Data. This opens the Review Endwall Data Values dialog which lists all data types. On that dialog, click the Read Endwall command button and data point on any endwall. The dialog is populated with the information from the endwall for review. This can be used to check current endwalls that have been placed in the project to determine if they are correct and reflect the latest proposed roadway side slopes, etc. This data is read by computation programs to compile pipe and endwall quantities as requested.

DrawTypeSTEndwall.mvba

This program draws proposed type "ST" endwalls in plan view (D-PE-4). Options in the dialog for pipe size, pipe type, skew, skew direction and number of pipes are given to determine the endwall dimensions & quantities. Note that side slope is not a controlling factor for this type of endwall and so is not included.

As noted on the dialog, skews may be entered as degrees or degrees, minutes & seconds. Pipe Type is used to determine the level that the endwall should be placed on.

When the user clicks the Draw Endwall command button they are prompted to identify the endwall location at the end of the pipe. After the initial data point, the endwall is shown dynamically and the

user is prompted to identify the other end of the pipe. These 2 points, the angle between them and the control information given in the dialog are used then to draw the endwall into graphics.

Endwall definition data with required standard drawings and quantities is written as Geopak adhoc data attributes on the line string which forms the endwall. Pop up information in MicroStation will display some of these data items but the Draw Endwall dialog includes a command button to Review Endwall Data. This opens the Review Endwall Data Values dialog which lists all data types. On that dialog, click the Read Endwall command button and data point on any endwall. The dialog is populated with the information from the endwall for review. This can be used to check current endwalls that have been placed in the project to determine if they are correct and reflect the latest proposed skew, etc. This data is read by computation programs to compile pipe and endwall quantities as requested. Side slopes are not a controlling factor for this type of endwall so that data item is listed as N/A, non-applicable.

DrawTypeUEndwall.mvba

This program draws proposed type "U" endwalls in plan view (D-PE-15A to 48A). Options in the dialog for pipe size, pipe type, side slope, skew, skew direction, number of pipes and grate (with or w/o grate) are given to determine the endwall dimensions & quantities.

As noted on the dialog, multiple pipes are only valid with 2:1 or 1.5:1 side slopes and skews may be entered as degrees or degrees, minutes & seconds.

When the user clicks the Draw Endwall command button they are prompted to identify the endwall location at the end of the pipe. After the initial data point, the endwall is shown dynamically and the user is prompted to identify the other end of the pipe. These 2 points, the angle between them and the control information given in the dialog are used then to draw the endwall into graphics.

Endwall definition data with required standard drawings and quantities is written as Geopak adhoc data attributes on the line string which forms the endwall. Pop up information in MicroStation will display some of these data items but the Draw Endwall dialog includes a command button to Review Endwall Data. This opens the Review Endwall Data Values dialog which lists all data types. On that dialog, click the Read Endwall command button and data point on any endwall. The dialog is populated with the information from the endwall for review. This can be used to check current endwalls that have been placed in the project to determine if they are correct and reflect the latest proposed roadway side slopes, etc. This data is read by computation programs to compile pipe and endwall quantities as requested.

DrawVehicleTrajectoryPath.mvba

This program is used draw a vehicle trajectory path to help determine the point of need for guardrail. Options on its dialog are provided for the Alignment Orientation: Tangent or Curve Section, Path to Hazard Location: Begin or End Left or Right and the desired Tangent Trajectory Angle. Note that for tangent sections the tool uses the Construct Line at Active Angle to a Line and for curve sections it uses the Construct Tangent to a Curve tool.

Once the tool is started by clicking the Draw Trajectory command button, a Reset at any time will reflect changes in the dialog settings.

Only tangent sections use the Path to Hazard Location and Trajectory Angle values.

ErosionControlCells.mvba

Access erosion prevention and sediment control cells. Includes access to programs to place ESPC area patterns, permanent slope drains, temporary slope drains, filter assemblies by catch basin type, proposed trees, storm water outfall labels and legend cells.

ErosionControlLegendCells.mvba

Access erosion prevention and sediment control legend cells.

ExistingPipeProfileLabeler.mvba

Draws and labels existing pipes on the profile. Chain, reference datum, and scale information is attained when the user selects the GEOPAK profile cell. Scale controls text sizes that are used. When the Apply command, button is clicked the GPK file is scanned for all existing pipe features and any that intersect the specified chain are drawn and labeled on the profile based on the information found in the GPK file.

ExOtherCells.mvba

This program provides access to TDOT STID Other Existing cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

ExRegulatoryCells.mvba

This program provides access to TDOT STID Existing Regulatory cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

ExRouteMarkerCells.mvba

This program provides access to TDOT STID Existing Route Marker cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

ExSchoolCells.mvba

This program provides access to TDOT STID Existing School cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

ExTennesseeCells.mvba

This program provides access to TDOT STID Existing Tennessee cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell

placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

ExWarningCells.mvba

This program provides access to TDOT STID Existing Warning cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

GenBridgeDetail.mvba

This program provides access to TDOT Structure Division Rebar Design cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

Generate2Dfrom3DTop.mvba

This program generates a 2D design file of a 3D model from the top view maintain all elements and their X & Y coordinate values. All views except 1 are turned off and view 1 is updated to urn all levels on, fitted to include the full display depth and set at top view to maintain coordinate values. Traps are provided to check for attempts to use in a 2D file and to check for the existence of the file to be created with an option to overwrite. After 2D file creation you are offered an option to open the file.

GeoTechAreaPatterns.mvba

This program provides access to Geotechnical Engineering area pattern cells. Clicking on any area pattern in the dialog list will make all settings for that area pattern, start the area pattern tool and show an example in the preview window. In addition, it sets the active level used for the area pattern. The active scale is given in a keyin field which is used to control the pattern scale and pattern delta. Command buttons are provided to Change pattern Element Level and place Area pattern (to restart the area pattern command).

GetCogoElement.mvba

VBA program provided by Bentley to read COGO element attributes from graphic elements. This program is not used directly by the user but is called as a function by other VBA programs.

GSOtherCells.mvba

This program provides access to TDOT STID other ghost cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

GSRegulatoryCells.mvba

This program provides access to TDOT STID Ghost Regulatory cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

GSRouteMarkersCells.mvba

This program provides access to TDOT STID Ghost Route Marker cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba. A command button is provided to restart cell placement at the currently selected cell placement type.

GSTennesseeCells.mvba

This program provides access to TDOT STID Ghost Tennessee cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba. A command button is provided to restart cell placement at the currently selected cell placement type.

GWarningCells.mvba

This program provides access to TDOT STID Ghost Warning cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba. A command button is provided to restart cell placement at the currently selected cell placement type.

HA_IntersectLabel.mvba

Labels horizontal alignment (chain) intersections in the plan view and includes an alternate dialog for labeling chain ends with station and coordinate values. It includes a Type option which sets the graphics attributes & text sizes based on selection which include proposed Centerline, preliminary

Centerline, Existing Drainage, Existing Centerline & Scratch. Terminator option sets the type of terminator to be displayed at end of leader line if desired. Also includes a coordinate decimals control to adjust the displayed accuracy of the coordinate values. The default is 4. The dialog has a preview window so that you can see how the label will appear when placed.

For the Label Intersections dialog view, the mainline chain and intersecting chain dropdowns are populated based on chains stored in the GPK file. Text boxes display chain name and intersecting station for each chain and can be modified within each text box. If multiple intersections are found a Select Intersection Number control is displayed so that the user can pick the correct one to be labeled.

For the Label Chain Ends dialog view, all visible controls described above behave the same. The option buttons indicate which end of the chain is to be used to generate text displayed in the label and its location.

For both dialog views, clicking the Label button will initialize dynamics so that the user may situate the label as desired. The leader end point will be either the chain intersection or end location depending on which dialog view is active. The switch button at the bottom displays the previous view's name and is clicked to move back and forth between dialogs. All graphic and text controls can be modified on the fly and updates will be visible immediately.

HApoints.mvba

Places the required point text symbols for all keypoints of any horizontal alignment/chain stored in the project GPK file in the plan view. The PI symbol (triangle) with short sub tangents are placed for all spiral-curve combinations or simple curves. The point on chain symbol (circle) is placed at the begin & end and at all on chain curve points. The PI symbol (triangle) by itself is placed at any break in tangent direction without a curve along the horizontal alignment. An ID chain button is provided to select the chain graphically. This is applicable to the following horizontal alignment types: proposed Roadway Centerline, preliminary Roadway Centerline, Existing Roadway Centerline, proposed Special Ditch Centerline, Existing Stream Baseline, Functional Roadway Centerline, proposed private Drive Centerline.

HighwayRouteSignCells.mvba

Access highway route sign cells. Includes tools for placement of annotation, leader lines and symbols as permanent or temporary signs. Also includes option to fill in route number on sign face.

IDCBandPlaceFilterAssembly.mvba

Places the appropriate erosion control filter assembly cell based on the catch basin cell identified with a spin to set angle.

IplotSet.mvba

This program copies the Iplot settings file chosen to iplot.set so that those settings will be used by default when Iplot is opened in MicroStation. First a file list dialog box is opened with a list of the Iplot settings files from the default settings folder. When the desired file is selected, the program deletes the existing iplot.set file, copies the new file to iplot.set and then displays a success message on the dialog to indicate the settings file that was activated. The settings file list dialog remains active so that other settings can be chosen later if desired.

LabelConduit.mvba

Places a conduit label specified by user or by identifying conduit or fiber optic line. Set up for application for lighting or signalization.

LabelESPCStormWaterOutfalls.mvba

Places storm water outfall labels on ESPC sheets. Includes control of label text and an auto increment option for the number part of the label.

LabelPullBox.mvba

Places a pull box label specified by user or by identifying pull box. Set up for application for lighting or signalization.

LightingCells.mvba

Access lighting cells. Includes access to programs Label Conduit, Label pull Box, place Jack/Bored Conduit and place Cell.

MakeLists.mvba

MeasureAreaandAnnotate.mvba

Starts up MicroStation's Measure Area command with option to annotate last area calculated in square feet and acres using active level and color. In metric files dual units are given. Includes option to re-start Measure Area as needed.

mfc2dtm.mvba

This program converts TDOT Aerial Survey planimetric data to TDOT DTM specifications. Program assumes all data is collected to TDOT standard specifications.

ModifyCellsToSolid.mvba

MoveRasterbyDatumAdjust.mvba

This program moves a raster file by a user given datum adjustment factor. When started the first thing the program does is look for the file DatumAdj.txt in the current folder. This file is created or updated whenever this program is used to save the datum adjustment factor. If found, it reads the file for that value and populates the dialog with it. The program's dialog includes the field to enter the datum adjustment factor as needed and command buttons to open Raster Manager so that raster files to be moved can be selected, to move selected rasters by the datum adjustment factor and for cases where the factor may have been in error, one to move raster files back to their original locations based on the adjustment factor.

One or more raster files can be moved at the same time.

Raster Files must be selected in Raster Manager and a factor must be entered prior to attempts to move or move back raster attachments. Raster Files are moved immediately when either Move button is clicked.

The file DatumAdj.txt is only updated if the value read from it originally is different from the one listed in the dialog at the time when the Cancel command button is clicked.

NSDcells.mvba

This program provides access to TDOT Design Division Natural Stream Design cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

ObjectHazardCells.mvba

This program provides access to TDOT STID Division Object Hazard cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba. A command button is provided to restart cell placement at the currently selected cell placement type.

PavementMarkingCells.mvba

Access pavement marking cells. Also includes buttons to access VBA programs to place stop bars, crosswalks or yield lines as well as an option to set the active angle by 2 points.

PermitFormsCells.mvba

Access permit and form cells. Includes option to drop cell for editing.

PlaceandAnnotateXSsheets.mvba

Places graphics for roadway or culvert cross section sheets. Includes options to place shared sheet cells, plot borders, title and project data annotation.

PlaceArrowHead.mvba

Access arrowhead cells. Includes options to place by 2 points using active level and color or as element terminator as well as a scale control field with set scale option.

PlaceBillboardSign.mvba

This Aerial Survey program places an existing billboard sign and includes options for 1 or multiple posts and whether to set post size dynamically. Aerial Surveys feature #603 (graphic group #) is set automatically for the graphics. Dialog also includes a command button to call the Aerial Survey place Overhead Sign vba program.

PlaceCoorGridTick.mvba

Place a single dynamic coordinate grid tick with annotation or as a group with a user defined range and increment.

PlaceCrosswalk.mvba

Place parallel or longitudinal bar crosswalk. Longitudinal crosswalks include additional background graphics used in quantity calculations.

PlaceJackedBoredConduit.mvba

This program places jacked or bored conduit under roadways. Choices are given for the pull box type (Type A, Type B, Type C, Fiber Optic Type A or Fiber Optic Type B) and conduit size (2" or 3"). The active scale is shown with a keyin field which is used to control the size of pull boxes and other symbolization. Graphics which are placed include: pull boxes, filled shape across roadway to indicate that conduit is jacked or bored and a conduit line between the pull boxes. The conduit line is placed at the appropriate custom line style for later quantity calculation. Set up for application for lighting or signalization.

PlaceLabel.mvba

Places leader lines and includes options for two lines of text with or without a horizontal line between them and terminator with your choice of arrow heads or a dot at the end. This program uses the current active settings for level, color & weight and is the perfect tool when used in conjunction with Text Styles plus which sets those parameters. Also includes button to access VBA program Text Styles plus as well as a scale control field.

PlaceLightPole.mvba

This Aerial Survey program places an existing Light pole and includes options for non-utility light poles with 1, 2, 3 or 4 lights or high mast full, half or offset luminaires. You can also include a guy wire and anchor with the placement. Aerial Surveys feature numbers (graphic group #) 801, 802, 803, 804, 830, 831 & 833 are set automatically for the Light pole cells depending on the type. Guy wire graphics are placed with Aerial Surveys feature #820. Dialog also includes a command button to call the program to place guy wire with anchor only and a command button to call the Aerial Survey place Utility pole vba program.

PlaceNorthArrow.mvba

Place standard north arrow cell at true north.

PlaceOverheadSign.mvba

This Aerial Survey program places an existing overhead sign and includes options for 1 or 2 posts and whether to set post size dynamically. Aerial Surveys feature #651 (graphic group #) is set automatically for the graphics. Dialog also includes a command button to call the Aerial Survey place Billboard Sign vba program.

PlacePlanPhaseStamps.mvba

This program is used to place (for the first time), replace or remove plan phase stamp cells in plan sheet files.

When the command is first started the Place Plan Phase Stamps in File dialog is displayed. Drop down lists are provided to specify plan phase stamp to be replaced, new plan phase stamp to be placed and plan phase stamp to be just removed. The option None in the Remove Current Stamp w/o Replacement: list allows first time placement or replacement using the other lists. If the remove option is set to anything else, then that is searched for and removed, and the other list values are ignored.

The option None in the replace list allows for first time placement of a plan phase stamp in the sheet files. As noted in the dialog, first time placements are set at a default location based on the sheet type which is normally above the engineer's seal block. After a first-time placement, sheets should be reviewed for location adjustment as needed. If any stamp other than the None option is set under Replace Current Stamp: then the files are searched for that stamp cell which when found is replaced by the value set under Place New Stamp:

Once those options are set use standard selection methods to highlight the MicroStation files to be processed. Single click for one file, shift key with clicks at each end for groups of files or the control key with clicks to pick various files. To unselect files holds the control key down and select it again. All files with DGN, 2D, 3D or SHT extensions from the open DGN file's folder are included in the list. A command button is provided to select just the sht files as well as one to select all the files.

When files to be processed have been selected, click on the Process Files command button to start the placement of plan phase stamps. Each file is opened and processed. During processing a file count is provided in the MicroStation Status message field. When finished a completion message box is displayed.

PlaceProposedTrees.mvba

This program places proposed trees and adds GEOPAK Adhoc data for pay item number, description, unit and quantity to the cell element. This data is used later by GEOPAK's D&C Manager to compile final quantities. The size of the tree cell is controlled by the current active scale which is shown on the

dialog for adjustment as needed. The place proposed Tree dialog includes all standard proposed tree pay items which can be chosen for placement. At the end of the list on the place proposed Tree dialog is an option for a user specified tree. When the user clicks on this option, the User Specified pay Item Values dialog opens. This dialog contains fields for entering pay item number, description, unit and quantity. The Read Element command button on the dialog is provided in case the user wishes to duplicate the pay item values from a tree placed previously. This can also be used to just check trees already placed.

PlaceSteps.mvba

This program places stairway steps when four points are given by the user to establish its location and dimensions. This was created specifically for use by Aerial Surveys personnel for use when gathering topographic information from aerial photography.

When started, the program immediately prompts the user for a point on a left corner of the stairway. A second point is requested to set the end of the stairway on the left. These 2 points determine the length as well as the elevations at each end of the steps. A third point is requested from the right side to set the stairway width. The fourth and final point is measured from the 3rd point to set the step's depth (width across the top). This measurement with the elevation changes from top to bottom are averaged for application along the stairway. After the last point is provided all graphics are written to the file as lines with the graphic group number/ISFC feature code of 45.

At any time during point placement, resets can be used to back up for re-entry of previous points. Although set up for 3D application with elevations, this tool can be used in 2D although all elevations will be zero.

PlaceStopBar.mvba

Place stop bar. Includes fill shape and line for quantity calculation.

PlaceTransTower.mvba

This Aerial Survey program places an existing transmission tower. Aerial Surveys feature #811 (graphic group #) is set automatically.

PlaceUtilityPole.mvba

This Aerial Survey program places an existing utility pole and includes option for a regular utility pole or a utility pole with light. You can also include a guy wire with an anchor with the placement. Aerial Surveys feature #800 (graphic group #) is set automatically for the utility pole cells. Guy wire graphics

are placed with Aerial Surveys feature #820. Dialog also includes a command button to call the program to place guy wire with anchor only. Dialog also includes a command button to call the Aerial Survey place Light pole vba program.

PlaceVegetation.mvba

This Aerial Survey program places existing vegetation and includes options for tree, bush, woods line, hedge and brush line. The size of the tree cell is set dynamically with 2 points to reflect the actual coverage of the tree crown. Aerial Surveys feature numbers (graphic group #) 400, 403, 404, 405 & 408 are set automatically for the vegetation depending on the type.

PlaceYieldLine.mvba

Place yield line triangle pavement marking. Key in fields are provided to control triangle base width and spacing. Triangle shapes are placed with line style used for area quantity calculations.

PlanPhaseCells.mvba

Access plan phase stamp cells.

plotElevs.mvba

PreV8iDotPatternFix.mvba

This program scans all graphics in the active file and then reads for any dot pattern elements and duplicates the circle for the filled dot without fill so that they will plot correctly and create printable patterns in PDF documents as well. This replicates the way MicroStation V8i patterns with filled shapes where it duplicates the shape without fill so that the weight of the shape is honored when printing.

PreV8iDotPatternFixBATCH.mvba

This program generates a selection set of all graphics in the file and then reads the type to trap for lines. If the line only has 2 vertices that match within a tolerance, they are moved to level number 325 for points. If the line has more than 2 vertices or 2 different vertices, they are moved to level number 29 for breaklines.

This program is set up specifically to fix surface files generated by others in which the graphics are on the wrong level for our use.

The program allows processing of multiple files. A message box comes up when all files are processed.

PublicHearingCells.mvba

Access public hearing cells.

RD11MiscellaneousCells.mvba

This program provides access to TDOT Design Division RD11 typical section cells. Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to access MicroStation command Drop Complex (command button Drop Cell for Editing).

A command button is provided to access vba program Code Pavement Layers.

A command button is provided to access vba program Design Area Patterns.

A command button is provided to restart cell placement at the currently selected cell placement type.

RD11RoundaboutCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS1ACells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS1Cells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS2ACells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS2BCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS2Cells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS3ACells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS3BCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS3CCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS3Cells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS4Cells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS5ACells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS5BCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS5Cells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS5WCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS6ACells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS6BCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS6CCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS6Cells.mvba

See RD11MiscellaneousCells.mvba.

RD11TS77A7BCells.mvba

See RD11MiscellaneousCells.mvba.

RD11TypicalSectionCells.mvba

See RD11MiscellaneousCells.mvba.

RebarCallOutCells.mvba

This program provides access to TDOT Structure Division Rebar Call-Out Design cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RebarCells.mvba

This program provides access to TDOT Structure Division Rebar Design cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RegulatorySignCells.mvba

Access regulatory sign cells. Includes tools for placement of annotation, leader lines and symbols as permanent or temporary signs.

RenameAerialSurveyTifFiles.mvba

This program is used to rename Aerial Survey TIF files.

First a dialog comes up for you to enter the folder path for the location of the TIF files to be renamed. In Windows Explorer you can copy the folder path from the address line and then use Ctrl V to paste into the dialog text field or you can just type it in. Once you have entered the path click the Continue button.

A second dialog opens displaying a list of all TIF files from the folder path given previously. Select files to be renamed: click individual files or click the Select All button to get them all. Click the Rename button. A batch file with the rename commands is created in the TIF file folder and is run automatically renaming all files deleted.

RotateElementHorizontal.mvba

Rotates identified element horizontal to the view it is picked in. For shapes or line strings it reads the nearest segment to set those element's rotation.

RSAROtherCells.mvba

This program provides access to TDOT STID other RSAR cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect. Special cell placement methods are processed by visual basic application CellTools.mvba. A command button is provided to restart cell placement at the currently selected cell placement type.

RSARRegulatoryCells.mvba

This program provides access to TDOT STID RSAR Regulatory cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell

placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RSARRouteMarkerCells.mvba

This program provides access to TDOT STID RSAR Route Marker cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RSARSchoolCells.mvba

This program provides access to TDOT STID RSAR School cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RSARSpecialCells.mvba

This program provides access to TDOT STID RSAR Special cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RSARTennesseeCells.mvba

This program provides access to TDOT STID RSAR Tennessee cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RSARWarningCells.mvba

This program provides access to TDOT STID RSAR Warning cells. Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

RotateFenceContentsHorizontal.mvba

Rotates the contents of a fence or selection set horizontal to the view based on 2 points which define the desired horizontal.

SchoolSignCells.mvba

Access school sign cells. Includes tools for placement of annotation, leader lines and symbols as permanent or temporary signs.

SetTextParametersAS.mvba

Sets the active text size, weight, and line spacing based on the given plot scale and the text size desired when plotted. The user given scale is used to set the active scale. To avoid problems when placing text the Text node lock is turned off and line length is set to 255. This tool is best used after

picking a standard text style from the program, Text Styles plus, which will set the appropriate level and color for the text.

SheetTitleCells.mvba

Access sheet title cells.

SignalHeadCells.mvba

Access signal head face cells. Includes options to place signal head number list annotation and left turn signal sign face with annotation.

SignalHeightAttachmentDiagram.mvba

Generates a signal attachment height diagram from proposed signalization plan view graphics in a selection set. The diagram scale factor and the current active scale is shown with keyin fields to reset as needed.

SignalizationDeviceCells.mvba

Access signalization device cells. Includes options to place signal head number with circle, place mast arm by length and place pedestrian signal head with leader. Also includes command buttons to access Signal Head Cells, place Signal Attachment Height Diagram, Station Offset Labeler, Label Conduit, place Cell, Data point Station Offset place Jack/Bored Conduit, Draw Handicap Ramp, GEOPAK's DP Station Offset, D&C Manager and Draw Transition tool as well as an option to set the active angle by 2 points.

SignDetailCells.mvba

Access sign detail cells.

SlopeCalclater.mvba

Calculates slopes based on 2 points and if desired will place a label for the slope. Slope is shown in the dialog in the 3 standard formats: cross slope, percent grade & side slope. Slope label graphics are placed at the current active level, symbology & text parameters.

StandardSheetCells.mvba

This program provides access to TDOT Design Division plans sheet cells.

Clicking on any cell description in the dialog list, activates the cell and starts the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to access the Sheet Titles cell vba dialog.

A command button is provided to access the Place North Arrow vba program.

A command button is provided to restart cell placement at the currently selected cell placement type.

StaOffLabel.mvba

Places a station & offset label based on any chain stored in the GEOPAK GPK file with optional title text line and terminator. An ID chain button is provided to select the chain graphically. Includes a dynamic mode with ability to lock station or offset values. Label can be placed as a flag or perpendicular to the chain. This program uses the current active settings for level, color & weight and is a great tool when used in conjunction with Text Styles plus which sets those parameters and includes a button to access that VBA program as well as a scale control field. Metric application includes both metric & English measurements for the offset.

StormDrainagePipeLabel.mvba

Places proposed storm drainage pipe labels. It is intended for use on short pipes which cannot display the size portion of the storm drainage pipe custom line style. It includes an option to identify the pipe to automatically set up the desired label text. An option to place the label as a flag with terminator is provided. The current active scale is shown with a keyin field to reset as needed. Scale is used to control the size of label text and terminator.

StructureAreaPatterns.mvba

This program provides access to Structure Division area pattern cells.

Clicking on any area pattern description in the dialog list, will make all needed settings for that area pattern, start the area pattern tool and show an example in the preview window. In addition, it sets the active level used for the area pattern and sets the pattern cell as the active cell for review as needed. The current active scale is shown with a key-in field to reset as needed. Scale is used to control the pattern scale and pattern delta which is applied.

The Change Pattern Element Level command button turns on the graphic group lock and starts the change level command so user can correct area pattern's level as needed.

The Reset Area Pattern command button is provided to make all area pattern settings based on the current selection and restart the area pattern command without re-selecting from the area pattern list.

The Change Shape To Fill Solid Black command button is provided to change shape elements to fill outlined with white fill which plots as black.

StructureSheetDesigncells.mvba

This program provides access to TDOT Structure Design Division Structure Sheet Design cells.

Clicking on any cell description in the dialog list, activates the cell and the specified cell placement type. Cell placement type is controlled by a combo list box in the lower left corner. Available options include Simple Place, Place/Rotate and Place Along. Default cell placement type is set to Simple Place. Anytime that the cell placement type is changed, it is necessary to click the Restart Cell Place command button for the change to take effect.

Special cell placement methods are processed by visual basic application CellTools.mvba.

A command button is provided to restart cell placement at the currently selected cell placement type.

SurveyProjectWorkflowToolbox.mvba

This toolbox provides access to many of the tools, commands and functions used most often by TDOT Survey personnel. It is an alternative to access of them through the GEOPAK Survey drop down menu and are presented in a workflow format as was shown on the Survey Operations dialog in GEOPAK 2001. The dialog includes the following categories: project Control, Dataset processing, Graphics Display, Coordinate Geometry & DTM processing. When this vba program is started GEOPAK Survey is loaded and when the dialog is closed GEOPAK Survey and the VBA is unloaded.

TDOTDesignDivToolbox.mvba

This toolbox is an alternate access point to all cell dialogs as well as common programs used daily. It also includes access to several frequently used MicroStation & GEOPAK functions.

TennesseeSignCells.mvba

Access Tennessee sign cells. Includes tools for placement of annotation, leader lines and symbols as permanent or temporary signs.

TextstylesPlus.mvba

This program takes up the slack from text styles used through MicroStation's text commands. When used alone, MicroStation's text styles only set basic text controls and text color based on a single scale. program sets the appropriate text style but also the level and weight required. The text sizes are automatically updated based on the current active scale and the current active color is set to match the text style color in case leader lines are required. Also includes button to access VBA program place Label with Leader Line as well as a scale control field.

TitleSheetCells.mvba

Access title sheet cells. Also includes button to access VBA program to place a north arrow cell.

TopographicCells.mvba

Access topographic cells. Also includes buttons to access VBA programs to place a single dynamic coordinate grid tick or coordinate grid ticks as a group and to place a north arrow cell.

TrafficControlCells.mvba

Access traffic control device cells. Includes access to programs to place construction signs, work zone area pattern and traffic control legend cells.

TrafficControlLegendCells.mvba

Access traffic control legend cells.

TrafficFlowDiagramCells.mvba

Access traffic flow diagram cells.

TypicalSectionCells.mvba

Access typical section cells. Also includes access to VBA programs to code pavement layers and place area patterns as well as an option to drop cells for editing.

UpdateProjectCriteriaFiles.mvba

Copies selected project cross section criteria files from the standard criteria folder to the project folder. The standard criteria folder is determined by MicroStation configuration variable GPK_MY_CRITERIADIR. For use when revised criteria files are downloaded from the web and need to be updated in the project folder also.

UtilityCellsExist.mvba

Access existing utility cells.

UtilityCellsProp.mvba

Access proposed utility cells.

V8_Import.mvba

This program is used to delete old level filters and import new V8 levels, level filters and text styles It can also be used to re-attach the standard color table when it is revised.

This program was originally developed for use when converting V7 project DGN files to V8 and can still be used for this purpose if needed. After using MicroStation's Batch Converter for the initial conversion of the files with levels 1-63, this program is used to delete old V7 level filters, import additional V8 levels & V8 filters, V8 text styles, attach the V8 color table and to reset English working units to survey feet.

VA_labeler.mvba

Places annotation for vertical alignments stored in the GEOPAK GPK database including points, curves, grades, crest & sag locations. Applicable for use with roadways, special ditches or private drives.

Includes sub-program, **Label Intersections**, which will annotate intersections with other chains on the profile. This also includes an option for user defined locations to be labeled which can be saved out for later recall.

VA_LabelerRDandRD01.mvba

This program was designed to label pertinent vertical alignment information on the profile. The user can choose the options they would like to label by selecting the check box corresponding to the label. Chain, reference datum, and scale information is attained when the user selects the Geopak profile cell. The user then chooses the profile name they wish to label, select the options they desire, and place the labels. Provides labels for roadways, private drives, and special ditches.

VerticalCurveDesign.mvba

This program is set up to be used to design or check vertical curves for roadways. Entrance and exit grades for the vertical curve can be keyed in or identified graphically. After the grades are set, one of 3

Design Controls must be set, length, K value or design speed. Clicking on the Calculate Curve command button computes the unknown design values, displays them in the dialog and the curve is temporarily visualized in graphics.

If desired, the curve can be drawn in permanently by clicking the Draw Curve command button. Curve graphics include the curve and circle point text symbols at the VPC, VPI & VPT. Options are provided for the use of either RD or RD01 vertical curve design standards which are read from the text file VALabel_Speed_kvl.txt.

ViewON1thru4.mvba

This program turns on views 1 to 4 and makes sure that views 5 to 8 are off. Finally, it tiles views 1 to 4. This is set up to help set views in Aerial Surveys files while they are inside photogrammetry software doing photo review and clean up.

WarningSignCells.mvba

Access warning sign cells. Includes tools for placement of annotation, leader lines and symbols as permanent or temporary signs.

XSTextstylesPlus.mvba

Set up specifically for use in cross section files, this program takes up the slack from text styles used through MicroStation's text commands. Program sets the appropriate text style but also the level and weight required. The text sizes are automatically updated based on the current active scale and the current active color is set to match the text style color in case leader lines are required. Also includes button to access VBA program place Label with Leader Line as well as a scale control field.

MicroStation Configuration Variables

[C:\Program Files \(x86\)\BentleyMicroStation V8i \(SELECTseries\)\MicroStation\config\appl](C:\Program Files (x86)\BentleyMicroStation V8i (SELECTseries)\MicroStation\config\appl)

TDOT.cfg

MicroStation configuration variable file used to assign standard folder locations and other configurations for MicroStation, GEOPAK and other software used in MicroStation.

Note:

If consultants do not download standard files to the default folders used by T.D.O.T. which are given in this document and on the web page for downloads, it will be necessary to edit this file to reflect the correct file locations. See web document [TDOT Design Division V8 Configurations for Consultant CADD Managers.pdf](#) for instructions on setting up a project level configuration file using *tdot.cfg*.

Standard MicroStation Level Mapping Files

<C:\Users\Public\MicroStation Standards\data>

TDOTV8main.csv

Main level mapping file which includes all plan levels. Used during batch conversion of MicroStation J/V7 non-cross section DGN files or with the Save As function in MicroStation to re-map level names in V8 DGN files.

TDOTV8xsections.csv

Cross section level mapping file which includes levels used for cross section graphics only. Used **only** during batch conversion of MicroStation J/V7 cross section DGN files to re-map level names. This is also used with V7 private drive profile DGN files developed using GEOPAK cross section functions

<C:\Users\Public\MicroStation Standards\dgnlib>

TDOTV8mainOnTheFly.csv

This file is used to map level names during “on the fly” MicroStation J/V7 DGN file conversions. This is when you attempt to open a V7 file and then tell MicroStation to go ahead and convert to V8. Cross section DGN files **should not** be converted in this way since the wrong level names will be applied.

Standard MicroStation Image Files

Plan Phase Stamps

<C:\Users\Public\MicroStation Standards\image>

The following JPEG image files were developed from the standard MicroStation plan phase stamp cells so that they can be easily applied as watermarks to PDF plan sets using Adobe Acrobat. This requires a complete version of that software which allows the editing of PDF documents. See documentation file [Adding Plan Phase Stamps as a Watermark in PDF Plan Sets.pdf](#) for guidance on the use of these files:

Constructability Review Plans



Construction Field Review Plans



Final Construction Plans Review



For Incidentals Only



For Title Search Only



Info Only



Initial Studies Request



Preliminary Field Review



Preliminary Plans Subject to Change



Preliminary Plans



ROW Field Review (Utilities Only)



ROW Field Review



ROW Plans (Utilities Only)



ROW Plans Permits Application



ROW Plans



Site Review



Unofficial Set Not For Bidding



Standard Aerial Survey Files

Aerial Survey personnel utilize many of the standard files described in this document. The following list describes some special files used by them.

Aerial50 Features Table.mdb

Feature database used with Intergraph ISFC and ISDC software, which is set up for 50 scale, English application. Includes features for topographic and DTM compilation. All feature settings are based on T.D.O.T. Design Division CADD standards.

AerialColorTable.tbl

Special MicroStation color table which includes alternate color settings for use during photogrammetry compilation in conjunction with aerial photography.

Camera

File used for calibration of Wild RC30 aerial photography camera.

Standard GEOPAK Files

<C:\Users\Public\Geopak Standards>

The files described below control design and drafting produced with GEOPAK software.

Design & Computation Manager

tdot.ddb

Controls Horizontal & Vertical Alignment displays, drafting standards for all general project linework and calculates quantities from MicroStation graphics.

TNDOT.smd

Controls graphical display of survey data. Used with COGO to visualize items stored in the GPK file.

DTM/TIN Graphic Displays

tdotEXIST.lpf

Used in conjunction with the **Load DTM Features** dialog. Controls graphical displays from digital terrain model data such as contours, surface boundaries and DTM elements. This file is for use with existing TIN surfaces.

tdotPROP.lpf

This file is for use with proposed TIN surfaces.

Label Style Files

tdotdef_plan.lsf	Used with the Plan View Labeler to place standard labels.
tdotdef_prof.lsf	Used with the Profile Labeler to place standard labels.
tdotdef_xs.lsf	Used with the Cross Section Labeler to place standard labels.
tdotdef_drainage.lsf	Used with the Drainage Labeler to place standard labels.

Horizontal Alignment Spiral Curve Design Tables

Used in conjunction with **Horizontal Alignment Generator** to design spiral curves based on the superelevation *emax* rate and the design speed in miles per hour. These are based on the standard roadway drawings RD01-SE-2 and RD01-SE-3.

HA_spiral_emax4.tbl	0.04 (4 %) superelevation <i>emax</i> rate
HA_spiral_emax6.tbl	0.06 (6 %) superelevation <i>emax</i> rate
HA_spiral_emax8.tbl	0.08 (8 %) superelevation <i>emax</i> rate
HA_spiral_emax10.tbl	0.10 (10 %) superelevation <i>emax</i> rate

Horizontal Alignment Turning path Design Tables

Used in conjunction with **Horizontal Alignment Generator** to develop vehicle turning paths for intersection design. These are based on the AASHTO Geometric Design of Highways and Streets (2001 & 2004 versions). These files only contain design vehicles applicable for use in Tennessee.

HA_Turning_path_TN_2001english.tbl	English 2001 design vehicles
HA_Turning_path_TN_2004english.tbl	English 2004 design vehicles

Vertical Alignment Curve K Value Design Tables

tdot.kvl

Used in conjunction with **Profile Generator** to design vertical curves based on K values and the design speed in miles per hour. This table uses values from the RD standard roadway drawings.

tdot01.kvl

Used in conjunction with **Profile Generator** to design vertical curves based on K values and the design speed in miles per hour. This table uses values from the RD01 standard roadway drawings.

VLabel_Speed_kvl.txt

Used in conjunction with **VA Labeler**, a MicroStation vba program used to annotate vertical alignments, to determine design speeds. Also used by MicroStation vba program, **Vertical Curve Design Tool**, to determine design speeds or K values. This file includes K values and speeds from RD & RDO1 standard roadway drawings for English vertical alignments.

Superelevation Preferences

These files have been developed to apply TDOT standard superelevation based on the values and procedures indicated on the standard roadway drawings RD01-SE-2 and RD01-SE-3 for English projects.

tennessee.sep

Superelevation preferences that apply the values in the English tables and sets other controls.

Tenn-RadiusTable_e.csv

English superelevation rates based on radius, max rate and design speed.

Tenn-eTable_l.csv

English transition lengths based on the number of lanes, superelevation rate and design speed.

To use these files ...

1. In GEOPAK's Automated Superelevation dialog go to the drop-down option File>preferences.
2. On the Superelevation preferences dialog go to the drop-down option **File > Open** and load **tennessee.sep**.

At this point you should now be able to access TDOT's superelevation preferences through the **GEOPAK Automated Superelevation** dialog. Click on the **preference File** field drop down arrow and choose **tennessee**.

Under the **e Selection** field clicking its drop-down arrow gives you the following e max choices:

4% e max	urban desirable
6% e max	urban allowable
8% e max	rural desirable
10% e max	rural allowable

Under the **L Selection** field clicking its drop-down arrow gives you the following roadway lanes choices:

2 Lane 4 Lane 6 Lane

If the **preference File**, **e Selection** or **L Selection** options do not show go to drop down option **User > Directories** on the **GEOPAK Automated Superelevation** dialog and click **Default** or **Select** to set directory paths to find these files.

Drainage Files

TDOTEnglish.dlb

GEOPAK drainage library containing standard TDOT rainfall data tables, land use area designations, drainage nodes (catch basins, manholes & junction boxes), drainage links (pipes & boxes) and tangent spread sections. See documentation file [TDOTGEOPAKDrainageNodes.pdf](#) for a listing of all drainage nodes and their control values.

DrainageProject.gdf

Template file for creating new GEOPAK drainage projects for TDOT projects. Once this file is copied for a new project the user should open the **Project > Preferences** dialog under the GEOPAK Drainage menu bar and set the project specific values under **project Components, Rainfall parameters** and **Land Use Options**.

TDOTStormSewerprofiles-Design.ppf

Preference file used with **GEOPAK Drainage profiles** to control storm drainage profile displays during design of storm drainage systems and includes data such as control elevations and hydraulic grade line.

TDOTStormSewerprofiles-plan.ppf

Preference file used with **GEOPAK Drainage profiles** to control storm drainage profile displays for projection onto roadway profile plan sheets.

Drainage Report Format Files

Used in conjunction with **GEOPAK Drainage Report Generator** to create **.csv** formatted files for import into Excel quantity tabulation blocks.

TDOTnodes.drf

Data for drainage nodes (catch basins, manholes, junction boxes) Includes limited listing of data used for manual tabulation in Excel.

TDOTnodesFULL.drf

Data for drainage nodes (catch basins, manholes, junction boxes) Includes full listing of data used by auto-build Excel template for tabulation.

TDOTlinks.drf

Data for drainage links (storm sewer pipes & boxes) Includes limited listing of data used for manual tabulation in Excel.

TDOTlinksFULL.drf

Data for drainage links (storm sewer pipes & boxes) Includes full listing of data used by auto-build Excel template for tabulation.

TDOTculverts.drf

Data for drainage culverts (crossdrains & sidedrains)

Plan & Profile Sheet Production

Used in conjunction with the **GEOPAK Plan & Profile Sheet** dialog to produce plans sheets.

tdot.psl

Plans sheet library with settings to produce full present layout sheets, full plan layout sheets, full profile sheets , split plan/profile sheets, split plan/plan layout sheets (set up with the same station limit on top & bottom for project phase layouts) and split plan/plan layout sheets (set up with continuous stationing through top & bottom for resurfacing layouts).

Cross Section Sheet Production

Used in conjunction with the **GEOPAK Cross Section Sheet Composition** dialog to produce cross section sheets.

Roadway10scale.xssl

Cross section sheet library with settings to produce 10 scale English roadway cross section sheets.

Roadway20scale.xssl

Cross section sheet library with settings to produce 20 scale English roadway cross section sheets.

Culvert10scale.xssl

Cross section sheet library with settings to produce 10 scale English culvert cross section sheets.

Culvert20scale.xssl

Cross section sheet library with settings to produce 20 scale English culvert cross section sheets.

Typical Sections and Criteria Files

<C:\Users\Public\Geopak Standards\Criteria>

These files have been developed to apply TDOT standard roadway typical sections as well as other non-roadway items to GEOPAK cross sections. All roadway typical sections are based on the “RD01-” standard roadway drawings.

*.x	Criteria files
criteria.ctl	Default English GEOPAK criteria control file containing typical section definitions.
English_criteria.ctl	English GEOPAK criteria control file containing typical section definitions.
Typical.cel	Typical section cell library
*.wri	Write documents containing descriptions of all typical sections

All TDOT Design Division roadway typical sections are set up to function in a shapeless mode with no superelevation shapes, or in conjunction with superelevation shapes in a shaped mode. In this way a preliminary proposed cross section run can be made with only a horizontal and vertical alignment set at the time or a fully defined final cross section run can be made with the same typical section and its associated criteria files.

Criteria files are set up to look for pavement, shoulder and sidewalk lines in the plan view to control transitioning of their widths. As the plans are developed, and these lines are produced in graphics at TDOT's standard symbologies, this control will be reflected on the proposed cross sections when they are processed. When guardrail and guardrail slope limit lines are present in the plan view then side slopes, median slopes and shoulders are widened or flattened as needed. The guardrail location is shown on the cross section with a single or median guardrail cell.

If superelevation shapes are applied then the slopes of pavement, shoulders and subgrade will reflect these altered values. Otherwise normal tangent cross slopes will be applied.

On roadways with medians, from the finished grade point on the left to the finished grade point on the right, criteria files are set up to deal with locations where this area is transitioned in or out. As this area narrows the inside segments are reduced or changed as the situation warrants.

Case I or Case II variable slopes are placed by default with most typical sections. Application of fixed slopes, special ditches and benching is supported. Special ditches can be placed beside the roadway, at the toe of fill slopes or at the top of cut slopes. Benches can be formed in rock cuts, earth cuts or earth fills.

Excavation limit lines which are used when generating earthwork quantities are placed at all slope ties.

The following annotation is provided on the proposed cross sections:

- centerline name & station
- cross section grid with offsets & elevations
- finished grade elev.
- cross slopes & side slopes
- ditch flow line elevations
- subgrade tie offset & elev.
- final slope tie offset & elev.
- ditch widths
- bench elevations, slopes & widths

Slope lines and ditch flow lines are produced in the proposed plan view MicroStation file if desired.

Variables used with typical sections take one of three forms:

Name	alignment or file name
Value	numeric width, depth, etc.
Question	Y or N (yes or no) to control processing

For more detailed descriptions of the variables used by the typical sections and their criteria files, access their Write documents through GEOPAK's **Typical Sections** dialog under **project Manager > proposed Cross Sections > Shape Clusters > Typical** or by opening them from their standard file location **C:\Users\Public\Geopak Standards\Criteria**.

Roadway Typical Sections

Name	Description
1LNRMP	1 Lane Interchange Ramp State Routes & Freeways (RD01-TS-4)
1LNRMPRT	1 Lane Interchange Ramp Finished Grade on Left EOP with Pavement Area to the Right (RD01-TS-4)
1LNRMPRTU	1 Lane Urban Interchange Ramp State Routes & Freeways Finished Grade on Left EOP with Pavement Area to the Right (RD01-TS-4 & RD01-TS-6)
1LNRMPU	1 Lane Urban Interchange Ramp State Routes & Freeways (RD01-TS-4 & RD01-TS-6)
2LNLCL	2 Lane Roadway Local Roads (ADT>400) (RD01-TS-1)
2LNRMP	2 Lane Interchange Ramp State Routes & Freeways (RD01-TS-4)
2LNRMPU	2 Lane Urban Interchange Ramp State Routes & Freeways (RD01-TS-4 & RD01-TS-6)
2LNRTS	2 Lane Roadway State Routes (RD01-TS-3)
2LNTS1A	2 Lane Roadway Local Roads (ADT≤400) (RD01-TS-1A)
2LNTS2	2 Lane Roadway Collector Roads (RD01-TS-2)
2LNU	2 Lane Urban Roadway
2LNUS	2 Lane Urban Roadway with Shoulders
3LN	3 Lane Roadway (RD01-TS-7)
3LNUS	3 Lane Urban Roadway with Shoulders (RD01-TS-7A)
4LNDMD	4 Lane Depressed Median Roadway State Routes & Freeways (RD01-TS-2A, RD01-TS-3A & RD01-TS-5)
4LNFMD	4 Lane Flush Median Roadway State Routes (RD01-TS-2B & RD01-TS-3C)
4LNILT	4 Lane Roadways - Independent Roadway Left State Routes & Freeways (RD01-TS-3B & RD01-TS-5A)
4LNIRT	4 Lane Roadways - Independent Roadway Right State Routes & Freeways (RD01-TS-3B & RD01-TS-5A)

Name	Description
4LNMB	4 Lane Roadway with Median Barrier Freeways (RD01-TS-5B)
4LNMBU	4 Lane Urban Roadway with Median Barrier State Routes (RD01-TS-5B & RD01-TS-6)
4LNRMD	4 Lane Rural Raised Median Roadway State Routes (RD01-TS-2B, RD01-TS-3C & RD01-TS-6)
4LNU	4 Lane Urban Roadway (RD01-TS-6A)
4LNUDS	4 Lane Urban Depressed Median Roadway with Shoulders (RD01-TS-6)
4LNUF	4 Lane Urban Flush Median Roadway (RD01-TS-6A)
4LNUFS	4 Lane Urban Flush Median Roadway with Shoulders (RD01-TS-6)
4LNUR	4 Lane Urban Raised Median Roadway (RD01-TS-6A)
4LNURS	4 Lane Urban Raised Median Roadway with Shoulders (RD01-TS-6)
4LNUS	4 Lane Urban Roadway with Shoulders (RD01-TS-6)
5LNU	5 Lane Urban Roadway (RD01-TS-6A)
5LNUS	5 Lane Urban Roadway with Shoulders (RD01-TS-6)
6LNDMD	6 Lane Depressed Median Roadway State Routes & Freeways (RD01-TS-2A, RD01-TS-3A & RD01-TS-5)
6LNFMD	6 Lane Flush Median Roadway State Routes (RD01-TS-2B & RD01-TS-3C)
6LNILT	6 Lane Roadways - Independent Roadway Left State Routes & Freeways (RD01-TS-3B & RD01-TS-5A)
6LNIRT	6 Lane Roadways - Independent Roadway Right State Routes & Freeways (RD01-TS-3B & RD01-TS-5A)
6LNMB	6 Lane Roadway with Median Barrier Freeways (RD01-TS-5B)
BRDECD	Divided Roadway Dual Bridge Decks
BRDECK	Un-Divided Roadway Bridge Deck
BRDECKMB	Median Barrier Roadway Bridge Deck

Name	Description
CROWNDITCHBENCH	Crown Roadway with Bench before Special Ditch State Routes (RD01-TS-3)
DMEDDITCHBENCH	Depressed Median Roadway with Bench before Special Ditch State Routes & Freeways (RD01-TS-2A, RD01-TS-3A & RD01-TS-5)
MULTILNMB	Multi-Lane Freeway with Median Barrier (RD04-TS-5C)
P_ROCKB	Plot Rock Layer at Specified Depth
PATHIND	Independent Shared Use Path
PVTDR	Private Drive Residential, Business or Field Entrance
RADII	Shoulder with Side Slopes For application around prop. EOP intersection radii (used for developing slope lines and final TIN)
RADIIU	Urban Shoulder with Side Slopes For application around prop. EOP intersection radii (used for developing slope lines and final TIN)
RECRW	Crown Roadway Resurfacing with Widening
REUCRW	Urban Crown Roadway with Optional Shoulders Resurfacing with Widening
ROUNDAABOUT	Rural or Urban Roundabout (RD01-TS-9, RD01-TS-10 & RP-J-26)
ROUNDAMP	Roundabout Intersecting Roadway (RD01-TS-9, RD01-TS-10 & RP-J-26)

Non-Roadway Typical Sections

Name	Description
BERMIND	Independent Berm
LINEOFSIGHT	Plot Line of Sight Location
P_PROW	Plot Proposed R.O.W.
P_ROCK	Plot Rock Layer at Specified Depth
P_TOPS	Plot Topsoil Layer at Specified Depth
P_UMTL	Plot Un-Suitable Material Layer
P_XEOP	Plot Existing Pavement
P_XROW	Plot Present R.O.W.
RUNWAY	Airport Runway or Taxiway with Safety Area
SDIND	Independent Special Ditch
WALLLEFT	Retaining Wall Left
WALLRIGHT	Retaining Wall Right

Criteria Files

Name	Description
AirportSymbDef.x	Define Variables for Runway Element Symbology
BridgeDeck.x	Concrete Bridge Deck w/rails, sidewalk, etc.
C&G6in.x	6 Inch Non-Mountable Curb & Gutter
Case1slopes.x	Case I Variable Slopes
Case1slopesC&G.x	Case I Variable Slopes for Urban Areas
Case1slopesDitchBench.x	Case I Variable Slopes which include a bench between roadway and special ditch for channel change
Case2slopes.x	Case II Variable Slopes
Case2slopes400ADT.x	Case II Variable Slopes specifically for use on roadways with ADT <= 400
Case2slopesC&G.x	Case II Variable Slopes for Urban Areas
Case2slopesDitchBench.x	Case II Variable Slopes which include a bench between roadway and special ditch for channel change
Case2slopesToWall.x	Adapted from regular case 2 slopes criteria file but altered to look for and end at walls already in place
CurbTypeA6inM.x	6 Inch Mountable Type A Curb
InsideShoulder.x	Inside Shoulder for Divided Roadways
LineofSight.x	Locate and Annotate Line of Sight Centerline
MedianBarrierPavement.x	Pavement & Subgrade w/Widening for median barrier divided roadways
MedianBarrierShlds.x	Concrete Median Barrier w/Inside Shoulders
MedianDep4.x	Depressed Median w/4:1 Slopes
MedianDep6.x	Depressed Median w/6:1 Slopes
MedianRaisedGrass.x	Raised Grass Median w/0.04 F/F slopes (Includes type A 6" mountable curbs)
MedianRaisedGrass8to1NoCurb.x	Adapted from original to place grass median at 8:1 slope and without curbs

Name	Description
MultiLaneFreewayMBPavement.x	Multi-Lane Freeway with MB Pavement & Subgrade w/Widening
MultiLaneFreewayMBSHlds.x	Multi-Lane Freeway Concrete Median Barrier with Shoulders
Pavement.x	Pavement & Subgrade w/Widening
PavementResurfW.x	Resurfacing Pavement & Subgrade w/Widening
PlotExistPavement.x	Plot Existing Pavement
PlotPresentROW.x	Plot Present R.O.W. Limits
PlotProposedROW.x	Plot Proposed R.O.W. Limits
PlotRockatDepth.x	Plot Rock Layer at Specified Depth
PlotRockBottom.x	Adapted from original rock line criteria to only plot the rock bottom line for use where rock surfaces are developed for the top of rock
PlotTopsoilatDepth.x	Plot Topsoil Layer at Specified Depth (Inches)
PlotUnsuitableMatl.x	Plot Un-Suitable Material Layer at Depth & Width
PvtDrPavement.x	Private Drive Pavement & Subgrade
PvtDrslopes.x	Private Drive Side Slopes
PvtDrVar.x	Private Drive Variables
RadiusShoulder.x	Outside shoulder used along EOP radii
RadiusUrbanShoulder.x	Outside urban shoulder used along EOP radii
RaisedMedianPavement.x	Pavement & Subgrade w/Widening for raised median divided roadways
RampCase1slopes.x	Case I Variable Slopes for Ramps
RampInsideShoulder.x	Inside Shoulder for Ramps
RampPavement.x	Ramp Pavement & Subgrade w/Widening
RampRightPavement.x	Ramp Right Pavement & Subgrade w/Widening
RampShoulder.x	Outside Shoulder for Ramps
RampUrbanInsideShoulder.x	Urban Inside Shoulder for Ramps
RampUrbanShoulder.x	Urban Outside Shoulder for Ramps
RetainingWall.x	Retaining wall with backslopes to ground on cross sections with optional earth or concrete swale ditch

Name	Description
	behind wall. Creates ASCII text files with wall area and wall stake-out point information.
RoundaboutC&G4in30RM.x	4" Roundabout Mountable Curb & Gutter
RoundaboutCentralIsland.x	Roundabout Central Island w\Type "A" 6" NM Curb
RoundaboutPavement.x	Roundabout Pavement & Subgrade w/Widening
RoundaboutRampPavement.x	Roundabout Intersecting Roadway Pavement & Subgrade w/Widening
RoundaboutSplitterIsland.x	Roundabout Splitter Island w/6" Non-Mountable Curb & Gutter
RoundaboutTruckApron.x	Roundabout Truck Apron
RunwayPavement.x	Pavement & Subgrade w/Widening for Airport Runways & Taxiways
RunwayShoulder.x	Outside Shoulder used with Airport Runways & Taxiways
RunwaySlopes.x	Airport Runway & Taxiway Side Slopes
Shoulder.x	Outside Shoulder
Shoulder_fullsuper.x	Outside Shoulder which applies full superelevation to shoulder on finished grade and subgrade
Shoulder_no_04Max.x	Outside Shoulder w/o .04 Max Superelevation
ShoulderResurfW.x	Resurfacing Outside Shoulder
SidewalkAreaLeft.x	Left Sidewalk & Grass Areas beyond Curb
SidewalkAreaRight.x	Right Sidewalk & Grass Areas beyond Curb
SlopeButtress1.5.x	Checks for guardrail widening and closes the subgrade. Program skips down to the buttress elevation, goes to the existing roadway side slope and then draws the top of buttress out. From there it projects the 1.5:1 outside buttress slope to the ground
SpecialDitchInd.x	Independent Special Ditch (not connected to roadway)
SymbDef.x	Default Define Variables for all Element Symbology

Name	Description
SymbDefEnglish.x	English Define Variables for all Element Symbology
UrbanPavement.x	Pavement & Subgrade w/Widening for Urban Areas
UrbanPavementResurfW.x	Resurfacing Pavement & Subgrade w/Widening for Urban Areas
UrbanShoulder.x	Outside Shoulder used with Curbs and C&G in Urban Areas
UrbanShoulderResurfW.x	Resurfacing Outside Shoulder used with Curbs and C&G in Urban Areas
Var*.x	Re-Definable Variable files used to control special side slope conditions such as fixed slopes, special ditches and benching
Vdef*.x	Define variable files used to set default values

Criteria Files Not Used Directly By The Typical Sections

Name	Description
BarrierHalfWall.x	Half wall with options to add a stone tie line to a retaining wall behind the half wall or a concrete cap between 2 half walls as used in median pier or sign support locations
BarrierWall.x	Concrete Median Barrier Wall
Berm.x	Berm for application along roadway
BermInd.x	Berm for independent application
C&G4inM.x	4 Inch Mountable Curb & Gutter
C&G6inM.x	6 Inch Mountable Curb & Gutter
CompositeSideSlope.x	Composite Side Slope Tie to ground
ConcreteSwale.x	Concrete Swale Ditch
ConcreteSwaleAtNormalDitch.x	Concrete swale at normal ditch location with rural roadway subgrade closure
CurbTypeA4inM.x	4 Inch Mountable Type A Curb
CurbTypeA6in.x	6 Inch Non-Mountable Type A Curb

Name	Description
CurbTypeB4inM.x	4 Inch Mountable Type B Curb
CurbTypeB6in.x	6 Inch Non-Mountable Type B Curb
CurbTypeB6inM.x	6 Inch Mountable Type B Curb
CurbTypeB6inMBack.x	Special version of 6 Inch Mountable Type B Curb which is used at the end of final slope tie and is drawn in backwards for tie to existing parking lot
GrassSeparatortoWall.x	Urban Grass Separator which starts at the back of curb and extends to a "Wall" which has been created in a previous run
MedianDep6-10.x	Depressed Median w/6:1 subgrade tie & 10:1 median slope
MedianDep10.x	Depressed Median w/10:1 Slopes
MedianRaisedConc.x	Raised Concrete Median w/0.02 F/F slopes (Includes type A 6" mountable curbs)
MedianSlope.x	Single 6:1 median slope
PvtDriveProfileRural.x	Private Drive Profiles - Rural Roadways
PvtDriveProfileUrban.x	Private Drive Profiles - Urban Roadways
PvtDriveProfileUrbanTypeACurb.x	This criteria file is set up to be run with regular proposed cross section tools in place of the regular final slope criteria. Instead of placing a regular side slope it calculates and places a proposed private drive profile tie in
RampSideSlopeToWall.x	Ramp Side Slope which extends to a "Wall" which has been created in a previous run with optional earth or concrete swale ditch at wall intersection
SharedUsePath.x	This program will create a shared use path along the edge of a roadway based on either a proposed path centerline & proposed path profile, just a proposed path profile or the elevation at the edge of the roadway

Name	Description
SharedUsePathInd.x	This program will create an independent shared use path based on a proposed path centerline and a proposed path profile
SharedUsePathNoRoadway.x	This program will create an independent shared use path based on a path baseline on the right edge and a proposed path profile
ShoulderToWall.x	Outside Shoulder which extends to a "Wall" which has been created in a previous run
SideSlopetoChainProfile.x	Side Slope Tie to Chain & Profile. Includes separate controls for left and right, used to force slope ties to user's specified locations
SideSlopeToWall.x	Side Slope which extends to a "Wall" which has been created in a previous run with optional earth or concrete swale ditch at wall intersection
SideSlopeToWallUrban.x	Adapted from rural version for use on urban roadway sections for cut or fill walls
SimpleSideSlope.x	Simple Side Slope Tie to ground
SimpleSideSlopeRamp.x	Simple Side Slope Tie to ground for Ramps, includes subgrade tie subroutine
SubgradeIntercept.x	Set up to close subgrade only with normal rural slope to ditch with traps in place for any intersection stop areas
SubgradeVerticalTie.x	Forms vertical tie from subgrade to FG, for use at edge of lane additions etc. where normal side slopes are not needed on one side of cross section
SubgradeVerticalTieRamp.x	Forms vertical tie from subgrade to FG, for use with ramp typicals at edge of lane additions etc. where normal side slopes are not needed on one side of cross section
SubgradeVerticalTieResurf.x	Forms vertical tie from subgrade to FG, for use with resurfacing typicals where section ends within

Name	Description
	existing pavement and subgrade depth equals overlay height plus pavement removal depth
SubgradeVerticalTieShoulder.x	Forms vertical tie from subgrade to FG, for use at outside edge of shoulder where normal side slopes are not needed on one side of cross section
SubgradeVerticalTieShoulderNoGround.x	Adapted from original subgrade vertical tie shoulder without the final tie to ground
Swaleslopes.x	2:1 side slope for outside concrete swale ditch
VarBenchCatchment.x	Special criteria file written to vary catchment special ditch depths and widths at the base of rock cuts
VdefCompositeSideSlope.x	Special criteria file written to set variable definitions for use with CompositeSideSlope.x

Construction Criteria Files

<C:\Users\Public\Geopak Standards\ConstCriteria>

These special criteria files were developed for use by construction personnel. Rather than tying slopes to the existing ground they set up fake slope points which are later shot in the field. To use these simply copy them into the standard criteria directory overwriting the regular criteria files of the same name.

Name	Description
Case1slopes.x	Construction Slopes
Case1slopesC&G.x	Construction Slopes for Urban Areas
Case2slopes.x	Construction Slopes
Case2slopesC&G.x	Construction Slopes for Urban Areas
Pavement.x	Construction Pavement & Subgrade w/Widening
RampCase1slopes.x	Construction Slopes for Ramps
Shoulder.x	Construction Shoulder

3PC Files for D&C Manager

<C:\Users\Public\Geopak Standards\3PC>

These 3 port criteria files or 3PC files as they are commonly called work in conjunction with the D&C manager to produce special graphic displays or to calculate quantities. See PDF documentation file [TDOTDesignDivisionPrograms.pdf](#) for complete workflows and methods of use for these programs.

Barrel_Computation.x

Reads a D&C Manager set & then counts the flexible drum cells and reports the quantity back to D&C Manager.

Berm_Computation.x

Reads a D&C Manager set of ESPC earth, compost or mulch berms, prompts the user for the cross section area of each berm & then calculates the total volume and reports the quantity back to D&C Manager.

bmonpro.x

Plots benchmarks with annotation from plan view on to profile. Used by Survey personnel.

count_row_markers.x

Reads a selection set of a given sheet area & then counts all R.O.W. markers and appends this info to a CSV file named ROWmarkers.csv.

Curb_Computation.x

Reads a D&C Manager set of curb lines, prompts the user for the volume per linear foot rate for each curb line & then calculates the total volume and reports the quantity back to D&C Manager.

CurbGutter_Computation.x

Reads a D&C Manager set of curb & gutter lines, prompts the user for the volume per linear foot rate for each curb & gutter line & then calculates the total volume and reports the quantity back to D&C Manager.

DoubleTurnArrow_Computation.x

Reads a D&C Manager set & then counts the double turn arrow pavement marking cells and reports the quantity back to D&C Manager

draw_cb.x

Draws existing storm and sanitary sewer catch basins, drop inlets & manholes as well as connecting pipes on profile using plan view graphics. Includes annotation of structures and pipes. produces error log for missing data, etc. Used by Survey personnel.

draw_contrl_pt_table.x

Builds control point table for placement in plan view. Table data must be edited to show point numbers, coordinate decimals to 4 places and elevations for benchmarks. Used by Survey personnel.

EnhancedRockCheckDams_Computation.x

Reads a D&C Manager set & then counts the ESPC enhanced rock check dam cells and reports the quantity back to D&C Manager.

ExitOnlyArrow_Computation.x

Reads a D&C Manager set & then counts the exit only lane arrow pavement marking cells and reports the quantity back to D&C Manager.

LevelSpreaders_Computation.x

Reads a D&C Manager set & then counts the EPSC level spreader cells and reports the quantity back to D&C Manager.

ohonpro.x

Plots overhead utility line crossings with standard annotation from plan view on to profile. Annotation must be edited to show actual wire types and numbers at each crossing. Used by Survey personnel.

place_12_terminal_EQ.x

This application plots a type 12 guardrail terminal, the user defined taper based on design speed and curve to tie to the guardrail at the roadside. A type text label is also placed for the terminal as well as a point at the terminal location for later use in calculating quantities. The special slope limit lines used by cross section criteria to show pads and alter side slopes are plotted as well. The approach area of the slope limit line is defined by values provided by the user from the length of need equation.

place_13_terminal.x

This application places a type 13 guardrail terminal cell, a type text label and a point at the terminal location for later use in calculating quantities.

place_21_400_min_install.x

This application plots a type 21 guardrail terminal with the minimum guardrail installation required at bridge ends for roadways with $ADT \leq 400$ with a type text label.

place_21_min_install.x

This application plots a type 21 guardrail terminal with the minimum guardrail installation required at bridge ends, a type text label and the special slope limit lines used by cross section criteria.

place_21_terminal.x

This application plots a type 21 guardrail terminal, a type text label and the special slope limit lines used by cross section criteria.

place_38_min_install.x

This application plots a type 38 guardrail terminal with the minimum guardrail installation required at bridge ends, a type text label and the special slope limit lines used by cross section criteria.

place_38_terminal.x

This application plots a type 38 guardrail terminal, a type text label and the special slope limit lines used by cross section criteria.

place_Br_end_GR.x

This application plots the standard length of bridge end guardrail (26' 10 3/4").

place_InLine_terminal.x

This application places a type In-Line guardrail terminal cell, a type text label and a point at the terminal location for later use in calculating quantities.

place_median_br_end_prot.x

This application places guardrail from the beginning of the 50' curve through the taper to the terminal in the median at bridge ends with a type 38 guardrail terminal, a type text label and the special slope limit lines used by cross section criteria.

place_median_br_pier_prot.x

This application places guardrail from the beginning of the 50' curve through the taper to the terminal in the median for protection at bridge piers with a type 38 guardrail terminal, a type text label and the special slope limit lines used by cross section criteria.

place_median_earth_berm.x

This application plots in the proposed median earth berm required at the end of bridges. The quantity of earth required for the berm in cubic yards is calculated and appended to a CSV file named MedianEarthBerms.csv.

place_median_min_br_end.x

This application plots in the minimum length of guardrail required in the median at tangent non-skewed bridges with a type 38 guardrail terminal, a type text label and the special slope limit lines used by cross section criteria.

place_row_flags.x

This application reads a selection set of proposed R.O.W. lines and calculates & then places station and offset flags at each break and if desired R.O.W. markers are placed as well.

place_row_marker.x

This application reads a selection set of 2 adjoining proposed R.O.W. lines, calculates the angles & then places the appropriate R.O.W. marker and labels it.

RockCheckDams_Computation.x

Reads a D&C Manager set & then counts the ESPC rock check dam cells and reports the quantity back to D&C Manager.

ROW_Markers _Computation.x

Reads a D&C Manager set & then counts the row marker cells and reports the quantity back to D&C Manager.

SignalLoop_Computation.x

Reads a D&C Manager set & then counts the signal loop cells and reports the saw slot & loop wire quantities back to D&C Manager.

SlopeDrain_Computation.x

Reads a D&C Manager set & then takes the length of each slope drain pipe, adjusts for slope distance, using side slope adhoc information attached to them and reports the adjusted lengths back to D&C Manager with other pay item data stored as adhoc info. This program is used to tabulate either temporary or permanent slope drains for English or metric.

StraightTurnArrow_Computation.x

Reads a D&C Manager set & then counts the straight & turn arrow pavement marking cells and reports the quantity back to D&C Manager

Striping_Paint_Computation.x

Reads a D&C Manager set & then counts the length of pavement striping lines and reports the quantity back to D&C Manager. This program automatically adjusts for gaps & double lines and is specifically set up to tabulate pavement striping lines as the painted type.

Striping_Painted_Channelization_Computation.x

Reads a D&C Manager set & then counts the length of pavement channelization striping lines, calculates the area and reports the quantity back to D&C Manager. This program is specifically set up to tabulate pavement channelization striping lines as the painted type.

Striping_Thermo_Channelization_Computation.x

Reads a D&C Manager set & then counts the length of pavement channelization striping lines, calculates the area and reports the quantity back to D&C Manager. This program is specifically set up to tabulate pavement channelization striping lines as the thermoplastic type.

Striping_Thermo_Flatline__Computation.x

Reads a D&C Manager set & then counts the length of pavement striping lines and reports the quantity back to D&C Manager. This program automatically adjusts for gaps & double lines and is specifically set up to tabulate pavement striping lines as the thermoplastic flatline type.

Striping_Thermo_Spray40_Computation.x

Reads a D&C Manager set & then counts the length of pavement striping lines and reports the quantity back to D&C Manager. This program automatically adjusts for gaps & double lines and is specifically set up to tabulate pavement striping lines as the spray thermoplastic (40 mil) type.

Striping_Thermo_Spray60_Computation.x

Reads a D&C Manager set & then counts the length of pavement striping lines and reports the quantity back to D&C Manager. This program automatically adjusts for gaps & double lines and is specifically set up to tabulate pavement striping lines as the spray thermoplastic (60 mil) type.

Striping_Thermo_Transverse_Computation.x

Reads a D&C Manager set & then counts the length of pavement transverse shoulder striping lines and reports the quantity back to D&C Manager. This program is specifically set up to tabulate pavement transverse shoulder striping lines as the thermoplastic type.

tdotsup1.x

Adds user specified superelevation rates to horizontal alignment curves. Used by Construction personnel.

tdotsup2.x

Draws pattern lines with station values at critical superelevation transition points as well as the begin & end and builds autoshape input file for superelevation using values entered with 3PC tdotsup1.x for undivided roadways. Used by Construction personnel.

tdotsup3.x

Draws pattern lines with station values at critical superelevation transition points as well as the begin & end and builds autoshape input file for superelevation using values entered with 3pC tdotsup1.x for divided roadways. Used by Construction personnel.

Tree_Computation.x

Reads a D&C Manager set & counts the proposed tree cells, reading pay item adhoc information attached to them and reporting the information back to D&C Manager.

TurnArrow_Computation.x

Reads a D&C Manager set & then counts the turn lane arrow pavement marking cells and reports the quantity back to D&C Manager.

VerticalPanel_Computation.x

Reads a D&C Manager set & then counts the vertical panel cells and reports the quantity back to D&C Manager.

Special Ditch & Benching Control

In TDOT's criteria files which handle side slopes, the horizontal & vertical location of special ditches and benches is controlled by a combination of the following control variable types.

- Questions..... Y or N answer for yes or no
- Alignment Names.....Values other than "NONE"
- Numbers.....Values greater than 0

The following list describes the actual variables and what they control. Note that these options are prioritized from left to right. The first situation which is true will be used.

Special Ditches

Ditch Offset & Elevation:

<u>Special Ditch Centerline & profile</u>	<u>Special Ditch profile & Foreslope</u>	<u>Minimum Depth & Foreslope</u>
Centerline Name Entered	Profile Name Entered	Minimum Depth Entered
Profile Name Entered	Centerline = "None"	Centerline = "None"
	Special Ditch Foreslope Value or Optional for Toe of Fill Ditches	Profile = "None"
	Fill Slope at Toe = "Y"	Special Ditch Foreslope Value or Optional for Toe of Fill Ditches
		Fill Slope at Toe = "Y"

Typical Section general location:

<u>Along Roadway</u>	<u>At Toe of Fill</u>	<u>At Top of Cut</u>
Ditch at Toe = "N"	Ditch at Toe = "Y"	Ditch at Top = "Y"
Ditch at Top = "N"	Ditch at Top = "N"	Ditch at Toe = "N"

Shape of Special Ditch:

<u>"V" Ditch</u>	<u>Trapezoidal Flat Bottom Ditch</u>
Special Ditch Width = 0	Special Ditch Width > 0

Low Water Keyhole placement:

<u>No Low Water Keyhole</u>	<u>place Low Water Keyhole</u>
LW Keyhole depth = 0	LW Keyhole depth > 0

Low Water Keyhole Shape:

<u>"V" Keyhole</u>	<u>Trapezoidal Flat Bottom Keyhole</u>
LW Keyhole width = 0	LW Keyhole width > 0

Benching

Cut or Fill & Target Layer:

<u>Rock Cut</u>	<u>Earth Cut</u>	<u>Earth Fill</u>
Rock Cut Bench= "Y"	Earth Cut Bench = "Y"	Earth Fill Bench = "Y"
Earth Cut Bench = "N"	Rock Cut Bench= "N"	Rock Cut Bench= "N"
Earth Fill Bench = "N"	Earth Fill Bench = "N"	Earth Cut Bench = "N"

Bench Offset & Elevation for Rock:

<u>Single Bench at Rock</u>	<u>Repeating Bench</u>	<u>Bench at Specific Elevations</u>
One Bench at Rock = "Y"	Repeating Bench = "Y"	Bench Elevations #1 - #n > 0
Repeating Bench = "N"	One Bench at Rock = "N"	One Bench at Rock = "N"
Bench Elevations = 0	Bench Elevations = 0	Repeating Bench = "N"
Slope to Bench Value	Slope to Bench Value	Slope to Bench Value
	Bench Height Value	Optional-Secondary Rock
		Slope > 0
		(applied after highest Elev. Value)

Geometry at Top of Rock:

<u>Slope to Ground only</u>	<u>Bench at Rock Top</u>	<u>Trace at Rock Top</u>
Bench at Rock Top = "N"	Bench at Rock Top = "Y"	Trace at Rock Top = "Y"
Trace at Rock Top = "N"	Trace at Rock Top = "N"	Bench at Rock Top = "N"
	Bench Slope Value	Width at Rock Top Value
	Width at Rock Top Value	

Bench Offset & Elevation for Earth:

<u>Repeating Bench</u>	<u>Bench at Specific Elevations</u>
Repeating Bench = "Y"	Bench Elevations #1 - #n > 0
Bench Elevations = 0	Repeating Bench = "N"
Slope to Bench Value	Slope to Bench Value
Bench Height Value	

Slope to the Bench for Earth or Rock:

Vertical slope face

Slope to bench = 0

Side Slope Value is applied

Slope to bench > 0

Notes:

To apply special ditches or benches as well as fixed slopes or alternate median slopes in guardrail areas to any specified station range it is necessary to edit the re-definable variables file (Var*.x) associated with the typical section in any given area.

Catchment ditches for areas with benching may be handled by regular ditch or special ditch controls. Regular ditches can be specified with a flat bottom but if the width or depth of the ditch varies it will be necessary to use special ditch controls to handle the catchment area. Special Ditch backslope settings are ignored when benching controls are set. Criteria file VarBenchCatchment.x can be used to vary catchment ditch areas on the fly during cross section processing. Follow the instructions in the file for its application.

The optional Secondary Rock Slope is set up to be used in areas of rock cut where at a specific elevation the rock becomes to un-stable to use the slope applied up to that point and a flatter slope is required the rest of the way up to the top of the rock layer.

Standard Level Filters - TDOTmain.dgnlib

<C:\Users\Public\MicroStation Standards\dgnlib>

Level filters can be used to turn levels on and off in graphics for various workflows or plan sheet layouts. As needed different combinations of level filters may be used at one time to view various groups together. They can also be used to control the levels shown in level lists such as the Level Display Dialog or the active level control on the Active Element Attributes tool bar.

Sheet level filters which specify use with “References” are for instances where the needed plot scale on the sheet make normal text in the plans the wrong size and the filter leaves out the text levels. Survey filters for various feature groups include point “locator” levels but not the point number and elevation levels by default. Filters which are shown as a list of level numbers are defined as a Level Group using the actual level names but are shown here by their numbers for brevity.

Level Filters – TDOTmain.dgnlib	Name or Level Group Definitions
All but points	- Points - MH - Low - TITLE – SHEET
Centerlines - All	CENTERLINE
Centerlines - Existing Roads	Centerline - Preliminary - Proposed
Centerlines - Preliminary	Centerline - Proposed - Existing
Centerlines - Proposed	Centerline - Preliminary - Existing
Construction - All	CONSTRUCTION - TITLE – SHEET
Design - All	DESIGN
Design - Proposed without Sheets	DESIGN –SHEET | default
Design - ROW Work	CENTERLINE - Preliminary - Existing | ROW - Bearings - loss - Labels - Markers - Wetland - SURVEY - FUNCTION | Parcels | Tract - TITLE – SHEET
Design - Working Cross Sections	0, 15-16, 30, 45-46, 52, 61-62 & 340-370
Design and Survey - Plans Levels	((DESIGN - SCRATCH-CONTOURS-GPK-Limit)| (SURVEY - Points - DTM - Office - MH-Low-Centerline-contours-Project-Development-Parcels-temporary-Hydraulic)
DTM Graphics	DTM & GRAPHICS

Level Filters – TDOTmain.dgnlib	Name or Level Group Definitions
Functional - All	FUNCTIONAL | CENTERLINE - Proposed - Existing- Development | Scratch | Natural - Profile - Points | Property - Development - Points | Shoulder | Curb
Hydraulics - Plan	6, 7, 17, 19, 22, 31-32, 37, 40, 49-50, 81, 97, 257 & 311
Hydraulics - Profile	61-63, 133-137, 141-142, 262-263, 267-269 & 320
Sheets - CONSULTANT Construction #2 Title Sheet	30-32, 61, 62, 280, 401-403, 405, 406, 412, 433, 441, 450, 455, 456, 458-460, 464
Sheets - CONSULTANT Construction Title Sheet	30-32, 61, 62, 280, 401-403, 405, 406, 412, 432, 441, 450, 455, 456, 458-460, 463
Sheets - CONSULTANT Preliminary Title Sheet	30-32, 61, 62, 280, 401-403, 405, 406, 410, 420, 430, 450, 455, 456, 459-461
Sheets - CONSULTANT ROW Title Sheet	30-32, 61, 62, 280, 401-403, 405, 406, 411, 420, 431, 440, 450, 455, 456, 458-460, 462
Sheets - Culvert Cross Sections	0, 15, 16, 45, 46, 52, 61, 340, 345, 348, 349, 351-359 & 361-366
Sheets - Drainage Map	3-8, 17, 19, 20, 31, 32, 34, 35, 49, 50, 61, 62, 81, 93, 97, 257, 259, 260, 311, 326-328 & 364
Sheets - Drainage Maps - References	4-7, 17, 19, 31, 49, 61, 62, 93, 257, 259 & 260
Sheets - EPSC Clearing and Grubbing	4, 5, 7, 8, 11, 15, 17-21, 24, 31, 32, 34, 35, 43, 45, 47, 58, 61, 62, 68-70, 93, 115, 125, 189, 261, 275, 311 & 326-328
Sheets - EPSC Final Construction	15, 17, 31, 32, 34, 35, 37, 39, 43, 45, 47-51, 58, 61, 62, 257-261, 275, 285, 289 & 311
Sheets - EPSC Intermediate Grading	7, 8, 11, 15, 17, 19, 20, 31, 32, 34, 35, 37, 43, 45, 47, 49-51, 58, 61, 62, 93, 125, 189, 257-261, 275 & 311
Sheets – Existing Contours	4-5, 7, 17, 19, 31, 32, 61, 62 & 93
Sheets - Pavement Marking	31, 32, 37, 39, 49, 56, 57, 61, 62 & 285
Sheets - Present Layout	3, 7-21, 23, 25, 31-33, 39, 43-47, 49, 50, 59, 61, 62, 73, 74, 93, 97, 101, 125, 129, 152, 156, 160, 164, 168, 175- 177, 181, 185, 189, 193, 194, 198, 208, 212, 216, 220, 224, 228, 236, 240, 244, 248, 252, 257, 270-272, 274, 275, 281, 290, 291 & 311

Level Filters – TDOTmain.dgnlib	Name or Level Group Definitions
Sheets - Present Layout no ROW PL Text	3, 7-21, 23, 25, 31-33, 39, 43-45, 47, 49, 50, 59-62, 73, 74, 93, 97, 101, 125, 129, 152, 160, 168, 175, 177, 181, 185, 189, 193, 194, 198, 208, 212, 216, 220, 224, 228, 236, 240, 244, 248, 252, 257, 270-272, 275, 281, 290, 291 & 311
Sheets - Private Drive Profiles	0, 52, 61-63, 340, 345, 348-351, 364 & 365
Sheets - Profiles	61-63, 132-149, 262-269, 320 & 350
Sheets - Property Map	7, 8, 13-17, 31, 32, 45-47, 61, 62, 152, 160, 175, 177, 232, 271, 272, 275 & 311
Sheets - Property Maps - References	7, 13, 15, 17, 31, 45, 61, 62, 152 & 160
Sheets – Proposed Contours	17, 31, 32, 34, 35, 37, 43, 49, 61, 62, 257
Sheets - Proposed Driveway Profile	1, 61, 62, 258, 259, 263, 267-269, 340, 348, 351, 356, 361 & 362
Sheets - Proposed Layout	17, 31, 32, 36-39, 41, 42, 48-52, 56, 57, 60-62, 257-260, 281-283, 285, 287-289 & 311
Sheets - Resurface and Safety Title Sheet	30-32, 61, 62, 280, 400, 402, 403, 405, 406, 414, 423-425, 436, 455-458 & 460
Sheets - Resurfacing Title Sheet	30-32, 61, 62, 280, 400, 402, 403, 405, 406, 413, 423-425, 435, 455-458 & 460
Sheets - Roadway Cross Sections	15, 16, 45, 46, 52, 340-343, 345, 348, 349, 351-359 & 361-366
Sheets - ROW Details	3, 9, 10, 15, 16, 31, 32, 39, 43-47, 61, 62, 152, 156, 160, 164, 168, 175-177, 270-272, 274 & 275
Sheets - ROW Utilities Only Title Sheet	30-32, 61, 62, 280, 400, 402, 403, 405, 406, 411, 426, 434, 450, 455, 456, 458 & 460
Sheets - TDOT Construction #2 Title Sheet	30-32, 61, 62, 280, 400, 402, 403, 405, 406, 412, 433, 441, 452, 455, 456, 458-460 & 464
Sheets - TDOT Construction Title Sheet	30-32, 61, 62, 280, 400, 402, 403, 405, 406, 412, 432, 441, 450, 455, 456, 458-460 & 463
Sheets - TDOT Preliminary Title Sheet	30-32, 61, 62, 280, 400, 402, 403, 405, 406, 410, 420, 430, 450, 455, 456, 459, 460 & 461

Level Filters – TDOTmain.dgnlib	Name or Level Group Definitions
Sheets - TDOT ROW Title Sheet	30-32, 61, 62, 280, 400, 402, 403, 405, 406, 411, 420, 431, 440, 450, 455, 456, 458-460 & 462
Sheets - Traffic Control	7, 8, 17, 19, 31, 32, 37-39, 49-51, 53, 61, 62, 284 & 311
Sheets - Traffic Control - References	7, 17, 19, 31, 37, 39, 49, 51, 53, 61 & 62
Sheets - Utilities	15, 17, 19, 23, 25, 31, 32, 41-43, 45, 49, 54, 55, 61, 62, 152, 160, 208, 212, 220, 224, 236, 240, 244, 248, 252, 257, 281, 287, 288, 292-300, 312 & 313
Signalization - Existing Based	7, 8, 18-21, 31, 32, 41, 42, 56, 57, 60-62, 93, 97, 101, 181, 189, 193, 194, 198 & 281-283
Signalization - Proposed Based	31, 32, 36-39, 41, 42, 48-52, 56, 57, 60-62, 257-260, 281-283, 285 & 287-289
Survey - All	SURVEY - TITLE – SHEET
Survey - All but Points	SURVEY - Points - Check - TITLE – SHEET
Survey - All with Point Elevations	SURVEY - Numbers - Locators - Check - TITLE – SHEET
Survey - All with Point Locators	SURVEY - Elevations - Numbers - Check - TITLE – SHEET
Survey - All with Point Numbers	SURVEY - Elevations - Locators - Check - TITLE – SHEET
Survey - Drainage	((Survey & Drainage) - PROFILE | MH) - Elevations - Numbers - TITLE – SHEET
Survey - Drainage - Topo Control	1, 7, 125 & 189
Survey - DTM	DTM - GRAPHICS - Numbers - Elevations
Survey – DTM – Topo Control	7, 11, 17, 27, 28, 76, 91, 93, 95, 112-120, 125, 127, 183, 187, 189, 191, 194, 196, 200, 206, 234, & 254
Survey – Field Topo	3, 7, 8, 11, 12, 17-23, 25, 27-29, 40, 71, 76, 83, 88, 91, 93, 95, 97, 99, 101, 103, 106, 121, 125, 127, 129, 166, 168, 173, 175, 179, 181, 183, 187, 189, 191, 193, 194, 196, 198, 200, 203, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 225, 228, 230, 234, 236, 240, 246, 248, 250, 252, 254, 311 & 319
Survey - Non-Transportation	(SURVEY & NON) - Elevations - Numbers

<u>Level Filters – TDOTmain.dgnlib</u>	<u>Name or Level Group Definitions</u>
Survey - Points	SURVEY & Points
Survey - Profile	61-63, 132-149 & 320
Survey – Profile – Topo Control	1, 3, 21, 25, 30, 76, 93, 95, 99, 121, 194, 216, 220, 224, 225, 228, 238, 240, 248, 252 & 269
Survey - Property	(SURVEY & PROPERTY) - Elevations - Numbers
Survey - Transportation	(SURVEY & TRANSPORTATION) - NON - Elevations - Numbers
Survey - Utilities	(SURVEY & UTILITIES) - NON - Elevations - Numbers
Utilities - Plan without Points	UTILITIES - Points - PROFILE - TITLE – SHEET

Sheet Level Structure Summary & Cross Reference TDOTmain.dgnlib

X = Level Required for Plotting W = Level Plotted from main Working DGN, but not included from Alternate Scale References O = Optional when used with ROW Details Level Name	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES	Level #
Default																			0
CONCEPT - Background Imagery																			600
CONCEPT - BRIDGE																			602
CONCEPT - BRIDGE - Patterning																			603
CONCEPT - CRASH DIAGRAMS																			610
CONCEPT - CRASH DIAGRAMS - Fatal																			611
CONCEPT - CRASH DIAGRAMS - Incap																			612
CONCEPT - CRASH DIAGRAMS - Non-Incap																			613
CONCEPT - CRASH DIAGRAMS - Property Damage																			614
CONCEPT - ETSA - Border																			615
CONCEPT - ETSA - Label																			616
CONCEPT - ETSA - Pattern																			617
CONCEPT - FILL SHAPE - Full Depth																			618
CONCEPT - FILL SHAPE - Mill and Overlay																			619
CONCEPT - FILL SLOPE - Concrete																			620
CONCEPT - PAVEMENT MARKING - Crosswalk - Longitudinal																			630
CONCEPT - PAVEMENT MARKING - Crosswalk - Parallel																			631
CONCEPT - PAVEMENT MARKING - Rumble Strips																			632
CONCEPT - PAVEMENT MARKING - Snowplowable Pavement Markers																			633
CONCEPT - PAVEMENT MARKING - Stop Bar																			634
CONCEPT - PAVEMENT MARKING - Striping - White																			635
CONCEPT - PAVEMENT MARKING - Striping - Yellow																			636
CONCEPT - PAVEMENT MARKING - Yield Line																			637
CONCEPT - PRESENT - Clearing and Grubbing																			640
CONCEPT - PRESENT - Median Concrete Barrier																			641
CONCEPT - PRESENT - Pipe Culverts																			642
CONCEPT - PRESENT - Retaining Walls																			643
CONCEPT - PRESENT - Utilities																			644
CONCEPT - PROPOSED - Clearing and Grubbing																			650
CONCEPT - PROPOSED - Median Concrete Barrier																			651
CONCEPT - PROPOSED - Pipe Culverts																			652
CONCEPT - PROPOSED - Retaining Walls																			653
CONCEPT - PROPOSED - Utilities																			654
CONCEPT - ROW																			660
CONCEPT - ROW - CA Fence																			661
CONCEPT - ROW - Patterning																			662
CONCEPT - ROW - Present-Parcels																			663
CONCEPT - ROW - Proposed																			664
CONCEPT - ROW - Slope Lines																			665
CONCEPT - ROW - Text																			666
CONCEPT - RSA Guidance																			601
CONCEPT - SCRATCH - User 1																			697

Level Name	X = Level Required for Plotting W = Level Plotted from main Working DGN, but not included from Alternate Scale References O = Optional when used with ROW Details														Level #				
	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING		EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES
CONCEPT - SCRATCH - User 2																			698
CONCEPT - SCRATCH - User 3																			699
CONCEPT - SLOPE LINES - Cut-Fill																			667
CONCEPT - TOPOGRAPHY - Business Names																			668
CONCEPT - TRAFFIC																			670
CONCEPT - TRAFFIC - Flashing Beacon (Red and Yellow)																			671
CONCEPT - TRAFFIC - Mast Arms																			672
CONCEPT - TRAFFIC - School Sign-Beacon Assembly																			673
CONCEPT - TRAFFIC - Sign																			674
CONCEPT - TRAFFIC - Sign - Regulatory																			675
CONCEPT - TRAFFIC - Sign - Route Markers																			676
CONCEPT - TRAFFIC - Sign - School																			677
CONCEPT - TRAFFIC - Sign - Tennessee																			678
CONCEPT - TRAFFIC - Sign - Warning																			679
CONCEPT - TRAFFIC - Sign Posts																			680
CONCEPT - TRAFFIC - Signal Backplate																			681
CONCEPT - TRAFFIC - Signal Head																			682
CONCEPT - TRAFFIC - Traffic Signal																			683
CONCEPT - TRANSPORTATION - Edge of Traveled Way																			690
CONCEPT - TRANSPORTATION - Guardrail and End Terminals																			691
CONCEPT - TRANSPORTATION - Pavement Marking and Traffic Control																			692
CONCEPT - TRANSPORTATION - Pavement Patterning																			693
CONCEPT - TRANSPORTATION - Roads Text																			694
CONCEPT - TRANSPORTATION - Sidewalk																			696
CONCEPT - TRANSPORTATION - Traffic Control																			695
CONSTRUCTION - SLOPE QUANTITIES - Interior																			314
CONSTRUCTION - SLOPE QUANTITIES - Matting																			315
CONSTRUCTION - SLOPE QUANTITIES - Misc, rip-rap, headwalls, etc.																			316
CONSTRUCTION - SLOPE QUANTITIES - Seeding																			317
CONSTRUCTION - SLOPE QUANTITIES - Sodding																			318
DESIGN - CENTERLINE - Proposed					X	X	X	X		X		X	X	X	X	X		X	31
DESIGN - CENTERLINE - Proposed Curve Text					X														33
DESIGN - CENTERLINE - Proposed GPK Visualizations																			256
DESIGN - CENTERLINE - Proposed Text	X	X	X	W	X	X	X			W		W	W	X	W	W		X	32
DESIGN - CONTOURS - Index with Text																X			34
DESIGN - CONTOURS - Intermediate with optional Text															X				35
DESIGN - DRAINAGE - Bridges					X		X			X		X	X	X		X		X	49
DESIGN - DRAINAGE - Bridges and Cross Drains Size Text					X		X			W		W	W						50
DESIGN - DRAINAGE - Cross Drains					X		X			X		X			X			X	257
DESIGN - DRAINAGE - Ditch Bottom Point									X		X						X		365
DESIGN - DRAINAGE - Side Drains - 42 Inches and greater							X			X		X							259
DESIGN - DRAINAGE - Side Drains - less than 42 Inches							X					X							258
DESIGN - DRAINAGE - Special Ditch Width Text											X						X		366
DESIGN - DRAINAGE - Special Ditches							X			X		X							260
DESIGN - DRAINAGE - Storm Sewer							X					X	X						51

Level Name	X = Level Required for Plotting W = Level Plotted from main Working DGN, but not included from Alternate Scale References O = Optional when used with ROW Details																Level #	
	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS		ROADWAY XSECTIONS	UTILITIES
DESIGN - DRAINAGE - Structures Linework								X		X						X		364
DESIGN - DRAINAGE - Text						X		X		X						X		52
DESIGN - EARTHWORK - Excavation Limit Lines																		369
DESIGN - EARTHWORK - Shapes																		347
DESIGN - EARTHWORK - Special Tie to Ground																		368
DESIGN - EROSION CONTROL - Devices											X							58
DESIGN - EROSION CONTROL - Devices Text and Legends											W							261
DESIGN - LINE OF SIGHT - Location Graphics																		367
DESIGN - MODEL - Aggregate																		371
DESIGN - MODEL - Asphalt																		372
DESIGN - MODEL - Concrete																		373
DESIGN - MODEL - Grass																		374
DESIGN - MODEL - Rip-Rap																		375
DESIGN - MODEL - Truck Apron Pavers																		376
DESIGN - PROFILE - Drainage - Bridges Drains and Ditches								X										262
DESIGN - PROFILE - Drainage - Bridges Drains and Ditches Text								X										263
DESIGN - PROFILE - Drainage - Storm Sewer								X										264
DESIGN - PROFILE - Drainage - Storm Sewer Text								X										265
DESIGN - PROFILE - Patterning								X										266
DESIGN - PROFILE - Private Drive Vertical Curve Text									X									350
DESIGN - PROFILE - Proposed								X										267
DESIGN - PROFILE - Proposed Curve Text								X										268
DESIGN - PROFILE - Proposed Text								X										269
DESIGN - PUBLIC HEARING - Shapes																		59
DESIGN - ROW - Bearings and Distances					O	X												270
DESIGN - ROW - Easement Linework and Patterning					W	X	X				X							47
DESIGN - ROW - Loss of Access Patterning					W	X	X											271
DESIGN - ROW - Right-of-Way and Easement Labels					W	O	X			X						X		46
DESIGN - ROW - Right-of-Way Linework					X	X	X			X	X					X	X	45
DESIGN - ROW - Right-of-Way Markers					X	X												272
DESIGN - ROW - ROW and Easement GPK Visualizations																		273
DESIGN - ROW - Slope Lines					X	X					X				X		X	43
DESIGN - ROW - Slope Lines Text					X	X												44
DESIGN - ROW - Stations and Offsets					O	X												274
DESIGN - ROW - Wetland Mitigation Patterning					W	X	X				X							275
DESIGN - SCRATCH - User 1	X	X	X															30
DESIGN - SCRATCH - User 2																		276
DESIGN - SCRATCH - User 3																		277
DESIGN - SCRATCH - User 4																		278
DESIGN - SCRATCH - User 5																		279
DESIGN - SHEET - Corner Text	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	62
DESIGN - SHEET - Light Grid								X	X	X							X	63
DESIGN - SHEET - Linework	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	61
DESIGN - SHEET - Plot Shape	X	X	X															280
DESIGN - SURFACE - Bridge Surface Construction Lines																		360

Level Name	X = Level Required for Plotting W = Level Plotted from main Working DGN, but not included from Alternate Scale References O = Optional when used with ROW Details													Level #					
	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL		PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES
DESIGN - TITLE SHEET - LOCATION MAP - CONSTRUCTION #1	x	x																	463
DESIGN - TITLE SHEET - LOCATION MAP - CONSTRUCTION #2	x	x																	464
DESIGN - TITLE SHEET - LOCATION MAP - COUNTY MAP	x	x	x																460
DESIGN - TITLE SHEET - LOCATION MAP - PRELIMINARY	x	x																	461
DESIGN - TITLE SHEET - LOCATION MAP - ROW	x	x																	462
DESIGN - TITLE SHEET - PROJECT DESCRIPTION - CONSTRUCTION	x	x																	432
DESIGN - TITLE SHEET - PROJECT DESCRIPTION - CONSTRUCTION #2	x	x																	433
DESIGN - TITLE SHEET - PROJECT DESCRIPTION - PRELIMINARY	x	x																	430
DESIGN - TITLE SHEET - PROJECT DESCRIPTION - RESURFACING			x																435
DESIGN - TITLE SHEET - PROJECT DESCRIPTION - RESURFACING SAFETY			x																436
DESIGN - TITLE SHEET - PROJECT DESCRIPTION - ROW	x	x																	431
DESIGN - TITLE SHEET - PROJECT DESCRIPTION - ROW UTILITIES ONLY			x																434
DESIGN - TITLE SHEET - PROJECT LENGTH - RESURFACING (NON-RIDING SURFACE)			x																424
DESIGN - TITLE SHEET - PROJECT LENGTH - RESURFACING (RIDING SURFACE)			x																423
DESIGN - TITLE SHEET - PROJECT LENGTH - RESURFACING ONLY			x																425
DESIGN - TITLE SHEET - PROJECT LENGTH - ROW	x	x																	420
DESIGN - TITLE SHEET - PROJECT LENGTH - ROW UTILITIES ONLY			x																426
DESIGN - TITLE SHEET - REVISION TEXT - CONSTRUCTION	x	x																	441
DESIGN - TITLE SHEET - REVISION TEXT - ROW	x	x																	440
DESIGN - TITLE SHEET - SHEET AND INDEX - CONSTRUCTION PHASE	x	x																	412
DESIGN - TITLE SHEET - SHEET AND INDEX - PRELIMINARY PHASE	x	x																	410
DESIGN - TITLE SHEET - SHEET AND INDEX - RESURFACING			x																413
DESIGN - TITLE SHEET - SHEET AND INDEX - RESURFACING AND SAFETY			x																414
DESIGN - TITLE SHEET - SHEET AND INDEX - RIGHT-OF-WAY PHASE	x	x	x																411
DESIGN - TITLE SHEET - STATE MAP - COUNTY NAMES	x	x	x																406
DESIGN - TITLE SHEET - STATE MAP - STATE AND COUNTIES BORDER	x	x	x																405
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - DESIGN EXCEPTION																			453
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - EXCLUSIONS	x	x	x																456
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - NO EXCLUSIONS	x	x	x																455
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - PROJECT OF LIMITED SCOPE	x	x																	449
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - ROAD TO BE CLOSED																			454
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - ROW TO BE ACQUIRED BY LOCAL GOVERNMENT	x	x																	442
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TMP REQUIRED PRELIM																			458
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #1 (SURVEY DATA)	x	x																	450
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #2																			451
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #3																			452
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #4 (RESURFACE AND SAFETY)			x																457
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - UTILITY CHAPTER 86 ROW																			459
DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - CONSULTANT IDENTIFICATION BLOCK	x																		401
DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - LINE WORK	x	x	x																403
DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - TDOT IDENTIFICATION BLOCK		x	x																400
DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - TEXT	x	x	x																402
DESIGN - TRAFFIC CONTROL PERMANENT - Pavement Marking									x						x				56
DESIGN - TRAFFIC CONTROL PERMANENT - Pavement Marking Text									x						x				57
DESIGN - TRAFFIC CONTROL PERMANENT - Signal Poles					x				x									x	281

Level Name	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES	Level #	
																				X = Level Required for Plotting	W = Level Plotted from main Working DGN, but not included from Alternate Scale References	O = Optional when used with ROW Details
DESIGN - TRAFFIC CONTROL PERMANENT - Signalization							X											X	41	
DESIGN - TRAFFIC CONTROL PERMANENT - Signalization Text							X												X	42
DESIGN - TRAFFIC CONTROL PERMANENT - Signs							X													282
DESIGN - TRAFFIC CONTROL PERMANENT - Signs Text							X													283
DESIGN - TRAFFIC CONTROL TEMPORARY - Devices													X							53
DESIGN - TRAFFIC CONTROL TEMPORARY - Sign Faces and Text													W							284
DESIGN - TRANSPORTATION - Curb Gutter and Sidewalk							X							X						285
DESIGN - TRANSPORTATION - Driveway Shading					X	X														9
DESIGN - TRANSPORTATION - Driveways					X	X	X						X	X						39
DESIGN - TRANSPORTATION - Edge of Traveled Way							X					X	X	X		X				37
DESIGN - TRANSPORTATION - GR Special Slope Limit Lines																				286
DESIGN - TRANSPORTATION - Intersection Lines																				338
DESIGN - TRANSPORTATION - Lighting							X												X	287
DESIGN - TRANSPORTATION - Lighting Text							X												X	288
DESIGN - TRANSPORTATION - Proposed Layout Patterning							X													60
DESIGN - TRANSPORTATION - Roadside Barriers							X													289
DESIGN - TRANSPORTATION - Scarification Patterning					X															290
DESIGN - TRANSPORTATION - Scarification Text					X															291
DESIGN - TRANSPORTATION - Shoulder Lines							X													36
DESIGN - TRANSPORTATION - Text							X						W							38
DESIGN - TYPICAL - Bench Elevation Text											X							X		352
DESIGN - TYPICAL - Bench Slope Text											X							X		354
DESIGN - TYPICAL - Bench Width Text											X							X		353
DESIGN - TYPICAL - Bridge Deck Median Barriers											X							X		359
DESIGN - TYPICAL - Bridge Parapet Wall																				377
DESIGN - TYPICAL - Finished Grade and Subgrade									X		X							X		348
DESIGN - TYPICAL - Finished Grade Slopes Text									X		X							X		351
DESIGN - TYPICAL - Guardrail											X							X		358
DESIGN - TYPICAL - Retaining Wall Text											X							X		363
DESIGN - TYPICAL - Side Slope to Bench Text											X							X		355
DESIGN - TYPICAL - Slope Tie Point											X							X		362
DESIGN - TYPICAL - Slope Tie Text											X							X		361
DESIGN - TYPICAL - Subgrade Cross Slope Text											X							X		356
DESIGN - TYPICAL - Subgrade Tie Text											X							X		357
DESIGN - TYPICAL - Text									X		X							X		349
DESIGN - TYPICAL - Warning Text																				370
DESIGN - UTILITIES - Cable (Overhead) with Text												X							X	55
DESIGN - UTILITIES - Cable (Underground) with Text												X							X	54
DESIGN - UTILITIES - Electric (Overhead) with Text												X							X	292
DESIGN - UTILITIES - Electric (Underground) with Text												X							X	293
DESIGN - UTILITIES - Electric and Cable (Overhead) with Text												X							X	312
DESIGN - UTILITIES - Electric Telephone and Cable (Overhead) with Text												X							X	313
DESIGN - UTILITIES - Fiber Optics (Overhead) with Text												X							X	294
DESIGN - UTILITIES - Fiber Optics (Underground) with Text												X							X	295
DESIGN - UTILITIES - Gas with Text												X							X	296

Level Name	X = Level Required for Plotting W = Level Plotted from main Working DGN, but not included from Alternate Scale References O = Optional when used with ROW Details													Level #					
	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL		PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES
DESIGN - UTILITIES - Sanitary Sewer with Text												x						x	297
DESIGN - UTILITIES - Telephone (Overhead) with Text												x						x	298
DESIGN - UTILITIES - Telephone (Underground) with Text												x						x	299
DESIGN - UTILITIES - Water with Text												x						x	300
DESIGN - VEGETATION - Features with Text						x													48
GEOTECHNICAL – LAYOUT – Sheet – Linework																			803
GEOTECHNICAL – LAYOUT – Test Boring																			801
GEOTECHNICAL – LAYOUT – Test Boring – Text																			802
GEOTECHNICAL – PROFILE – Patterning																			835
GEOTECHNICAL – PROFILE – Sheet																			830
GEOTECHNICAL – PROFILE – Sheet – Corner Text																			831
GEOTECHNICAL – PROFILE – Sheet – Light Grid																			832
GEOTECHNICAL – PROFILE – Sheet – Linework																			833
GEOTECHNICAL – PROFILE – Sheet – Plot Shape																			834
GEOTECHNICAL – PROFILE – Test Boring																			820
GEOTECHNICAL – PROFILE – Test Boring – Text																			821
GEOTECHNICAL – SCRATCH – Level 1																			870
GEOTECHNICAL – SCRATCH – Level 2																			871
GEOTECHNICAL – SCRATCH – Level 3																			872
GEOTECHNICAL – SCRATCH – Level 4																			873
GEOTECHNICAL – STRUCTURES – Sheet																			812
GEOTECHNICAL – STRUCTURES – Test Boring																			810
GEOTECHNICAL – STRUCTURES – Test Boring – Test																			811
GEOTECHNICAL – TYPICAL SECTIONS – Proposed																			860
GEOTECHNICAL – TYPICAL SECTIONS – Proposed Text																			863
GEOTECHNICAL – TYPICAL SECTIONS – Typical – Test Boring																			861
GEOTECHNICAL – TYPICAL SECTIONS – Typical – Test Boring – Text																			862
STRUCTURE - CENTERLINE - Item																			710
STRUCTURE - CENTERLINE - Survey																			711
STRUCTURE - CONTOURS - Existing - Major																			702
STRUCTURE - CONTOURS - Existing - Minor																			703
STRUCTURE - CONTOURS - Proposed - Major																			704
STRUCTURE - CONTOURS - Proposed - Minor																			705
STRUCTURE - GROUND - Existing Groundline																			701
STRUCTURE - GROUND - Ground Line Exist																			700
STRUCTURE - HYDRAULICS																			790
STRUCTURE - OBJECT																			720
STRUCTURE - OBJECT - Edge of Pavement Hidden																			735
STRUCTURE - OBJECT - Edge of Water																			734
STRUCTURE - OBJECT - Existing																			728
STRUCTURE - OBJECT - Existing Hidden																			729
STRUCTURE - OBJECT - Existing Rebar Horizon																			730
STRUCTURE - OBJECT - Existing Rebar Vertical																			731
STRUCTURE - OBJECT - Existing Steel																			732
STRUCTURE - OBJECT - Existing Steel Hidden																			733

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	STRUCTURE - OBJECT - Hidden																				
STRUCTURE - OBJECT - Rebar Horizon																					722
STRUCTURE - OBJECT - Rebar Section Horizon																					723
STRUCTURE - OBJECT - Rebar Section Vertical																					725
STRUCTURE - OBJECT - Rebar Vertical																					724
STRUCTURE - OBJECT - Steel																					726
STRUCTURE - OBJECT - Steel Hidden																					727
STRUCTURE - PATTERNS																					750
STRUCTURE - PATTERNS - Existing																					752
STRUCTURE - PATTERNS - Hatching																					751
STRUCTURE - PATTERNS - Shapes																					753
STRUCTURE - PROPOSED - Groundline																					770
STRUCTURE - SCRATCH - Level 1																					780
STRUCTURE - SCRATCH - Level 2																					781
STRUCTURE - SHEET - Plot Shape																					760
STRUCTURE - TEXT																					740
STRUCTURE - TEXT - Dimensions																					743
STRUCTURE - TEXT - Existing Dimension Lines																					744
STRUCTURE - TEXT - Existing Dimension Text																					745
STRUCTURE - TEXT - Linework																					746
STRUCTURE - TEXT - Subtitles																					741
STRUCTURE - TEXT - Titles																					742
SURVEY - AERIAL SURVEY - Automatic - Grid Points																					322
SURVEY - AERIAL SURVEY - Automatic - Grid Pts Beyond - Ht Acc Threshold																					323
SURVEY - AERIAL SURVEY - Automatic - Grid Pts with - Low Redundancy																					324
SURVEY - AERIAL SURVEY - Collected Point																					325
SURVEY - AERIAL SURVEY - Contours - Major																					326
SURVEY - AERIAL SURVEY - Contours - Major Text																					327
SURVEY - AERIAL SURVEY - Contours - Minor																					328
SURVEY - AERIAL SURVEY - Mapping Setup - MAPPING LIMITS																					329
SURVEY - AERIAL SURVEY - Mapping Setup - SET MAP SCALE																					330
SURVEY - AERIAL SURVEY - Mapping Setup - with Text																					331
SURVEY - AERIAL SURVEY - Obscured Area																					332
SURVEY - AERIAL SURVEY - Obscured Area Points																					333
SURVEY - AERIAL SURVEY - Out of collection Boundary Points																					334
SURVEY - AERIAL SURVEY - Photo Control - Points - Elevations																					64
SURVEY - AERIAL SURVEY - Photo Control - Points - Locators																					65
SURVEY - AERIAL SURVEY - Photo Control - Points - Numbers																					66
SURVEY - AERIAL SURVEY - Photo Control with Text																					67
SURVEY - AERIAL SURVEY - Skipped Points																					335
SURVEY - AERIAL SURVEY - Uncollected Point																					336
SURVEY - AERIAL SURVEY - Withheld Point																					337
SURVEY - CENTERLINE - Existing Roads																					24
SURVEY - CENTERLINE - Existing Roads - Development																					68
SURVEY - CENTERLINE - Existing Roads Curve Text																					69

Level Name	X = Level Required for Plotting W = Level Plotted from main Working DGN, but not included from Alternate Scale References O = Optional when used with ROW Details														Level #				
	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING		EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES
SURVEY - CENTERLINE - Existing Roads Text																			70
SURVEY - CENTERLINE - Preliminary																			1
SURVEY - CENTERLINE - Preliminary - Development																			71
SURVEY - CENTERLINE - Preliminary Curve Text																			72
SURVEY - CENTERLINE - Preliminary Text																			2
SURVEY - CONTOURS - Index with Text									X						X				4
SURVEY - CONTOURS - Intermediate with optional Text									X						X				5
SURVEY - CONTROL - Check Points																			339
SURVEY - CONTROL - Grid					X														73
SURVEY - CONTROL - Grid Text					X														74
SURVEY - CONTROL - Points - Elevations																			75
SURVEY - CONTROL - Points - Locators																			76
SURVEY - CONTROL - Points - Numbers																			77
SURVEY - CONTROL - Temporary with Text																			319
SURVEY - CONTROL with Text					X	X													3
SURVEY - DRAINAGE - Area Shapes									X										6
SURVEY - DRAINAGE - Area Shapes - Points - Elevations																			78
SURVEY - DRAINAGE - Area Shapes - Points - Locators																			79
SURVEY - DRAINAGE - Area Shapes - Points - Numbers																			80
SURVEY - DRAINAGE - Area Shapes Text									X										81
SURVEY - DRAINAGE - Bridge Deck - Points - Elevations																			82
SURVEY - DRAINAGE - Bridge Deck - Points - Locators																			83
SURVEY - DRAINAGE - Bridge Deck - Points - Numbers																			84
SURVEY - DRAINAGE - Bridge Deck with Text																			22
SURVEY - DRAINAGE - Bridge Hydraulic Data - Points - Elevations																			85
SURVEY - DRAINAGE - Bridge Hydraulic Data - Points - Locators																			28
SURVEY - DRAINAGE - Bridge Hydraulic Data - Points - Numbers																			86
SURVEY - DRAINAGE - Bridge Hydraulic Data with Text																			40
SURVEY - DRAINAGE - Bridges					X				X		X	X		X			X		19
SURVEY - DRAINAGE - Bridges - Points - Elevations																			87
SURVEY - DRAINAGE - Bridges - Points - Locators																			88
SURVEY - DRAINAGE - Bridges - Points - Numbers																			89
SURVEY - DRAINAGE - Bridges Text					X				W		W								20
SURVEY - DRAINAGE - Natural Features				X	X		X		X		X	X		X	X		X		17
SURVEY - DRAINAGE - Natural Features - Points - Elevations																			90
SURVEY - DRAINAGE - Natural Features - Points - Locators																			91
SURVEY - DRAINAGE - Natural Features - Points - Numbers																			92
SURVEY - DRAINAGE - Natural Features Text				W	X		X		W		W	W							311
SURVEY - DRAINAGE - Pipes and Culverts					X				X		X			X					93
SURVEY - DRAINAGE - Pipes and Culverts - Points - Elevations																			94
SURVEY - DRAINAGE - Pipes and Culverts - Points - Locators																			95
SURVEY - DRAINAGE - Pipes and Culverts - Points - Numbers																			96
SURVEY - DRAINAGE - Pipes and Culverts Text					X				W										97
SURVEY - DRAINAGE - Storm Sewer					X														21
SURVEY - DRAINAGE - Storm Sewer - Points - Elevations																			98

Level Name	CONSULTANT	TDOT	TITLE SHEET	RESURFACING	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES	Level #	
	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET																	
SURVEY - DRAINAGE - Storm Sewer - Points - Locators																					99
SURVEY - DRAINAGE - Storm Sewer - Points - Numbers																					100
SURVEY - DRAINAGE - Storm Sewer Text						x															101
SURVEY - DTM - Breaklines																					29
SURVEY - DTM - Breaklines - Points - Elevations																					102
SURVEY - DTM - Breaklines - Points - Locators																					103
SURVEY - DTM - Breaklines - Points - Numbers																					104
SURVEY - DTM - Spot Points - Elevations																					105
SURVEY - DTM - Spot Points - Locators																					106
SURVEY - DTM - Spot Points - Point Numbers																					107
SURVEY - DTM - Void Lines																					108
SURVEY - DTM - Void Lines - Points - Elevations																					109
SURVEY - DTM - Void Lines - Points - Locators																					110
SURVEY - DTM - Void Lines - Points - Numbers																					111
SURVEY - DTM GRAPHICS - Boundary Line																					112
SURVEY - DTM GRAPHICS - Break Voids																					113
SURVEY - DTM GRAPHICS - Breaklines																					114
SURVEY - DTM GRAPHICS - Contours																					115
SURVEY - DTM GRAPHICS - Drape Voids																					116
SURVEY - DTM GRAPHICS - Islands																					117
SURVEY - DTM GRAPHICS - Spot Points																					118
SURVEY - DTM GRAPHICS - Triangles																					119
SURVEY - DTM GRAPHICS - Voids																					120
SURVEY - GROUND - Bottom of Rock Layer																					344
SURVEY - GROUND - Bottom of Topsoil Layer																			x		343
SURVEY - GROUND - Bottom of Unsuitable Material Layer																			x		342
SURVEY - GROUND - Existing Pavement Layer										x		x							x		345
SURVEY - GROUND - Existing Pavement Text																					346
SURVEY - GROUND - Top of Ground										x		x								x	340
SURVEY - GROUND - Top of Rock Layer																				x	341
SURVEY - MISCELLANEOUS - Bottom of MH and CB																					121
SURVEY - MISCELLANEOUS - Bottom of MH and CB - Points - Elevations																					122
SURVEY - MISCELLANEOUS - Bottom of MH and CB - Points - Numbers																					123
SURVEY - MISCELLANEOUS - Office with Text																					124
SURVEY - NON-TRANSPORTATION - Buildings							x							x							125
SURVEY - NON-TRANSPORTATION - Buildings - Points - Elevations																					126
SURVEY - NON-TRANSPORTATION - Buildings - Points - Locators																					127
SURVEY - NON-TRANSPORTATION - Buildings - Points - Numbers																					128
SURVEY - NON-TRANSPORTATION - Buildings Text							x														129
SURVEY - NON-TRANSPORTATION - Features							x							x							11
SURVEY - NON-TRANSPORTATION - Features - Points - Elevations																					130
SURVEY - NON-TRANSPORTATION - Features - Points - Locators																					27
SURVEY - NON-TRANSPORTATION - Features - Points - Numbers																					131
SURVEY - NON-TRANSPORTATION - Features Text							x														12
SURVEY - PROFILE - Control with Text										x											132

Level Name	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES	Level #
SURVEY - PROFILE - Drainage - Bridge Hydraulic Data with Text								X											320
SURVEY - PROFILE - Drainage - Bridges								X											133
SURVEY - PROFILE - Drainage - Bridges Text								X											134
SURVEY - PROFILE - Drainage - Natural Features with Text								X											135
SURVEY - PROFILE - Drainage - Pipes and Culverts								X											136
SURVEY - PROFILE - Drainage - Pipes and Culverts Text								X											137
SURVEY - PROFILE - Drainage - Storm Sewer								X											138
SURVEY - PROFILE - Drainage - Storm Sewer Text								X											139
SURVEY - PROFILE - Existing Roads with Text								X											140
SURVEY - PROFILE - Ground Line with Text								X											141
SURVEY - PROFILE - Project Information and Notes								X											142
SURVEY - PROFILE - Utilities - Cable with Text								X											143
SURVEY - PROFILE - Utilities - Electric with Text								X											144
SURVEY - PROFILE - Utilities - Gas with Text								X											145
SURVEY - PROFILE - Utilities - Overhead Wire Crossings								X											146
SURVEY - PROFILE - Utilities - Sanitary Sewer with Text								X											147
SURVEY - PROFILE - Utilities - Telephone with Text								X											148
SURVEY - PROFILE - Utilities - Water with Text								X											149
SURVEY - PROJECT INFORMATION and NOTES																			150
SURVEY - PROPERTY - Development																			151
SURVEY - PROPERTY - Easement Lines				X	X	X												X	152
SURVEY - PROPERTY - Easement Lines - Points - Elevations																			153
SURVEY - PROPERTY - Easement Lines - Points - Locators																			154
SURVEY - PROPERTY - Easement Lines - Points - Numbers																			155
SURVEY - PROPERTY - Easement Lines Text					O	X													156
SURVEY - PROPERTY - Owners					X	X													10
SURVEY - PROPERTY - Parcels																			26
SURVEY - PROPERTY - Political Boundaries				X	X														13
SURVEY - PROPERTY - Political Boundaries - Points - Elevations																			157
SURVEY - PROPERTY - Political Boundaries - Points - Locators																			158
SURVEY - PROPERTY - Political Boundaries - Points - Numbers																			159
SURVEY - PROPERTY - Political Boundaries Text					W	X													14
SURVEY - PROPERTY - Property Lines				X	X	X												X	160
SURVEY - PROPERTY - Property Lines - Points - Elevations																			161
SURVEY - PROPERTY - Property Lines - Points - Locators																			162
SURVEY - PROPERTY - Property Lines - Points - Numbers																			163
SURVEY - PROPERTY - Property Lines Text					O	X													164
SURVEY - PROPERTY - Property Markers - Points - Elevations																			165
SURVEY - PROPERTY - Property Markers - Points - Locators																			166
SURVEY - PROPERTY - Property Markers - Points - Numbers																			167
SURVEY - PROPERTY - Property Markers with Text					X	X													168
SURVEY - PROPERTY - ROW Lines				X	X	X					X	X					X	X	15
SURVEY - PROPERTY - ROW Lines - Points - Elevations																			169
SURVEY - PROPERTY - ROW Lines - Points - Locators																			170
SURVEY - PROPERTY - ROW Lines - Points - Numbers																			171

Level Name	CONSULTANT	TDOT	TITLE SHEET	RESURFACING	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES	Level #	
	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET	TITLE SHEET					
SURVEY - PROPERTY - ROW Lines Text					W	O	X					X						X		16	
SURVEY - PROPERTY - ROW Markers - Points - Elevations																					172
SURVEY - PROPERTY - ROW Markers - Points - Locators																					173
SURVEY - PROPERTY - ROW Markers - Points - Numbers																					174
SURVEY - PROPERTY - ROW Markers with Text						X	X														175
SURVEY - PROPERTY - Station and Offset Flags						O	X														176
SURVEY - PROPERTY - Tract Numbers					W	X	X														177
SURVEY - ROADSIDE BARRIERS - Points - Elevations																					178
SURVEY - ROADSIDE BARRIERS - Points - Locators																					179
SURVEY - ROADSIDE BARRIERS - Points - Numbers																					180
SURVEY - ROADSIDE BARRIERS with Text						X															181
SURVEY - TRAFFIC CONTROL - Pavement Marking - Points - Elevations																					182
SURVEY - TRAFFIC CONTROL - Pavement Marking - Points - Locators																					183
SURVEY - TRAFFIC CONTROL - Pavement Marking - Points - Numbers																					184
SURVEY - TRAFFIC CONTROL - Pavement Marking with Text						X															185
SURVEY - TRAFFIC CONTROL - Signs - Points - Elevations																					186
SURVEY - TRAFFIC CONTROL - Signs - Points - Locators																					187
SURVEY - TRAFFIC CONTROL - Signs - Points - Numbers																					188
SURVEY - TRAFFIC CONTROL - Signs and Devices with Text						X													X		23
SURVEY - TRANSPORTATION - Features						X							X								189
SURVEY - TRANSPORTATION - Features - Points - Elevations																					190
SURVEY - TRANSPORTATION - Features - Points - Locators																					191
SURVEY - TRANSPORTATION - Features - Points - Numbers																					192
SURVEY - TRANSPORTATION - Features Text						X															193
SURVEY - TRANSPORTATION - Railroads						X															194
SURVEY - TRANSPORTATION - Railroads - Points - Elevations																					195
SURVEY - TRANSPORTATION - Railroads - Points - Locators																					196
SURVEY - TRANSPORTATION - Railroads - Points - Numbers																					197
SURVEY - TRANSPORTATION - Railroads Text						X															198
SURVEY - TRANSPORTATION - Roads					X	X					X		X	X		X					7
SURVEY - TRANSPORTATION - Roads - Points - Elevations																					199
SURVEY - TRANSPORTATION - Roads - Points - Locators																					200
SURVEY - TRANSPORTATION - Roads - Points - Numbers																					201
SURVEY - TRANSPORTATION - Roads Text					W	X					W		W	W							8
SURVEY - UTILITIES - Cable (Underground) - Points - Elevations																					202
SURVEY - UTILITIES - Cable (Underground) - Points - Locators																					203
SURVEY - UTILITIES - Cable (Underground) - Points - Numbers																					204
SURVEY - UTILITIES - Cable (Underground) with Text						X													X		25
SURVEY - UTILITIES - Electric (Lighting) - Points - Elevations																					205
SURVEY - UTILITIES - Electric (Lighting) - Points - Locators																					206
SURVEY - UTILITIES - Electric (Lighting) - Points - Numbers																					207
SURVEY - UTILITIES - Electric (Lighting) with Text						X													X		208
SURVEY - UTILITIES - Electric (Overhead) - Points - Elevations																					209
SURVEY - UTILITIES - Electric (Overhead) - Points - Locators																					210
SURVEY - UTILITIES - Electric (Overhead) - Points - Numbers																					211

Level Name	CONSULTANT TITLE SHEET	TDOT TITLE SHEET	RESURFACING TITLE SHEET	PROPERTY MAP	PRESENT LAYOUT	ROW DETAILS	PROPOSED LAYOUT	PROFILES	PRIVATE DR PROFILES	DRAINAGE MAP	CULVERT XSECTION	EROSION CONTROL	TRAFFIC CONTROL	PAVEMENT MARKING	EXISTING CONTOURS	PROPOSED CONTOURS	ROADWAY XSECTIONS	UTILITIES	Level #
SURVEY - UTILITIES - Electric (Overhead) with Text					X													X	212
SURVEY - UTILITIES - Electric (Underground) - Points - Elevations																			213
SURVEY - UTILITIES - Electric (Underground) - Points - Locators																			214
SURVEY - UTILITIES - Electric (Underground) - Points - Numbers																			215
SURVEY - UTILITIES - Electric (Underground) with Text					X													X	216
SURVEY - UTILITIES - Fiber Optic Cable (Underground) - Points - Elevations																			217
SURVEY - UTILITIES - Fiber Optic Cable (Underground) - Points - Locators																			218
SURVEY - UTILITIES - Fiber Optic Cable (Underground) - Points - Numbers																			219
SURVEY - UTILITIES - Fiber Optic Cable (Underground) with Text					X													X	220
SURVEY - UTILITIES - Gas - Points - Elevations																			221
SURVEY - UTILITIES - Gas - Points - Locators																			222
SURVEY - UTILITIES - Gas - Points - Numbers																			223
SURVEY - UTILITIES - Gas with Text					X													X	224
SURVEY - UTILITIES - Low Wire Crossings																			225
SURVEY - UTILITIES - Low Wire Crossings - Points - Elevations																			226
SURVEY - UTILITIES - Low Wire Crossings - Points - Numbers																			227
SURVEY - UTILITIES - Overhead Wire Crossings					X														228
SURVEY - UTILITIES - Overhead Wire Crossings - Points - Elevations																			229
SURVEY - UTILITIES - Overhead Wire Crossings - Points - Locators																			230
SURVEY - UTILITIES - Overhead Wire Crossings - Points - Numbers																			231
SURVEY - UTILITIES - Owners																		W	232
SURVEY - UTILITIES - Poles and Miscellaneous - Points - Elevations																			233
SURVEY - UTILITIES - Poles and Miscellaneous - Points - Locators																			234
SURVEY - UTILITIES - Poles and Miscellaneous - Points - Numbers																			235
SURVEY - UTILITIES - Poles and Miscellaneous with Text					X													X	236
SURVEY - UTILITIES - Sanitary Sewer - Points - Elevations																			237
SURVEY - UTILITIES - Sanitary Sewer - Points - Locators																			238
SURVEY - UTILITIES - Sanitary Sewer - Points - Numbers																			239
SURVEY - UTILITIES - Sanitary Sewer with Text					X													X	240
SURVEY - UTILITIES - Telephone (Overhead) - Points - Elevations																			241
SURVEY - UTILITIES - Telephone (Overhead) - Points - Locators																			242
SURVEY - UTILITIES - Telephone (Overhead) - Points - Numbers																			243
SURVEY - UTILITIES - Telephone (Overhead) with Text					X													X	244
SURVEY - UTILITIES - Telephone (Underground) - Points - Elevations																			245
SURVEY - UTILITIES - Telephone (Underground) - Points - Locators																			246
SURVEY - UTILITIES - Telephone (Underground) - Points - Numbers																			247
SURVEY - UTILITIES - Telephone (Underground) with Text					X													X	248
SURVEY - UTILITIES - Water - Points - Elevations																			249
SURVEY - UTILITIES - Water - Points - Locators																			250
SURVEY - UTILITIES - Water - Points - Numbers																			251
SURVEY - UTILITIES - Water with Text					X													X	252
SURVEY - VEGETATION - Features - Points - Elevations																			253
SURVEY - VEGETATION - Features - Points - Locators																			254
SURVEY - VEGETATION - Features - Points - Numbers																			255
SURVEY - VEGETATION - Features with Text					X														18

Standard Levels and Element Parameters - TDOTmain.dgnlib

The CADD system allows the designer to place graphics on separate independent levels and to distinguish elements on each level by color, by weight, by line code and by text size. The Tennessee Department of Transportation Design Division has standardized its level and element parameters according to the following sections.

Level Structure Abbreviations:

LS	=	Custom Line Style; scale factor must be set prior to placement.
C	=	Cell placement.
S	=	Symbol (in symbol font)
AP	=	Cell Area pattern
CO	=	Color
WT	=	Weight
LC	=	Line Code
TX	=	Text Size
?	=	Size Number in Feature Code Names. Feature code is entered with number indicating size.

Text sizes refer to final plot sizes. In the DGN file text size is set based on this value multiplied by the desired plot scale.

TDOTmain.dgnlib → Concept						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
CONCEPT - Background Imagery						600
Image Border		18	0	0	-	
CONCEPT - BRIDGE						602
Linework		3	4	0	-	
CONCEPT - BRIDGE - Patterning						603
Patterning	AP	3	2	0	-	
CONCEPT - CRASH DIAGRAMS						610
Border		2	0	0	-	
CONCEPT - CRASH DIAGRAMS - Fatal						611
Background		2	0	0	-	
Linework		6	0	0	-	
Text		50	0	-	0.12	
Text Node		0	4	0	0.15	
Circle		6	4	0	-	
CONCEPT - CRASH DIAGRAMS - Incap						612
Background		2	0	0	-	
Linework		5	0	0	-	
Text		50	0	-	0.12	
Text Node		0	4	0	0.15	
Circle		5	4	0	-	
CONCEPT - CRASH DIAGRAMS - Non-Incap						613
Background		2	0	0	-	
Linework		7	0	0	-	
Text		50	0	-	0.12	
Text Node		0	4	0	0.15	
Circle		7	4	0	-	
CONCEPT - CRASH DIAGRAMS - Property Damage						614
Background		2	0	0	-	
Linework		8	0	0	-	
Text		50	0	-	0.12	
Text Node		0	4	0	0.15	
Circle		8	4	0	-	
CONCEPT - ETSA - Border						615
Linework		3	2	0	-	

TDOTmain.dgnlib → Concept						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
CONCEPT - ETSA - Label						616
Text		3	2	0	0.12	
CONCEPT - ETSA - Pattern						617
Area Pattern	AP	3	2	0	-	
CONCEPT - FILL SHAPE - Full Depth						618
		0	0	0	-	
CONCEPT - FILL SHAPE - Mill and Overlay						619
		0	0	0	-	
CONCEPT - FILL SLOPE - Concrete						620
Area Pattern	AP	1	0	0	-	
CONCEPT - PAVEMENT MARKING - Crosswalk - Longitudinal						630
Line Style	LS	0	0	0	-	
CONCEPT - PAVEMENT MARKING - Crosswalk - Parallel						631
Line Style	LS	0	0	0	-	
CONCEPT - PAVEMENT MARKING - Rumble Strips						632
Line Style	LS	0	2	0	-	
CONCEPT - PAVEMENT MARKING - Snowplowable Pavement Markers						633
Line Style	LS	0	2	0	-	
CONCEPT - PAVEMENT MARKING - Stop Bar						634
Line Style	LS	0	2	0	-	
CONCEPT - PAVEMENT MARKING - Striping - White						635
Line Style	LS	0	0	0	-	

TDOTmain.dgnlib → Concept						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
CONCEPT - PAVEMENT MARKING - Striping - Yellow						636
Line Style	LS	7	0	0	-	
CONCEPT - PAVEMENT MARKING - Yield Line						637
Line Style	LS	0	0	0	-	
CONCEPT - PRESENT - Clearing and Grubbing						640
Area Pattern	AP	8	0	0	-	
CONCEPT - PRESENT - Median Concrete Barrier						641
Linework		0	0	0	-	
CONCEPT - PRESENT - Pipe Culverts						642
Linework		3	2	3	-	
CONCEPT - PRESENT - Retaining Walls						643
Linework		0	2	0	-	
CONCEPT - PRESENT - Utilities						644
Linework		7	0	0	-	
CONCEPT - PROPOSED - Clearing and Grubbing						650
Area Pattern	AP	8	0	0	-	
CONCEPT - PROPOSED - Median Concrete Barrier						651
Linework		0	0	0	-	
CONCEPT - PROPOSED - Pipe Culverts						652
Linework		3	2	3	-	
CONCEPT - PROPOSED - Retaining Walls						653
Linework		0	2	0	-	

TDOTmain.dgnlib → Concept					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
CONCEPT - PROPOSED - Utilities					654	
Linework		7	0	0	-	
CONCEPT - ROW					660	
Linework		5	13	0	-	
CONCEPT - ROW - CA Fence					661	
Linework		6	6	0	-	
CONCEPT - ROW - Patterning					662	
Area Pattern	AP	5	0	0	-	
CONCEPT - ROW - Present-Parcels					663	
Line Style	LS	10	0	0	-	
CONCEPT - ROW - Proposed					664	
Line Style	LS	7	0	0	-	
CONCEPT - ROW - Proposed					665	
Line Style	LS	13	4	0	-	
CONCEPT - ROW - Text					666	
Text		5	4	0	0.12	
CONCEPT - RSA Guidance					601	
Linework		0	0	0	-	
CONCEPT - SCRATCH - User 1					697	
		3	0	0	-	
CONCEPT - SCRATCH - User 2					698	
		7	0	0	-	

TDOTmain.dgnlib → Concept					02/24/2020	
Level Name				Level Number		
Item Description	Feature Code	CO	WT	LC	TX	
CONCEPT - SCRATCH - User 3					699	
		8	0	0	-	
CONCEPT - SLOPE LINES - Cut-Fill					667	
Line Style	LS	6	6	0	-	
CONCEPT - TOPOGRAPHY - Business Names					668	
Text		51	4	0	0.12	
CONCEPT - TRAFFIC					670	
		7	0	0	-	
CONCEPT - TRAFFIC - Flashing Beacon (Red and Yellow)					671	
		7	0	0	-	
CONCEPT - TRAFFIC - Mast Arms					672	
		7	0	0	-	
CONCEPT - TRAFFIC - School Sign-Beacon Assembly					673	
		7	0	0	-	
CONCEPT - TRAFFIC - Sign					674	
		7	0	0	-	
CONCEPT - TRAFFIC - Sign - Regulatory					675	
		0	0	0	-	
CONCEPT - TRAFFIC - Sign - Route Markers					676	
		0	0	0	-	

TDOTmain.dgnlib → Concept					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
CONCEPT - TRAFFIC - Sign - School					677	
		0	0	0	-	
CONCEPT - TRAFFIC - Sign - Tennessee					678	
		0	0	0	-	
CONCEPT - TRAFFIC - Sign - Warning					679	
		0	0	0	-	
CONCEPT - TRAFFIC - Sign Posts					680	
		7	0	0	-	
CONCEPT - TRAFFIC - Signal Backplate					681	
		7	0	0	-	
CONCEPT - TRAFFIC - Signal Head					682	
		7	0	0	-	
CONCEPT - TRAFFIC - Traffic Signal					683	
		7	0	0	-	
CONCEPT - TRANSPORTATION - Edge of Traveled Way					690	
Linework		44	4	0	-	
CONCEPT - TRANSPORTATION - Guardrail and End Terminals					691	
Linework		0	4	0	-	
CONCEPT - TRANSPORTATION - Pavement Marking and Traffic Control					692	
Linework		0	2	0	-	

TDOTmain.dgnlib → Concept						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
CONCEPT - TRANSPORTATION - Pavement Patterning						693
Linework		7	2	0	-	
CONCEPT - TRANSPORTATION - Roads Text						694
Linework		15	2	0	-	
CONCEPT - TRANSPORTATION - Sidewalk						695
Linework		7	2	0	-	
CONCEPT - TRANSPORTATION - Traffic Control						696
Linework		7	0	0	-	

TDOTmain.dgnlib → Construction					08/01/2004	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
CONSTRUCTION – SLOPE QUANTITIES - Interior					314	
Interior Shot	I	7	0	C		
Text Name		7	0	0	0.02	
Text Elevation		7	0	0	0.075	
CONSTRUCTION - SLOPE QUANTITIES - Matting					316	
Mat Symbol		14	0	C		
Text Name		14	0	0	0.01	
Text Elevation		14	0	0	0.01	
Matted Boundary	MA	14	0	0		
CONSTRUCTION - SLOPE QUANTITIES - Misc, rip-rap, headwalls, etc.					317	
Misc Symbol		149	0	C		
Text Name		149	0	0	0.01	
Text Elevation		149	0	0	0.01	
Misc Boundary	MI	149	0	0		
CONSTRUCTION - SLOPE QUANTITIES - Seeding					318	
Seed Symbol		4	0	C		
Text Name		4	0	0	0.01	
Text Elevation		4	0	0	0.01	
Seeding Boundary	SE	4	0	0		
CONSTRUCTION - SLOPE QUANTITIES - Sodding					315	
Sod Symbol		1	0	C		
Text Name		1	0	0	0.01	
Text Elevation		1	0	0	0.01	
Sodded Boundary	SO	1	0	0		

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - CENTERLINE - Proposed						31
Proposed Centerline: mainline, side roads, detours						
Geometry: tangents & curves		6	10	0		
DESIGN - CENTERLINE - Proposed Curve Text						33
Curve information text		6	2	0	0.1	
Point Text (PC, PI, PT, TS, SC, POT, etc.)		6	2	0	0.1	
DESIGN - CENTERLINE - Proposed GPK Visualizations						256
Mainline, side roads, & detours	D_POINT	0	0	0		
DESIGN - CENTERLINE - Proposed Text						32
Mainline, side roads, & detours		6	2	0	0.12	
Station ticks		6	7	0		
Station text (500-ft / 100-m labels)		6	10	0	0.2	
Bearings		6	4	0	0.12	
Equations		6	4	0	0.12	
Geometry: curve tangents		6	7	0		
Points (PC, PI, PT, TS, SC, POT, etc.)		6	7	S	0.15	
Equation Points		6	7	S	0.15	
Project limits		6	10	0	0.2	
North arrow		6	7	C		
Match lines		6	10	0	0.12	
Match line text		6	2	0	0.12	
Centerline intersections		6	4	0	0.14	
Centerline ends		6	4	0	0.14	
Limits of paving (mainline & side roads)		6	2	0	0.12	
Limits of construction (mainline & side roads)		6	2	0	0.12	
DESIGN - CONTOURS - Index with Text						34
Index Contours		2	2	0		
Spot Elevations		2	2	0	0.1	
Text		2	2	0	0.1	

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - CONTOURS - Intermediate with optional Text						35
Intermediate Contours		12	0	0		
Text		12	2	0	0.1	
DESIGN - DRAINAGE - Bridges						49
Bridges (including non-drainage bridges)		3	4	0		
DESIGN - DRAINAGE - Bridges and Cross Drains Size Text						50
Bridge description/size text		3	2	0	0.1	
Cross drain pipe & box culvert description/size text		3	2	0	0.1	
DESIGN - DRAINAGE - Cross Drains						257
Pipes & box culverts		3	2	0		
End treatment: endwalls, concrete aprons		3	2	0		
End treatment: rip-rap		47	2	AP		
DESIGN - DRAINAGE - Ditch Bottom Point						365
Cross section point symbol		3	2	0	0.12	
DESIGN - DRAINAGE - Side Drains - 42 Inches and greater						259
Pipes & box culverts		3	2	0		
End treatment: endwalls, concrete aprons		3	2	0		
End treatment: rip-rap		47	2	AP		
DESIGN - DRAINAGE - Side Drains - less than 42 Inches						258
Pipes		3	2	0		
End treatment: endwalls		3	2	0		
End treatment: rip-rap		47	2	AP		
DESIGN - DRAINAGE - Special Ditch Width Text						366
Cross section text		3	2	0	0.1	

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - DRAINAGE - Special Ditches						260
Special ditches or channel changes		3	2	LS		
Prop. environmental features for wetland mitigation areas, etc.:						
Dams & Spillways		3	2	0		
Dikes & Levees		3	2	0		
DESIGN - DRAINAGE - Storm Sewer						51
Storm sewer pipes & box culverts		3	2	LS		
Structures (catch basins, drop inlets, manholes)		3	2	C		
DESIGN - DRAINAGE - Structures Linework						364
Cross section linework for proposed structures:						
Pipes & box culverts		3	4	0		
End treatment: endwalls, concrete aprons, etc.		3	4	0		
End treatment: rip-rap		47	2	AP		
Storm sewer catch basins, drop inlets, manholes, etc.		3	4	0		
Existing structures on cross sections		3	2	3		
DESIGN - DRAINAGE - Text						52
Plan view text:						
Pipe & box culvert invert elevations		3	2	0	0.1	
Special ditch labels		3	2	0	0.1	
Storm sewer drainage codes & labels		3	2	C	0.1	
Cross section text:						
Bridge limits		3	10	0	0.2	
Pipe & box culvert drainage data		3	2	C	0.1	
Pipe & box culvert grades		3	2	0	0.1	
Inlet & outlet elevations		3	2	0	0.1	
Special ditch limits		3	2	0	0.1	
Special ditch flow direction		3	2	0		
Ditch elevations		3	2	0	0.1	

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - EARTHWORK - Excavation Limit Lines						369
For cross section earthwork calculation, not included on sheets		0	0	0		
DESIGN - EARTHWORK - Shapes						347
For cross section earthwork calculation, not included on sheets		*	*	*		
*Varies depending on material type						
DESIGN - EARTHWORK - Special Tie to Ground						368
For cross section earthwork calculation, not included on sheets		13	0	0		
DESIGN - EROSION CONTROL - Devices						58
Devices		13		C		
Rip-Rap (temporary application)		47	2	AP		
DESIGN - EROSION CONTROL - Devices Text and Legends						261
Text		13	2	0	0.1	
Legends		13		C		
DESIGN - LINE OF SIGHT - Location Graphics						367
Plan view:						
Intersection Sight Lines		5	4	2		
To be shown on present and proposed layout sheets if R.O.W. is purchased to maintain intersection sight distance.						
Cross Sections:						
Text (Chain name, station, offset, elevation)		5	4	0	0.14	
Point Symbol		5	4	0	0.2	
Leader Line		5	4	0		
DESIGN - PROFILE - Drainage - Bridges Drains and Ditches						262
Bridges (including non-drainage bridges)		3	4	0		
Pipes & box culverts (side drains & cross drains)		3	2	0		
End treatment (endwalls, concrete aprons, etc.)		3	2	0		
Special ditches for roadways		3	2	LS		

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - PROFILE - Drainage - Bridges Drains and Ditches Text						263
Text		3	2	0	0.12	
DESIGN - PROFILE - Drainage - Storm Sewer						264
Storm sewer pipes & box culverts		3	2	0		
Structures (catch basins, drop inlets, manholes)		3	2	0		
DESIGN - PROFILE - Drainage - Storm Sewer Text						265
Storm sewer drainage codes & labels		3	2	C	0.1	
DESIGN - PROFILE - Patterning						266
Rip-Rap		47	2	AP		
DESIGN - PROFILE - Private Drive Vertical Curve Text						350
Proposed private drives:						
Proposed point text (VPI)		6	2	0	0.1	
Vertical curve lengths		6	2	0	0.1	
DESIGN - PROFILE - Proposed						267
Proposed Profile: mainline, side roads, detours						
Geometry: tangents & curves		6	10	0		
Proposed Profile: private drives						
Geometry: tangents & curves		6	7	0		
Concrete on urban private drives		1	7	0		
DESIGN - PROFILE - Proposed Curve Text						268
Proposed roadway curve information text:						
Proposed point text (VPC, VPI, VPT, etc.)		6	2	0	0.12	
Vertical curve lengths		6	2	0	0.12	
Superelevation (transition stations, rates)		0	2	0	0.1	

TDOTmain.dgnlib → Design					02/24/2020	
Level Name				Level Number		
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - PROFILE - Proposed Text						269
Proposed roadways:						
Grades		6	2	0		0.12
Equation data		6	2	0		0.12
Geometry: curve tangents		6	4	0		
Curve points (VPC, VPI, VPT, etc.)		6	4	S		0.15
Equation points		6	4	S		0.15
Balance limits & quantities (mainline)		6	2	0		0.12
Project limits		6	10	0		0.2
Limits of paving (side roads)		0	2	0		0.12
Limits of construction (side roads)		0	2	0		0.12
Proposed private drives:						
Grades		6	2	0		0.1
Curve points (VPC, VPI, VPT)		6	4	S		0.15
Limits of construction		6	2	0		0.1
Stationing (bottom of sheet)		6	4	0		0.14
Elevation (sides of sheet)		6	10	0		0.2
DESIGN - PUBLIC HEARING - Shapes						59
Shapes for color fill *CO=desired plot color		*	0	0		
DESIGN - ROW - Bearings and Distances						270
Bearing and Distance Text		6	2	0		0.1
DESIGN - ROW - Easement Linework and Patterning						47
Linework:						
Drainage easement lines		6	4	0		
Construction easement lines		6	4	7		
Patterning:						
Drainage easement		6	4	AP		
Slope easement		47	2	AP		
Construction easement (for large areas)		47	2	AP		

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - ROW - Loss of Access Patterning						271
Loss-of-access area		6	4	AP		
DESIGN - ROW - Right-of-Way and Easement Labels						46
Text		6	2	0	0.1	
R.O.W. limit label text on cross sections		6	4	0	0.14	
R.O.W. limit offset text on cross sections		6	2	0	0.1	
DESIGN - ROW - Right-of-Way Linework						45
R.O.W. lines		6	13	0		
Access control R.O.W. lines (with fence)		6	13	LS		
Access control R.O.W. lines (w/o fence)		6	13	LS		
Access control fence (non-R.O.W. line)		6	4	LS		
R.O.W. limit lines on cross sections		6	4	0		
DESIGN - ROW - Right-of-Way Markers						272
Proposed R.O.W. Markers		6	2	C		
DESIGN - ROW - ROW and Easement GPK Visualizations						273
R.O.W.	PROW	6	13	0		
Drainage easement	DEASMT	6	4	0		
Slope easement	SEASMT	6	0	0		
Construction easement	CEASMT	6	4	7		
DESIGN - ROW - Slope Lines						43
Cut Slopes		6	6	0		
Fill Slopes		6	6	3		
DESIGN - ROW - Slope Lines Text						44
Text		6	2	0	0.1	

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - ROW - Stations and Offsets						274
Station and Offset Text		6	2	0	0.1	
DESIGN - ROW - Wetland Mitigation Patterning						275
Wetland Mitigation area		47	2	AP		
DESIGN - SCRATCH - User 1						30
Miscellaneous text location points in cells		3	0	C		
Geopak drainage control points in node cells		3		C		
Global Origin Coordinate note		0	0	0	0.1	
DESIGN - SCRATCH - User 2						276
DESIGN - SCRATCH - User 3						277
DESIGN - SCRATCH - User 4						278
DESIGN - SCRATCH - User 5						279
DESIGN - SHEET - Corner Text						62
Sheet cell text:						
Titles, project data, file room stamp, date & DGN file				C		
Elevations, working cross sections		6	10	0	0.2	
Offsets, working cross sections		6	4	0	0.14	
DESIGN - SHEET - Light Grid						63
Light grid for profile & cross section sheets		1		C		
Geopak profile & cross section control cells		2		C		

TDOTmain.dgnlib → Design					02/24/2020	
Level Name				Level Number		
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - SHEET - Linework						61
Sheet borders and linework		4		C		
Heavy grid for profile & cross section sheets		4		C		
Temporary grid lines, working cross sections		0,2		C		
DESIGN - SHEET - Plot Shape						280
Sheet plot shape for prints		254	0	0		
Sheet plot shape for PDF generation		253	0	0		
DESIGN - SURFACE - Bridge Surface Construction Lines						360
For TIN surface generation from cross sections, not included on Sheets		1	4	0		
DESIGN – TITLE SHEET – LOCATION MAP – CONSTRUCTION #1						463
		4	4	0		
DESIGN – TITLE SHEET – LOCATION MAP – CONSTRUCTION #2						464
		4	4	0		
DESIGN – TITLE SHEET – LOCATION MAP – COUNTY MAP						460
Location map for Title Sheet		0	0	0		
DESIGN – TITLE SHEET – LOCATION MAP – PRELIMINARY						461
		4	4	0		
DESIGN – TITLE SHEET – LOCATION MAP – ROW						462
		4	4	0		

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN – TITLE SHEET – PROJECT DESCRIPTION – CONSTRUCTION						432
Text #1		6	0	0	0.2	
Text #2		6	0	0	0.12	
Line		6	7	0		
DESIGN – TITLE SHEET – PROJECT DESCRIPTION – CONSTRUCTION #2						433
Text #1		6	0	0	0.2	
Text #2		6	0	0	0.12	
Line		6	7	0		
DESIGN – TITLE SHEET – PROJECT DESCRIPTION – PRELIMINARY						430
Text #1		2	0	0	0.2	
Text #2		2	0	0	0.12	
Line		2	7	0		
DESIGN – TITLE SHEET – PROJECT DESCRIPTION – RESURFACING						435
Text		5	0	0	0.2	
Line		5	7	0		
DESIGN – TITLE SHEET – PROJECT DESCRIPTION – RESURFACING SAFETY						436
Text		5	0	0	0.2	
Line		5	7	0		
DESIGN – TITLE SHEET – PROJECT DESCRIPTION – ROW						431
Text #1		0	0	0	0.2	
Text #2		0	0	0	0.12	
Line		0	7	0		
DESIGN – TITLE SHEET – PROJECT DESCRIPTION – ROW UTILITIES ONLY						434
Text #1		8	0	0	0.2	
Text #2		8	0	0	0.12	
Line		8	7	0		

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN – TITLE SHEET – PROJECT LENGTH – RESURFACING (NON-RIDING SURFACE)						424
Text #1		5	0	0	0.2	
Text #2		5	0	0	0.175	
DESIGN – TITLE SHEET – PROJECT LENGTH – RESURFACING (RIDING SURFACE)						423
Text #1		5	0	0	0.2	
Text #2		5	0	0	0.175	
DESIGN – TITLE SHEET – PROJECT LENGTH – RESURFACING ONLY						425
Text		5	0	0	0.2	
DESIGN – TITLE SHEET – PROJECT LENGTH – ROW						420
Text #1		0	0	0	0.2	
Text #2		0	0	0	0.175	
DESIGN – TITLE SHEET – PROJECT LENGTH – ROW UTILITIES ONLY						426
Text #1		8	0	0	0.2	
Text #2		8	0	0	0.175	
DESIGN – TITLE SHEET – REVISION TEXT – CONSTRUCTION						441
Text		6	0	0	0.12	
DESIGN – TITLE SHEET – REVISION TEXT – ROW						440
Text		0	0	0	0.12	
DESIGN – TITLE SHEET – SHEET AND INDEX – CONSTRUCTION PHASE						412
Text		6	0	0	0.24	
DESIGN – TITLE SHEET – SHEET AND INDEX – PRELIMINARY PHASE						410
Text		2	0	0	0.24	

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN – TITLE SHEET – SHEET AND INDEX – RESURFACING						413
Text		5	0	0	0.24	
DESIGN – TITLE SHEET – SHEET AND INDEX – RESURFACING AND SAFETY						414
Text		5	0	0	0.24	
DESIGN – TITLE SHEET – SHEET AND INDEX – RIGHT-OF-WAY PHASE						411
Text		0	0	0	0.24	
DESIGN – TITLE SHEET – STATE MAP – COUNTY NAMES						406
County Names for Title Sheet Map		21	0	0	0.0564	
DESIGN – TITLE SHEET – STATE MAP – STATE AND COUNTIES BORDER						405
County Border		4	2	0		
State Border		4	17	0		
DESIGN – TITLE SHEET – TITLE SHEET BLOCKS – DESIGN EXCEPTION						453
Design Exception Cell for Title Sheet		4	7	0		
Header		0	0		0.15	
Content		0	0		0.12	
DESIGN – TITLE SHEET – TITLE SHEET BLOCKS – EXCLUSIONS						456
Exclusion Block Cell for Title Sheet		4	7	0		
Interior Lines		3	4	0		
Header		0	0		0.2	
Content		0	0		0.12	
DESIGN – TITLE SHEET – TITLE SHEET BLOCKS – NO EXCLUSIONS						455
No Exclusion Block Cell for Title Sheet		4	7	0		
Text		0	0		0.2	

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - PROJECT OF LIMITED SCOPE						449
Project of Limited Scope Cell for Title Sheet		4	7	0		
Text		0	0			0.2
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - ROAD TO BE CLOSED						454
Line		4	7	0		
Text		0	10	0		0.4
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - ROW TO BE ACQUIRED BY LOCAL GOVERNMENT						442
ROW To Be Acquired by Local Government Cell for Title Sheet		5	4	0		
Text		0	10			0.2
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TMP REQUIRED PRELIM						458
TMP Required Prelim Cell for Title Sheet		4	4	0		
Interior Lines		3	2	0		
Header		0	0			0.1
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #1 (SURVEY DATA)						450
Line		4	7	0		
Text		0	0	0		0.2
Text 2		0	2	0		0.12
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #2						451
Line		4	7	0		
Text		0	0	0		0.2
Text 2		0	2	0		0.12
DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #3						452
Line		4	7	0		
Text		0	0	0		0.2
Text 2		0	2	0		0.12

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN – TITLE SHEET – TITLE SHEET BLOCKS – TRAFFIC DATA BLOCK #4 (RESURFACE AND SAFETY)						457
Line		4	7	0		
Text		0	0	0	0.2	
Text 2		0	2	0	0.12	
DESIGN – TITLE SHEET – TITLE SHEET BLOCKS – UTILITY CHAPTER 86 ROW						459
Utility Chapter 86 Cell for Title Sheet		4	4	0		
Interior Lines		3	2	0		
Header		0	0		0.1	
DESIGN – TITLE SHEET – TITLE SHEET PROPERTIES – CONSULTANT IDENTIFICATION BLOCK						401
Identification Block for Title Sheet		36	2	0	0.12	
Spec Book Date		0	2	0	0.12	
DESIGN – TITLE SHEET – TITLE SHEET PROPERTIES – LINE WORK						403
Line		4	4	0		
DESIGN – TITLE SHEET – TITLE SHEET PROPERTIES – TDOT IDENTIFICATION BLOCK						400
Identification Block for Title Sheet		4	2	0	0.12	
Spec Book Date		0	2	0	0.12	
DESIGN – TITLE SHEET – TITLE SHEET PROPERTIES – TEXT						402
Line		0	4	0		
Text #1		4	0	0	0.42	
Text #2		4	0	0	0.275	
Text #3		4	0	0	0.2	
Text #4		0	0	0	0.2	
Text #5		4	0	0	0.12	
Text #6		0	0	0	0.12	
Text #7		4	0	0	0.1	

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - TRAFFIC CONTROL PERMANENT - Pavement Marking					56	
Striping *WT: 4"/6"=4 , 8"=7 , 12"=10 , 24"=15		0,7	*	LS		
Pavement Words or Arrows		0		C		
Parallel Crosswalks		0	7	LS		
Longitudinal Crosswalks (filled shapes)		0	2	0		
Longitudinal Crosswalks (lines for quantities)		0	2	LS		
Stop Bars (filled shape)		0	2	0		
Stop Bars (lines for quantities)		0	2	LS		
Raised directional pavement markers		0	2	C		
DESIGN - TRAFFIC CONTROL PERMANENT - Pavement Marking Text					57	
Text		7	2	0	0.1	
DESIGN - TRAFFIC CONTROL PERMANENT - Signal Poles					281	
Wood or Strain Signal Poles		7	2	C		
DESIGN - TRAFFIC CONTROL PERMANENT - Signalization					41	
Controller cabinets		7	2	C		
Detector loops or areas		7	2	C		
Signal Heads		7	2	C		
Video Detection Cameras		7	2	C		
Emergency Vehicle Pre-empt Detectors		7	2	C		
Mast Arms (filled shape)		7		C		
Signal span wire		7	2	LS		
Loop wire		7	2	LS		
Pedestrian Push Buttons		7	2	C		
Pedestrian Poles for Push Buttons		7	2	C		
Guy wire and anchors		7	2	C		
Pull boxes		7	2	C		
1" Conduit		3	2	3		
2" Conduit		8	2	3		
3" Conduit		10	2	3		
Overhead Fiber Optic Cable		8	2	LS		
Underground Fiber Optic Cable		8	2	LS		
Signal Head Faces				C		
Left Turn Signal Sign Face				C		

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - TRAFFIC CONTROL PERMANENT - Signalization Text						42
Text		7	2	0	0.1	
DESIGN - TRAFFIC CONTROL PERMANENT - Signs						282
Sign Symbols		7	2	C		
Sign Faces				C		
Construction and installation detail linework				C		
DESIGN - TRAFFIC CONTROL PERMANENT - Signs Text						283
Sign No. Text		7	2	0	0.1	
Construction and installation detail text				C		
DESIGN - TRAFFIC CONTROL TEMPORARY - Devices						53
Temporary traffic control devices		5,0	2	C		
Signal poles		7	2	C		
Traffic signals		7	2	C		
Temporary Striping		5	2	LS		
Sign symbols		5	2	C		
DESIGN - TRAFFIC CONTROL TEMPORARY - Sign Faces and Text						284
Text		5	2	0	0.1	
Legends				C		
Sign Faces				C		
Temporary traffic control device details with text				C		
DESIGN - TRANSPORTATION - Curb Gutter and Sidewalk						285
Curb		64	2	LS		
Curb & gutter		64	2	LS		
Sidewalks		64	2	0		
DESIGN - TRANSPORTATION - Driveway Shading						9
Driveway area shading		47	0	AP		

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - TRANSPORTATION - Driveways					39	
Edge of traveled way		0	2	0		
DESIGN - TRANSPORTATION - Edge of Traveled Way					37	
Roadways		0	4	0		
Airport runways		0	4	0		
Bikeways		7	2	0		
Parking lots		7	2	0		
Railroads		7	2	LS		
Trails		7	2	0		
Tunnels (highway, pedestrian, railroad, etc.)		7	2	0		
DESIGN - TRANSPORTATION - GR Special Slope Limit Lines					286	
Guardrail pad limits		7	0	LS		
Guardrail alternate slope limits		7	0	LS		
Median guardrail alternate slope limits		7	0	LS		
DESIGN - TRANSPORTATION - Intersection Lines					338	
Lines between roadways to limit prop. cross section processing:						
Outside edge of mainline travel lane within side road Intersection		0	0	1		
Edge of side road travel lanes at Intersection with large radii		0	0	1		
Freeways at Ramp departures		0	0	1		
DESIGN - TRANSPORTATION - Lighting					287	
Light poles		2	2	C		
Luminaires		7	2	C		
Wall mounted underpass lights		7	2	C		
Lighting control center		7	2	C		
Pull boxes		7	2	C		
1" Conduit		3	2	3		
2" Conduit		8	2	3		
3" Conduit		10	2	3		
DESIGN - TRANSPORTATION - Lighting Text					288	
Text		7	2	0	0.1	

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - TRANSPORTATION - Proposed Layout Patterning						60
Rip-Rap (permanent other than drainage structure application)		47	2	AP		
Reinforced Concrete Slabs		0	2	AP		
DESIGN - TRANSPORTATION - Roadside Barriers						289
Guardrail		7	2	LS		
Guardrail terminals		7	2	C		
Impact attenuators		7	2	0		
Median barrier walls		7	2	0		
Median earth berms		7	2	0		
Retaining walls (roadway & noise)		7	2	LS		
DESIGN - TRANSPORTATION - Scarification Patterning						290
Scarification area (removal of exist. pvmt.)		0	0	AP		
DESIGN - TRANSPORTATION - Scarification Text						291
Scarification legend		0	2	C	0.1	
DESIGN - TRANSPORTATION - Shoulder Lines						36
Outside edge of graded shoulders		7	2	0		
DESIGN - TRANSPORTATION - Text						38
Roadway text		0	2	0	0.12	
Private drive centerline & text		0	2	0	0.1	
Curb, gutter & sidewalk text		64	2	0	0.1	
Guardrail text		7	2	0	0.1	
Shoulder text		7	2	0	0.1	
DESIGN - TYPICAL - Bench Elevation Text						352
Cross section text		0	2	0	0.1	
DESIGN - TYPICAL - Bench Slope Text						354
Cross section text		0	2	0	0.1	
Back of bench point symbol on cross sections		0	2	0	0.12	

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - TYPICAL - Bench Width Text					353	
Cross section text		0	2	0	0.1	
DESIGN - TYPICAL - Bridge Deck Median Barriers					359	
Cross section linework		1	4	0		
DESIGN - TYPICAL - Finished Grade and Subgrade					348	
Cross section linework:						
Pavement		6	4	0		
Subgrade		2	4	0		
Shoulder (graded)		7	4	0		
Stone		18	4	0		
Side Slopes & other grass areas		8	4	0		
Finished Grade Concrete:						
Curb, Gutter, Sidewalk, Retaining Wall, Median Barrier (non-bridge)		1	4	0		
Subgrade Concrete:						
Curb, Gutter, Sidewalk, Retaining Wall, Median Barrier (non-bridge)		161	4	0		
Top of Bridge Deck		1	4	0		
Bottom of Bridge Deck		161	4	0		
DESIGN - TYPICAL - Finished Grade Slopes Text					351	
Regular cross slope & side slope cross section text		0	2	0	0.1	
DESIGN - TYPICAL - Guardrail					358	
Cross section linework		0	4	0		
DESIGN - TYPICAL - Retaining Wall Text					363	
Cross section text		1	2	0	0.1	
DESIGN - TYPICAL - Side Slope to Bench Text					355	
Cross section text		0	2	0	0.1	

TDOTmain.dgnlib → Design					02/24/2020	
Level Name				Level Number		
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - TYPICAL - Slope Tie Point						362
Point symbol on cross sections		0	2	0	0.12	
DESIGN - TYPICAL - Slope Tie Text						361
Offset & Elevation at Tie cross section text		0	2	0	0.1	
DESIGN - TYPICAL - Subgrade Cross Slope Text						356
Cross section text		2	2	0	0.1	
DESIGN - TYPICAL - Subgrade Tie Text						357
Offset & Elevation at Tie cross section text		2	2	0	0.1	
DESIGN - TYPICAL - Text						349
Cross section text:						
Finished grade elevation		6	2	0	0.12	
Finished Grade Point Symbol		6	2	0	0.12	
Superelevation limits		0	10	0	0.2	
Stations, final cross sections		6	10	0	0.2	
Elevations, final cross sections		6	10	0	0.2	
Offsets, final cross sections		6	4	0	0.14	
DESIGN - TYPICAL - Warning Text						370
Warning Information text, working cross sections		0	2	0	0.2	
Chain name & station text, working cross sections		6	10	0	0.2	
DESIGN - UTILITIES - Cable (Overhead) with Text						55
Linework		8	2	LS		
Text		8	2	0	0.1	
DESIGN - UTILITIES - Cable (Underground) with Text						54
Linework		8	2	LS		
Text		8	2	0	0.1	

TDOTmain.dgnlib → Design					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - UTILITIES - Electric (Overhead) with Text					292	
Linework		5	2	LS		
DESIGN - UTILITIES - Electric (Underground) with Text					293	
Linework		5	2	LS		
Manhole		5	2	C		
Text		5	2	0	0.1	
DESIGN - UTILITIES - Electric and Cable (Overhead) with Text					312	
Linework		5	2	LS		
Text		5	2	0	0.1	
DESIGN - UTILITIES - Electric Telephone and Cable (Overhead) with Text					313	
Linework		5	2	LS		
Text		5	2	0	0.1	
DESIGN - UTILITIES - Fiber Optics (Overhead) with Text					294	
Linework		8	2	LS		
Text		8	2	0	0.1	
DESIGN - UTILITIES - Fiber Optics (Underground) with Text					295	
Linework		8	2	LS		
Text		8	2	0	0.1	
DESIGN - UTILITIES - Gas with Text					296	
Linework		7	2	LS		
Meter		7	2	C		
Valve		7	2	C		
Manhole		7	2	C		
Text		7	2	0	0.1	

TDOTmain.dgnlib → Design						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
DESIGN - UTILITIES - Sanitary Sewer with Text						297
Linework (includes force mains)		13	2	LS		
Meter		13	2	C		
Valve		13	2	C		
Manhole		13	2	C		
Text		13	2	0	0.1	
DESIGN - UTILITIES - Telephone (Overhead) with Text						298
Linework		8	2	LS		
Pole with or w/o light		8	2	C		
Text		8	2	0	0.1	
DESIGN - UTILITIES - Telephone (Underground) with Text						299
Linework		8	2	LS		
Booth		8	2	C		
Pedestal		8	2	C		
Manhole		8	2	C		
Text		8	2	0	0.1	
DESIGN - UTILITIES - Water with Text						300
Linework		4	2	LS		
Meter		4	2	C		
Valve		4	2	C		
Manhole		4	2	C		
Fire hydrant		6	2	C		
Text		4	2	0	0.1	
DESIGN - VEGETATION - Features with Text						48
Trees, etc.		8	2	C, LS	0.1	

TDOTmain.dgnlib → Geotechnical					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
GEOTECHNICAL – LAYOUT – Sheet – Linework					803	
Linework		4	2	0	-	
GEOTECHNICAL – LAYOUT – Test Boring					801	
Linework - Cell		0	2	0	-	
GEOTECHNICAL – LAYOUT – Test Boring – Text					802	
Text		22	2	0	0.2	
GEOTECHNICAL – PROFILE – Patterning					835	
Area Patterning	AP	0	0	0	-	
GEOTECHNICAL – PROFILE – Sheet					830	
Linework		51	2	0	-	
GEOTECHNICAL – PROFILE – Sheet – Corner Text					831	
Text		0	2	0	0.1	
GEOTECHNICAL – PROFILE – Sheet – Light Grid					832	
Linework		0	2	0	-	
GEOTECHNICAL – PROFILE – Sheet – Linework					833	
Linework		4	2	0	-	
GEOTECHNICAL – PROFILE – Sheet – Plot Shape					834	
Linework		254	0	0	-	
GEOTECHNICAL – PROFILE – Test Boring					820	
Linework - Cell		17	6	0	-	

TDOTmain.dgnlib → Geotechnical					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
GEOTECHNICAL – PROFILE – Test Boring – Text					821	
Text		22	2	0	0.2	
GEOTECHNICAL – SCRATCH – Level 1					870	
		55	0	0	-	
GEOTECHNICAL – SCRATCH – Level 2					871	
		56	0	0	-	
GEOTECHNICAL – SCRATCH – Level 3					872	
		57	0	0	-	
GEOTECHNICAL – SCRATCH – Level 4					873	
		59	0	0	-	
GEOTECHNICAL – STRUCTURES – Sheet					812	
Linework		4	2	0	-	
GEOTECHNICAL – STRUCTURES – Test Boring					810	
Linework - Cell		0	2	0	-	
GEOTECHNICAL – STRUCTURES – Test Boring – Text					811	
Text		51	2	0	0.2	
GEOTECHNICAL – TYPICAL SECTIONS – Proposed					860	
Linework		252	2	0	-	
GEOTECHNICAL – TYPICAL SECTIONS – Proposed Text					863	
Text		22	2	0	0.12	

TDOTmain.dgnlib → Geotechnical					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
GEOTECHNICAL – TYPICAL SECTIONS – Typical – Test Boring					861	
Linework - Cell		17	6	0	-	
GEOTECHNICAL – TYPICAL SECTIONS – Typical – Test Boring – Text					862	
Text		22	2	0	0.12	

TDOTmain.dgnlib → Structure						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
STRUCTURE - CENTERLINE - Item						710
		5	1	4	-	
STRUCTURE - CENTERLINE - Survey						711
		5	3	4	-	
STRUCTURE - CONTOURS - Existing - Major						702
Line Style	LS	2	2	3	-	
STRUCTURE - CONTOURS - Existing - Minor						703
Line Style	LS	12	0	3	-	
STRUCTURE - CONTOURS - Proposed - Major						704
Line Style	LS	2	2	0	-	
STRUCTURE - CONTOURS - Proposed - Minor						705
Line Style	LS	12	0	0	-	
STRUCTURE - GROUND - Existing Groundline						701
Line Style	LS	43	0	3	-	
STRUCTURE - GROUND - Ground Line Exist						700
Line Style	LS	0	0	3	-	
STRUCTURE - HYDRAULICS						790
		20	2	0	-	
STRUCTURE - OBJECT						720
Linework		8	2	0	-	

TDOTmain.dgnlib → Structure					02/24/2020	
Level Name				Level Number		
Item Description	Feature Code	CO	WT	LC	TX	
STRUCTURE - OBJECT - Edge of Pavement Hidden						735
Linework		16	1	3	-	
STRUCTURE - OBJECT - Edge of Water						734
Linework		17	1	6	-	
STRUCTURE - OBJECT - Existing						728
Linework		43	2	0	-	
STRUCTURE - OBJECT - Existing Hidden						729
Linework		43	2	3	-	
STRUCTURE - OBJECT - Existing Rebar Horizon						730
Linework		43	1	0	-	
STRUCTURE - OBJECT - Existing Rebar Vertical						731
Linework		43	1	0	-	
STRUCTURE - OBJECT - Existing Steel						732
Linework		43	1	0	-	
STRUCTURE - OBJECT - Existing Steel Hidden						733
Linework		43	1	0	-	
STRUCTURE - OBJECT - Hidden						721
Linework		8	2	3	-	
STRUCTURE - OBJECT - Rebar Horizon						722
Linework		4	1	0	-	

TDOTmain.dgnlib → Structure						02/24/2020
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
STRUCTURE - OBJECT - Rebar Section Horizon						723
Linework		4	1	0	-	
STRUCTURE - OBJECT - Rebar Section Vertical						725
Linework		7	1	0	-	
STRUCTURE - OBJECT - Rebar Vertical						724
Linework		7	1	0	-	
STRUCTURE - OBJECT - Steel						726
Linework		18	1	0	-	
STRUCTURE - OBJECT - Steel Hidden						727
Linework		18	1	3	-	
STRUCTURE - PATTERNS						750
Area Pattern	AP	45	0	0	-	
STRUCTURE - PATTERNS - Existing						752
Area Pattern	AP	43	0	0	-	
STRUCTURE - PATTERNS - Hatching						751
Area Pattern	AP	45	0	0	-	
STRUCTURE - PATTERNS - Shapes						753
Area Pattern	AP	45	0	0	-	
STRUCTURE - PROPOSED - Groundline						770
Line Style	LS	6	2	0	-	

TDOTmain.dgnlib → Structure					02/24/2020	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
STRUCTURE - SCRATCH - Level 1					780	
		55	0	0	-	
STRUCTURE - SCRATCH - Level 2					781	
		56	0	0	-	
STRUCTURE - SHEET - Plot Shape					760	
		15	0	0	-	
STRUCTURE - TEXT					740	
Text		0	2	0	0.1	
STRUCTURE - TEXT - Dimensions					743	
Text		6	0	0	0.1	
STRUCTURE - TEXT - Existing Dimension Lines					744	
Text		43	0	0	0.1	
STRUCTURE - TEXT - Existing Dimension Text					745	
Text		43	2	0	0.1	
STRUCTURE - TEXT - Linework					746	
Text		0	1	0	0.1	
STRUCTURE - TEXT - Subtitles					741	
Text		0	3	0	0.12	
STRUCTURE - TEXT - Titles					742	
Text		0	4	0	0.2	

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - AERIAL SURVEY - Automatic - Grid Points						322
Automatic Grid Points		6	4	0		
SURVEY - AERIAL SURVEY - Automatic - Grid Pts Beyond - Ht Acc Threshold						323
Automatic Grid Points beyond Height Accept Threshold		7	4	0		
SURVEY - AERIAL SURVEY - Automatic - Grid Pts with - Low Redundancy						324
Automatic Grid Points with Low Redundancy		10	0	0		
SURVEY - AERIAL SURVEY - Collected Point						325
Collected Points		3	7	0		
SURVEY - AERIAL SURVEY - Contours - Major						326
Major Contour Lines		5	3	0		
SURVEY - AERIAL SURVEY - Contours - Major Text						327
Major Contour Text		5	0	0	.100	
SURVEY - AERIAL SURVEY - Contours - Minor						328
Minor Contour Lines		4	1	0		
SURVEY - AERIAL SURVEY - Mapping Setup - MAPPING LIMITS						329
Mapping Limit Lines		1	2	0		
SURVEY - AERIAL SURVEY - Mapping Setup - SET MAP SCALE						330
Map Scale		0	0	0	1.000	
SURVEY - AERIAL SURVEY - Mapping Setup - with Text						331
Text		1	2	0	.100	

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - AERIAL SURVEY - Obscured Area						332
Obscured Area Lines		6	2	0		
SURVEY - AERIAL SURVEY - Obscured Area Points						333
Obscured Area Points		8	2	0		
SURVEY - AERIAL SURVEY - Out of collection Boundary Points						334
Out of Collection Boundary Points		9	0	0		
SURVEY - AERIAL SURVEY - Photo Control - Points - Elevations						64
Text		1	0	0	.080	
SURVEY - AERIAL SURVEY - Photo Control - Points - Locators						65
Point "+" Tic		1	0	0		
SURVEY - AERIAL SURVEY - Photo Control - Points - Numbers						66
Text		1	0	0	.080	
SURVEY - AERIAL SURVEY - Photo Control with Text						67
Horizontal photo points	XH	1	2	C		
Vertical photo points	XV	1	2	C		
Horizontal/Vertical photo points	XHV	1	2	C		
Text		1	2	0	.100	
SURVEY - AERIAL SURVEY - Skipped Points						335
Skipped Points		6	2	0		
SURVEY - AERIAL SURVEY - Uncollected Point						336
Uncollected Points		4	2	0		
SURVEY - AERIAL SURVEY - Withheld Point						337
Withheld Points		7	2	0		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - CENTERLINE - Existing Roads						24
Existing centerlines, mainline & side roads	EXCL	25	4	0		
SURVEY - CENTERLINE - Existing Roads - Development						68
Centerline geometry studies & development	X_EX-CL	7	2	0	.100	
SURVEY - CENTERLINE - Existing Roads Curve Text						69
Curve information text		25	2	0	.100	
Point Text (PC, PI, PT, TS, SC, POT, etc.)		25	2	0	.100	
SURVEY - CENTERLINE - Existing Roads Text						70
Main line, side roads, & detours		25	2	0	.120	
Station ticks		25	7	0		
Station text (500-ft / 100-m labels)		25	10	0	.200	
Bearings		25	4	0	.120	
Equations		25	4	0	.120	
Geometry: curve tangents		25	7	0		
Points (PC, PI, PT, TS, SC, POT, etc.)		25	7	S	.150	
Equation Points		25	7	S	.150	
Centerline intersections		25	4	0	.140	
Centerline ends		25	4	0	.140	
SURVEY - CENTERLINE - Preliminary						1
Proposed centerline	CL	6	10	0		
Main line, side roads, & detours		6	10	0		
Geometry: tangents & curves		6	10	0		
SURVEY - CENTERLINE - Preliminary - Development						71
Centerline geometry studies & development	X_PROP-CL	7	2	0	.100	
SURVEY - CENTERLINE - Preliminary Curve Text						72
Curve information text		6	2	0	.100	
Point Text (PC, PI, PT, TS, SC, POT, etc.)		6	2	0	.100	

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - CENTERLINE - Preliminary Text						2
Main line, side roads, & detours		6	2	0		.120
Station ticks		6	7	0		
Station text (500-ft / 100-m labels)		6	10	0		.200
Bearings		6	4	0		.120
Equations		6	4	0		.120
Geometry: curve tangents		6	7	0		
Points (PC, PI, PT, TS, SC, POT, etc.)		6	7	S		.150
Equation Points		6	7	S		.150
Centerline intersections		6	4	0		.140
Centerline ends		6	4	0		.140
SURVEY - CONTOURS - Index with Text						4
Index Contours		2	2	3		
Spot Elevations		2	2	0		.100
Text		2	2	0		.100
SURVEY - CONTOURS - Intermediate with optional Text						5
Intermediate Contours		12	0	3		
Text		12	2	0		.100
SURVEY - CONTROL - Check Points						339
GPS RTK Check Points		7	2	0		
SURVEY - CONTROL - Grid						73
State plane coordinate grid		1	2	0		
SURVEY - CONTROL - Grid Text						74
Text		1	2	0		.100
SURVEY - CONTROL - Points - Elevations						75
Text		1	2	0		.080
SURVEY - CONTROL - Points - Locators						76
Point "+" Tic		1	2	0		

TDOTmain.dgnlib → Survey					06/12/2009	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - CONTROL - Points - Numbers					77	
Text		1	2	0	.080	
SURVEY - CONTROL - Temporary with Text					319	
Temporary Survey Point	XSPUR	1	2	C	.100	
Text		1	2	0	.100	
SURVEY - CONTROL with Text					3	
GPS Points	XCP	1	2	C	.100	
Benchmarks	XBM	1	2	C	.100	
Horizontal Control Points	XTRAV	1	2	C	.100	
Control Points Table		1	2	0	.100	
Datum Adjustment Factor note		1	2	0	.100	
Text		1	2	0	.100	
SURVEY - DRAINAGE - Area Shapes					6	
Area Shapes (Boundaries)	DBDRY	3	4	0		
SURVEY - DRAINAGE - Area Shapes - Points - Elevations					78	
Text		3	2	0	.080	
SURVEY - DRAINAGE - Area Shapes - Points - Locators					79	
Point "+" Tic		3	0	0		
SURVEY - DRAINAGE - Area Shapes - Points - Numbers					80	
Text		3	2	0	.080	
SURVEY - DRAINAGE - Area Shapes Text					81	
Text		3	2	0	.100	
"Drainage Data For Pipe" Cell		3	2	C	.100	
SURVEY - DRAINAGE - Bridge Deck - Points - Elevations					82	
Text		3	2	0	.080	

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - DRAINAGE - Bridge Deck - Points - Locators						83
Point "+" Tic		3	0	0		
SURVEY - DRAINAGE - Bridge Deck - Points - Numbers						84
Text		3	2	0		.080
SURVEY - DRAINAGE - Bridge Deck with Text						22
Bridge deck lines	DECK	3	2	0		
Bridge deck spot points	XDECK	3	2	C		
Text		3	2	0		.100
SURVEY - DRAINAGE - Bridge Hydraulic Data - Points - Elevations						85
Text		3	2	0		.080
SURVEY - DRAINAGE - Bridge Hydraulic Data - Points - Locators						28
Point "+" Tic		3	0	0		
SURVEY - DRAINAGE - Bridge Hydraulic Data - Points - Numbers						86
Text		3	2	0		.080
SURVEY - DRAINAGE - Bridge Hydraulic Data with Text						40
Plan view graphics:						
Up Stream Flood Plain section lines	UP	3	6	0		
Down Stream Flood Plain section lines	DOWN	3	6	0		
Stream profile lines	CRKB	3	1	0		
Top of Bank lines	TB	3	2	0		
Normal water elevation point	XNW	3	2	LS		.100
High water elevation point	XHW	3	2	LS		.100
Bridge bottom beam	BEAM	3	4	3		
Stream baseline	STRCL	3	6	0		
Centerline intersections		3	2	0		.100
Centerline ends		3	2	0		.100
Text		3	2	0		.100

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - DRAINAGE - Bridges						19
Bridges (including non-drainage bridges)	BRI	3	4	3		
Bridge pier	PIER	3	4	3		
SURVEY - DRAINAGE - Bridges - Points - Elevations						87
Text		3	2	0		.080
SURVEY - DRAINAGE - Bridges - Points - Locators						88
Point "+" Tic		3	0	0		
SURVEY - DRAINAGE - Bridges - Points - Numbers						89
Text		3	2	0		.080
SURVEY - DRAINAGE - Bridges Text						20
Text		3	2	0		.100
SURVEY - DRAINAGE - Natural Features						17
Creeks	CRK	4	2	LS		
Rivers	RIVER	4	2	LS		
Ponds	POND	4	2	LS		
Lake	LAKE	4	2	LS		
Rapids, waterfall	RPDS	4	2	LS		
Sink hole	SINK	4	2	LS		
Wetland boundary	WET	4	2	LS		
Spring	XSPRING	4	2	C		
Irrigation ditches	CRK	4	2	LS		
SURVEY - DRAINAGE - Natural Features - Points - Elevations						90
Text		4	2	0		.080
SURVEY - DRAINAGE - Natural Features - Points - Locators						91
Point "+" Tic		4	0	0		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - DRAINAGE - Natural Features - Points - Numbers						92
Text		4	2	0		.080
SURVEY - DRAINAGE - Natural Features Text						311
Text, current names or special environmental designations for unnamed features		4	2	0		.100
SURVEY - DRAINAGE - Pipes and Culverts						93
Pipes (side drains & cross drains)	PIPE	3	2	3		
Box culverts (side drains & cross drains)	CV	3	2	3		
End treatment (endwalls)	EW	3	2	3		
End treatment (concrete aprons)	APRON	3	2	3		
Special ditches for roadways	DIT	3	2	3		
Stream gauges	GAGE	3	2	3		
Rip-rap	RRAP	3	2	3		
Dams	DAM	3	2	LS		
Dikes	DIKE	3	2	3		
Levees & docks	LEVEE	3	2	3		
Spillways	SPILL	3	2	3		
SURVEY - DRAINAGE - Pipes and Culverts - Points - Elevations						94
Text		3	2	0		.080
SURVEY - DRAINAGE - Pipes and Culverts - Points - Locators						95
Point "+" Tic		3	0	0		
SURVEY - DRAINAGE - Pipes and Culverts - Points - Numbers						96
Text		3	2	0		.080
SURVEY - DRAINAGE - Pipes and Culverts Text						97
Text		3	2	0		.100

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - DRAINAGE - Storm Sewer						21
Storm sewer pipes	?STS	3	2	LS		
Catchbasins	XCB	3	2	C		
Drop inlets	XDI	3	2	C		
Storm sewer manholes, etc.	XMHSTS	3	2	C		
Storm sewer box culverts		3	2	3		
Safety grates		3	2	C		
SURVEY - DRAINAGE - Storm Sewer - Points - Elevations						98
Text		3	2	0		.080
SURVEY - DRAINAGE - Storm Sewer - Points - Locators						99
Point "+" Tic		3	2	0		
SURVEY - DRAINAGE - Storm Sewer - Points - Numbers						100
Text		3	2	0		.080
SURVEY - DRAINAGE - Storm Sewer Text						101
Text		3	2	0		.100
SURVEY - DTM - Breaklines						29
Breaklines	BL	13	0	0		
SURVEY - DTM - Breaklines - Points - Elevations						102
Text		2	2	0		.080
SURVEY - DTM - Breaklines - Points - Locators						103
Point "+" Tic		2	0	0		
SURVEY - DTM - Breaklines - Points - Numbers						104
Text		2	2	0		.080

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - DTM - Spot Points - Elevations						105
Text		2	2	0		.080
SURVEY - DTM - Spot Points - Locators						106
Point (circle)	XP	2	0	C		
SURVEY - DTM - Spot Points - Point Numbers						107
Text		2	2	0		.080
SURVEY - DTM - Void Lines						108
Void lines	OL	6	7	0		
SURVEY - DTM - Void Lines - Points - Elevations						109
Text		6	2	0		.080
SURVEY - DTM - Void Lines - Points - Locators						110
Point "+" Tic		6	0	0		
SURVEY - DTM - Void Lines - Points - Numbers						111
Text		6	2	0		.080
SURVEY - DTM GRAPHICS - Boundary Line						112
DTM boundary line		0	0	0		
SURVEY - DTM GRAPHICS - Break Voids						113
DTM break voids		10	0	0		
SURVEY - DTM GRAPHICS - Breaklines						114
DTM break lines		3	0	0		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - DTM GRAPHICS - Contours						115
DTM contours		2	0	0		
SURVEY - DTM GRAPHICS - Drape Voids						116
DTM drape voids		11	0	0		
SURVEY - DTM GRAPHICS - Islands						117
DTM islands		0	0	0		
SURVEY - DTM GRAPHICS - Spot Points						118
DTM spot points		0	0	0		
SURVEY - DTM GRAPHICS - Triangles						119
DTM triangles		8	0	0		
SURVEY - DTM GRAPHICS - Voids						120
DTM void lines		6	0	0		
SURVEY - GROUND - Bottom of Rock Layer						344
For cross section earthwork calculation, not included on sheets		1	0	0		
SURVEY - GROUND - Bottom of Topsoil Layer						343
Cross section linework		2	2	2		
SURVEY - GROUND - Bottom of Unsuitable Material Layer						342
Cross section linework: muck removal, etc.		11	2	2		
SURVEY - GROUND - Existing Pavement Layer						345
Cross section linework		0	2	2		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - GROUND - Existing Pavement Text						346
Cross section text		0	2	0		.100
SURVEY - GROUND - Top of Ground						340
Cross section ground lines		0	2	3		
Cross section void area lines		6	2	3		
SURVEY - GROUND - Top of Rock Layer						341
Cross section linework		1	2	2		
SURVEY - MISCELLANEOUS - Bottom of MH and CB						121
Bottom of manholes, catch basins, etc.	XBOT	3	2	C		
SURVEY - MISCELLANEOUS - Bottom of MH and CB - Points - Elevations						122
Text		3	2	0		.080
SURVEY - MISCELLANEOUS - Bottom of MH and CB - Points - Numbers						123
Text		3	2	0		.080
SURVEY - MISCELLANEOUS - Office with Text						124
Miscellaneous COGO points & lines						
Hi Visibility office point	XPOINT	7	2			
Default Point	DEFAULT_POINT	48	2			
Default Line	DEFAULT_LINE	48	2			
Default Chain	DEFAULT_CHAIN	48	2			
Default Parcel	DEFAULT_PARCEL	48	2			
Default Curve	DEFAULT_CURVE	48	2			
Default Spiral	DEFAULT_SPIRAL	48	2			
Text		48	2	0		.100

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - NON-TRANSPORTATION - Buildings						125
Steps	BC	1	2	0		
Barns	BC	1	2	0		
Patios & decks	BC	1	2	0		
Sheds	BC	1	2	0		
Silos	BC	1	2	0		
Swimming pools	BC	1	2	0		
Well houses	BC	1	2	0		
Chimneys & smokestacks	BC	1	2	0		
Buildings	BC	1	2	0		
SURVEY - NON-TRANSPORTATION - Buildings - Points - Elevations						126
Text		1	2	0		.080
SURVEY - NON-TRANSPORTATION - Buildings - Points - Locators						127
Point "+" Tic		1	0	0		
SURVEY - NON-TRANSPORTATION - Buildings - Points - Numbers						128
Text		1	2	0		.080
SURVEY - NON-TRANSPORTATION - Buildings Text						129
Text		1	2	0		.100
SURVEY - NON-TRANSPORTATION - Features						11
Debris & Storage Piles	MISC	1	2	0		
Areas under construction	MISC	1	2	0		
Rip-rap (Non-Drainage)	MISC	1	2	AP		
Athletic fields	AFLD	1	2	0		
Cemeteries	CEM	1	2	7		
Cattle Guard	CG	1	2	0		
Fence lines	FN	1	2	LS		
Gates	GATE	1	2	1		
Graves	GRAVE	1	2	1		
Quarries & pits	PIT	1	2	3		
Retaining walls (residential & commercial)	RWP	1	2	3		
Retaining walls (residential & commercial) w/fence	RWPWF	1	2	LS		
Miscellaneous Pad	PAD	1	2	0		
Sidewalks (private)	SWP	1	2	0		
Stone fences & rock walls	ROCKW	1	2	LS		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name	Level Number					
Item Description	Feature Code	CO	WT	LC	TX	
Tanks (fixed) (UG or above ground)	TANK	1	2	3		
Towers	TOWER	1	2	0		
Septic field line	SEP	1	2	3		
Septic Tank	XSEP	1	2	C		
Sign (private)	SIGNP	1	2	0		
Miscellaneous line	MISC	1	2	0		
Miscellaneous point	XMISC	1	2	C		
Solid line	SOLID	1	2	0		
Dash line	DASH	1	2	3		
Dotted line	DOT	1	2	1		
Long dashed line	LD	1	2	LS		
Boulder	XBLDR	1	0	C		
Flag poles	XFLAG	1	2	C		
Fence post	XFP	1	2	C		
Mailbox	XMB	1	2	C		
Satellite dish	XSATLIT	1	2	C		
Wells	XWELL	1	2	C		
SURVEY - NON-TRANSPORTATION - Features - Points - Elevations					130	
Text		1	2	0	.080	
SURVEY - NON-TRANSPORTATION - Features - Points - Locators					27	
Point "+" Tic		1	0	0		
SURVEY - NON-TRANSPORTATION - Features - Points - Numbers					131	
Text		1	2	0	.080	
SURVEY - NON-TRANSPORTATION - Features Text					12	
Text		1	2	0	.100	
Floor elevation	XFE	1	2		.100	
SURVEY - PROFILE - Control with Text					132	
Benchmarks		1	2	0	.120	

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - PROFILE - Drainage - Bridge Hydraulic Data with Text						320
Flood Plain sections		3	2	0		
Stream profiles		3	2	0		
Top of Bank profiles		0	2	0		
Normal water elevation		3	2	0	.100	
High water elevation		3	2	0	.100	
Bridge Sketch		3	4	0	.100	
Text		3	2	0	.120	
"Drainage/ Hydraulic Data For Bridge" Cell		3	2	C	.120	
SURVEY - PROFILE - Drainage - Bridges						133
Bridge profile		0	2	3		
SURVEY - PROFILE - Drainage - Bridges Text						134
Text		0	2	0	.100	
SURVEY - PROFILE - Drainage - Natural Features with Text						135
HW50		3	2	0	.120	
HW100		3	2	0	.120	
Normal high water		3	2	0	.120	
Extreme high water		3	2	0	.120	
Q50		3	2	0	.120	
Q100		3	2	0	.120	
Text		3	2	0	.120	
SURVEY - PROFILE - Drainage - Pipes and Culverts						136
Pipes & box culverts (side drains & cross drains)		3	2	3		
End treatment (endwalls, concrete aprons, etc.)		3	2	3		
Special ditches for roadways		3	2	3		
SURVEY - PROFILE - Drainage - Pipes and Culverts Text						137
Text		3	2	0	.120	
SURVEY - PROFILE - Drainage - Storm Sewer						138
Storm sewer pipes & box culverts		3	2	3		
Structures (catchbasins, drop inlets, manholes, etc.)		3	2	3		

TDOTmain.dgnlib → Survey					06/12/2009	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - PROFILE - Drainage - Storm Sewer Text					139	
Text		3	2	0		.100
SURVEY - PROFILE - Existing Roads with Text					140	
Ground profile of existing roads or railroads		0	2	3		
Text		0	2	0		.120
SURVEY - PROFILE - Ground Line with Text					141	
Ground profile		0	2	3		
Centerline intersections		0	2	0		.120
Text		0	2	0		.120
SURVEY - PROFILE - Project Information and Notes					142	
Name labels for each profile		0	2	0		.500
Text		0	2	0		.100
SURVEY - PROFILE - Utilities - Cable with Text					143	
Cable Lines		8	2	LS		
Cable Manholes		8	2	0		
Text		8	2	0		.100
SURVEY - PROFILE - Utilities - Electric with Text					144	
Electric Lines		5	2	LS		
Electric Manholes		5	2	0		
Text		5	2	0		.100
SURVEY - PROFILE - Utilities - Gas with Text					145	
Gas Lines		7	2	LS		
Gas Manholes		7	2	0		
Text		7	2	0		.100
SURVEY - PROFILE - Utilities - Overhead Wire Crossings					146	
Circle		2	2	0		
Text		2	2	0		.100

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - PROFILE - Utilities - Sanitary Sewer with Text						147
Sanitary Sewer Lines		13	2	LS		
Sanitary Sewer Manholes		13	2	0		
Text		13	2	0	.100	
SURVEY - PROFILE - Utilities - Telephone with Text						148
Telephone Lines		8	2	LS		
Telephone Manholes		8	2	0		
SURVEY - PROFILE - Utilities - Water with Text						149
Water Lines		4	2	LS		
Water Manholes		4	2	0		
SURVEY - PROJECT INFORMATION and NOTES						150
Project Description note		0	2	0	.100	
Petroleum Storage Tanks note		0	2	0	.100	
North Arrow		6	2	C		
text		0	2	0	.100	
SURVEY - PROPERTY - Development						151
Property geometry studies & development	X_PROPERTY	7	2	0	.100	
SURVEY - PROPERTY - Easement Lines						152
Easement lines	ESMT	10	4	3		
Drainage easements	ESMTD	10	4	3		
Misc. easement areas		10	2	AP		
SURVEY - PROPERTY - Easement Lines - Points - Elevations						153
Text		10	2	0	.080	
SURVEY - PROPERTY - Easement Lines - Points - Locators						154
Point "+" Tic		10	0	0		

TDOTmain.dgnlib → Survey					06/12/2009	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - PROPERTY - Easement Lines - Points - Numbers						155
Text		10	2	0		.080
SURVEY - PROPERTY - Easement Lines Text						156
Text		10	2	0		.100
SURVEY - PROPERTY - Owners						10
Property owners' names		10	7	0		.175
SURVEY - PROPERTY - Parcels						26
Parcels	PARCEL	10	2	0		
SURVEY - PROPERTY - Political Boundaries						13
City & village lines	CITY	1	2	LS		
County lines	COUNTY	1	13	7		
State lines	STATE	1	15	7		
SURVEY - PROPERTY - Political Boundaries - Points - Elevations						157
Text		1	2	0		.080
SURVEY - PROPERTY - Political Boundaries - Points - Locators						158
Point "+" Tic		1	0	0		
SURVEY - PROPERTY - Political Boundaries - Points - Numbers						159
Text		1	2	0		.080
SURVEY - PROPERTY - Political Boundaries Text						14
Text		1	4	0		.140
SURVEY - PROPERTY - Property Lines						160
Property Lines	PL	10	2	LS		
Property Lines with fence	PLWF	10	2	LS		

TDOTmain.dgnlib → Survey					06/12/2009	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - PROPERTY - Property Lines - Points - Elevations						161
Text		10	2	0		.080
SURVEY - PROPERTY - Property Lines - Points - Locators						162
Point "+" Tic		10	0	0		
SURVEY - PROPERTY - Property Lines - Points - Numbers						163
Text		10	2	0		.080
SURVEY - PROPERTY - Property Lines Text						164
Bearings & Distances		10	2	0		.100
Text		10	2	0		.100
SURVEY - PROPERTY - Property Markers - Points - Elevations						165
Text		10	2	0		.080
SURVEY - PROPERTY - Property Markers - Points - Locators						166
Point "+" Tic		10	0	0		
SURVEY - PROPERTY - Property Markers - Points - Numbers						167
Text		10	2	0		.080
SURVEY - PROPERTY - Property Markers with Text						168
Iron Pin (existing)	XIP	10	2	C		
Concrete marker	XMON	10	2	C		
Property corner	XPL	10	2	C		
Text		10	2	0		.100
SURVEY - PROPERTY - ROW Lines						15
Right-of-Way lines	ROW	10	4	LS		
Right-of-Way lines with fence	ROWWF	10	4	LS		
ROW limit lines on cross sections		10	4	0		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - PROPERTY - ROW Lines - Points - Elevations						169
Text		10	2	0		.080
SURVEY - PROPERTY - ROW Lines - Points - Locators						170
Point "+" Tic		10	0	0		
SURVEY - PROPERTY - ROW Lines - Points - Numbers						171
Text		10	2	0		.080
SURVEY - PROPERTY - ROW Lines Text						16
Text		10	2	0		.100
ROW limit label text on cross sections		10	4	0		.140
ROW limit offset text on cross sections		10	2	0		.100
SURVEY - PROPERTY - ROW Markers - Points - Elevations						172
Text		10	2	0		.080
SURVEY - PROPERTY - ROW Markers - Points - Locators						173
Point "+" Tic		10	0	0		
SURVEY - PROPERTY - ROW Markers - Points - Numbers						174
Text		10	2	0		.080
SURVEY - PROPERTY - ROW Markers with Text						175
ROW monument	XROW	10	2	C		
ROW monument (inline)	XROWA	10	2	C		
ROW monument (corner)	XROWB	10	2	C		
Text		10	2	0		.100
SURVEY - PROPERTY - Station and Offset Flags						176
Text		10	2	0		.100

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - PROPERTY - Tract Numbers						177
Tract numbers		10	4	0		.140
Tract no. ellipse		10	4	0		
SURVEY - ROADSIDE BARRIERS - Points - Elevations						178
Text		11	2	0		.080
SURVEY - ROADSIDE BARRIERS - Points - Locators						179
Point "+" Tic		11	0	0		
SURVEY - ROADSIDE BARRIERS - Points - Numbers						180
Text		11	2	0		.080
SURVEY - ROADSIDE BARRIERS with Text						181
Guardrail left	GRL	11	2	LS		
Guardrail right	GRR	11	2	LS		
Guardrail median	GRM	11	2	LS		
Guardrail terminals		11	2	C		
Impact attenuators	IMP	11	2	3		
Jersey barrier	JB	11	2	3		
Retaining walls (roadway & noise)	RWT	11	2	3		
Retaining walls (roadway & noise) w/fence	RWTWF	11	2	LS		
Text		11	2	0		.100
SURVEY - TRAFFIC CONTROL - Pavement Marking - Points - Elevations						182
Text		0	2	0		.080
SURVEY - TRAFFIC CONTROL - Pavement Marking - Points - Locators						183
Point "+" Tic		0	0	0		
SURVEY - TRAFFIC CONTROL - Pavement Marking - Points - Numbers						184
Text		0	2	0		.080

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - TRAFFIC CONTROL - Pavement Marking with Text						185
Stop Bar	STOP	0	15	0		
Crosswalk	CWALK	0	6	0		
Lane Line (dashed)	LLD	0	0	LS		
Lane Line (Solid)	LLS	0	0	0		
Left arrow	XLAR	0	2	C		
Right arrow	XRAR	0	2	C		
Left & Right arrow	XLRAR	0	2	C		
Straight arrow	XSAR	0	2	C		
Straight & Left turn arrow	XSLAR	0	2	C		
Straight & Right arrow	XSRAR	0	2	C		
Straight & Left & Right turn arrow	XSLRAR	0	2	C		
Pavement marking word "ONLY"	XONLY	0	2	C		
Pavement marking words	XPVTEXT	0	2	C		
Right arrow interstate	XRARI	0	2	C		
Straight arrow interstate	XSARI	0	2	C		
Straight & Right arrow interstate	XSRARI	0	2	C		
Railroad crossing pavement marking	XRRPAV	0	2	C		
HOV diamond	XHOV	0	2	C		
Text		0	2	0		.100
SURVEY - TRAFFIC CONTROL - Signs - Points - Elevations						186
Text		7	2	0		.080
SURVEY - TRAFFIC CONTROL - Signs - Points - Locators						187
Point "+" Tic		7	0	0		
SURVEY - TRAFFIC CONTROL - Signs - Points - Numbers						188
Text		7	2	0		.080
SURVEY - TRAFFIC CONTROL - Signs and Devices with Text						23
Billboards	SIGNT	7	2	C		
Historical markers	SIGNT	7	2	C		
Signs	SIGNT	7	2	0		
Loop detector	LDECT	7	0	LS		
Barricades & barrels	BARR	7	2	LS		
Overhead signs	XOHS	7	8	0		
Pad mounted controller	XPDMC	7	2	C		
Pole mounted controller	XPLMC	7	2	C		
Pedestrian signal	XPDSHN	7	0	C		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
Pedestrian pushbutton	XPPH	7	2	C		
Pull box	XPULLB	7	2	C		
Railroad flashing signal crossing	XRRFS	7	2	C		
Railroad flashing signal crossing w/gate	XRRFSG	7	2	C		
Railroad signal	XRRSIG	7	2	C		
Traffic signal head	XSHNB	7	2	C		
Traffic signal head w/backplate	XSHNB	7	2	C		
Small 1-post sign	XSIGN1	7	2	C		
Small 2-post sign	XSIGN2	7	2	C		
Small 2-faced sign	X2SIGN	7	2	C		
Strain pole for signal support	XSPSS	7	2	C		
Wood strain pole for signal support	XWPSS	7	2	C		
Text		7	2	0	.100	
SURVEY - TRANSPORTATION - Features					189	
Airport runways	RWAY	11	2	3		
Bikeways	BIKE	11	2	3		
Parking lots	PK	11	2	3		
Driveways	DR	11	2	3		
Field entrances	FE	11	2	3		
Business entrances	BE	11	2	3		
Curb	CU	64	2	3		
Curb & gutter	CU	64	2	3		
Medians	MED	11	2	3		
Shoulders (outside edge of stabilized shoulders)	SH	11	2	3		
Sidewalks	SWT	64	2	3		
Trails	TRAIL	11	2	2		
Tunnels (highway, pedestrian, railroad, etc.)	TUN	11	2	3		
Handicap curb opening	XHRAMP	64	2	C		
SURVEY - TRANSPORTATION - Features - Points - Elevations					190	
Text		11	2	0	.080	
SURVEY - TRANSPORTATION - Features - Points - Locators					191	
Point "+" Tic		11	0	0		
SURVEY - TRANSPORTATION - Features - Points - Numbers					192	
Text		11	2	0	.080	

TDOTmain.dgnlib → Survey					06/12/2009	
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - TRANSPORTATION - Features Text						193
Text		11	2	0		.100
SURVEY - TRANSPORTATION - Railroads						194
Railroad rails	RR	11	2	LS		
Railroad switch stands	RRSS	11	0	2		
Railroad switch	XRRSW	11	2	C		
SURVEY - TRANSPORTATION - Railroads - Points - Elevations						195
Text		11	2	0		.080
SURVEY - TRANSPORTATION - Railroads - Points - Locators						196
Point "+" Tic		11	0	0		
SURVEY - TRANSPORTATION - Railroads - Points - Numbers						197
Text		11	2	0		.080
SURVEY - TRANSPORTATION - Railroads Text						198
Text		11	2	0		.100
SURVEY - TRANSPORTATION - Roads						7
Edges of traveled way	RD or EP	0	4	3		
SURVEY - TRANSPORTATION - Roads - Points - Elevations						199
Text		0	2	0		.080
SURVEY - TRANSPORTATION - Roads - Points - Locators						200
Point "+" Tic		0	0	0		
SURVEY - TRANSPORTATION - Roads - Points - Numbers						201
Text		0	2	0		.080

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - TRANSPORTATION - Roads Text						8
Text		0	2	0		.120
SURVEY - UTILITIES - Cable (Underground) - Points - Elevations						202
Text		8	2	0		.080
SURVEY - UTILITIES - Cable (Underground) - Points - Locators						203
Point "+" Tic		8	0	0		
SURVEY - UTILITIES - Cable (Underground) - Points - Numbers						204
Text		8	2	0		.080
SURVEY - UTILITIES - Cable (Underground) with Text						25
Cable lines (Underground)	UGC	8	2	LS		
Cable manholes	XMHC	8	0	C		
Cable pedestal	XCPED	8	0	C		
Text		8	2	0		.100
SURVEY - UTILITIES - Electric (Lighting) - Points - Elevations						205
Text		2	2	0		.080
SURVEY - UTILITIES - Electric (Lighting) - Points - Locators						206
Point "+" Tic		2	0	0		
SURVEY - UTILITIES - Electric (Lighting) - Points - Numbers						207
Text		2	2	0		.080
SURVEY - UTILITIES - Electric (Lighting) with Text						208
Light pole (1 light)	XLP1	2	2	C		
Light pole (2 lights)	XLP2	2	2	C		
Light pole (3 lights)	XLP3	2	2	C		
Light pole (4 lights)	XLP4	2	2	C		
High mast light (half)	XHMPLH	2	2	C		
High mast light (full)	XHMPLF	2	2	C		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
Offset type luminaire & pole	XOFTLP	2	2	C		
Lighting control center	XLCC	2	2	C		
Text		5	2	0	.100	
SURVEY - UTILITIES - Electric (Overhead) - Points - Elevations						209
Text		5	2	0	.080	
SURVEY - UTILITIES - Electric (Overhead) - Points - Locators						210
Point "+" Tic		5	0	0		
SURVEY - UTILITIES - Electric (Overhead) - Points - Numbers						211
Text		5	2	0	.080	
SURVEY - UTILITIES - Electric (Overhead) with Text						212
Substation		5	2	3		
Transmission towers	PTOW	5	2	0		
Text		5	2	0	.100	
SURVEY - UTILITIES - Electric (Underground) - Points - Elevations						213
Text		5	2	0	.080	
SURVEY - UTILITIES - Electric (Underground) - Points - Locators						214
Point "+" Tic		5	0	0		
SURVEY - UTILITIES - Electric (Underground) - Points - Numbers						215
Text		5	2	0	.080	
SURVEY - UTILITIES - Electric (Underground) with Text						216
Electric lines (Underground)	UGP	5	2	LS		
Manholes	XMHP	5	2	C		
Text		5	2	0	.100	

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - UTILITIES - Fiber Optic Cable (Underground) - Points - Elevations						217
Text		8	2	0		.080
SURVEY - UTILITIES - Fiber Optic Cable (Underground) - Points - Locators						218
Point "+" Tic		8	0	0		
SURVEY - UTILITIES - Fiber Optic Cable (Underground) - Points - Numbers						219
Text		8	2	0		.080
SURVEY - UTILITIES - Fiber Optic Cable (Underground) with Text						220
Fiber Optic lines (Underground)	UGF	8	2	LS		
Fiber Optic manholes	XMHF	8	2	C		
Text		8	2	0		.100
SURVEY - UTILITIES - Gas - Points - Elevations						221
Text		7	2	0		.080
SURVEY - UTILITIES - Gas - Points - Locators						222
Point "+" Tic		7	0	0		
SURVEY - UTILITIES - Gas - Points - Numbers						223
Text		7	2	0		.080
SURVEY - UTILITIES - Gas with Text						224
Gas lines	?GL	7	2	LS		
Manholes	XMHG	7	2	C		
Gas meter	XGM	7	2	C		
Gas valve	XGV	7	2	C		
Text		7	2	0		.100
SURVEY - UTILITIES - Low Wire Crossings						225
Low wire crossings, for profile annotation	XLW	2	2	C		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - UTILITIES - Low Wire Crossings - Points - Elevations						226
Text		2	2	0		.080
SURVEY - UTILITIES - Low Wire Crossings - Points - Numbers						227
Text		2	2	0		.080
SURVEY - UTILITIES - Overhead Wire Crossings						228
Overhead wires crossing preliminary centerline, for plan view	OHW	2	2	LS		
Text						
SURVEY - UTILITIES - Overhead Wire Crossings - Points - Elevations						229
Text		2	2	0		.080
SURVEY - UTILITIES - Overhead Wire Crossings - Points - Locators						230
Point "+" Tic		2	0	0		
SURVEY - UTILITIES - Overhead Wire Crossings - Points - Numbers						231
Text		2	2	0		.080
SURVEY - UTILITIES - Owners						232
Utility Disclaimer note		0	2	0		.100
Text		2	2	0		.100
SURVEY - UTILITIES - Poles and Miscellaneous - Points - Elevations						233
Text		2	2	0		.080
SURVEY - UTILITIES - Poles and Miscellaneous - Points - Locators						234
Point "+" Tic		2	0	0		

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - UTILITIES - Poles and Miscellaneous - Points - Numbers						235
Text		2	2	0		.080
SURVEY - UTILITIES - Poles and Miscellaneous with Text						236
Utility poles	XUP	2	2	C		
Utility poles with lights	XUPL	2	2	C		
Utility boxes	XUM	2	2	C		
Guy wires	XGW	2	2	C		
Guy device angle anchor	XGAA	2	2	C		
Guy device vertical anchor	XGVA	2	0	C		
Manholes (type unknown)	XMH	2	0	C		
Telegraph pole	XTGP	2	0	C		
Radio, TV, or Cell Tower	XTOWER	2	2	C		
Power/Telephone (Underground)	UGPT	2	2	LS		
Miscellaneous utility features (line)	UM	2	2	2		
Miscellaneous utility features (point)	XUM	2	2	C		
Text		2	2	0		.100
SURVEY - UTILITIES - Sanitary Sewer - Points - Elevations						237
Text		13	2	0		.080
SURVEY - UTILITIES - Sanitary Sewer - Points - Locators						238
Point "+" Tic		13	0	0		
SURVEY - UTILITIES - Sanitary Sewer - Points - Numbers						239
Text		13	2	0		.080
SURVEY - UTILITIES - Sanitary Sewer with Text						240
Sanitary sewer lines	?SAS	13	2	LS		
Force main sanitary sewer lines	?FMS	13	2	LS		
Sanitary sewer manholes	XMHSAS	13	2	C		
Sewer meter	XSM	13	2	C		
Sewer valve	XSV	13	2	C		
Text		13	2	0		.100

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - UTILITIES - Telephone (Overhead) - Points - Elevations						241
Text		8	2	0		.080
SURVEY - UTILITIES - Telephone (Overhead) - Points - Locators						242
Point "+" Tic		8	0	0		
SURVEY - UTILITIES - Telephone (Overhead) - Points - Numbers						243
Text		8	2	0		.080
SURVEY - UTILITIES - Telephone (Overhead) with Text						244
Telephone booth	XTBOOTH	8	2	C		
Telephone box	XTBOX	8	2	C		
Text		8	2	0		.100
SURVEY - UTILITIES - Telephone (Underground) - Points - Elevations						245
Text		8	2	0		.080
SURVEY - UTILITIES - Telephone (Underground) - Points - Locators						246
Point "+" Tic		8	0	0		
SURVEY - UTILITIES - Telephone (Underground) - Points - Numbers						247
Text		8	2	0		.080
SURVEY - UTILITIES - Telephone (Underground) with Text						248
Telephone lines (Underground)	UGT	8	2	LS		
Telephone manholes	XMHT	8	2	C		
Telephone pedestal	XTPED	8	2	C		
Text		8	2	0		.100
SURVEY - UTILITIES - Water - Points - Elevations						249
Text		4	2	0		.080

TDOTmain.dgnlib → Survey						06/12/2009
Level Name					Level Number	
Item Description	Feature Code	CO	WT	LC	TX	
SURVEY - UTILITIES - Water - Points - Locators						250
Point "+" Tic		4	0	0		
SURVEY - UTILITIES - Water - Points - Numbers						251
Text		4	2	0		.080
SURVEY - UTILITIES - Water with Text						252
Water lines	?WL	4	2	LS		
Fire Hydrants	XFH	4	2	C		
Water manholes	XMHW	4	2	C		
Water meter	XWM	4	2	C		
Water valve	XWV	4	2	C		
Text		4	2	0		.100
SURVEY - VEGETATION - Features - Points - Elevations						253
Text		8	2	0		.080
SURVEY - VEGETATION - Features - Points - Locators						254
Point "+" Tic		8	0	0		
SURVEY - VEGETATION - Features - Points - Numbers						255
Text		8	2	0		.080
SURVEY - VEGETATION - Features with Text						18
Tree drip lines	TREE	8	2	LS		
Hedge rows	HEDGE	8	2	LS		
Bushes	XBUSH	8	2	C		
Trees	XTREE	8	2	C		
Text		8	2	0		.100

Standard Cell Library Index

<C:\Users\Public\MicroStation Standards\cell>

Many cells are placed automatically by various MicroStation or Geopak functions. Others can be accessed through customized MicroStation VBA programs which divide the cells up into groups as is done in this index and are available through the TDOT drop down menu on the MicroStation menu bar, the TDOT Design Division Toolbox or Geopak's D&C Manager. These programs also provide access to various MicroStation functions to control cell angle and placement.

STDS.CEL

AREA PATTERNS	CELL NAME
AIR RIGHT PATTERN	AIRRGT
BASE STONE AREA PATTERN	BSTONE
SMALL BASE STONE AREA PATTERN	BSTONE0.5X
CONCRETE AREA PATTERN DESIGN	CONC16
DESIGN DOT AREA PATTRN	DDOT
DESIGN DOT AREA PATTRN 2X	DDOT2X
DESIGN DOT AREA PATTRN 6X	DDOT6X
DESIGN EARTH AREA PATTERN	DEARTH
DEWATERING STRUC AREA PATTERN	DEWATR
DISTURBED AREA	DISAREA
DUMPED ROCK AREA PATTERN	DMPRK
SMALL DUMPED ROCK AREA PATTERN	DMPRK0.5X
EROSION CONTROL BLANKET AREA PATTERN	ECBLANKET
SLOPE ROUGHENING AREA PATTERN	ECROUGHEN
FUNC BRIDGE AREA PATTERN	FUNBR
FUNC PVMT AREA PATTERN	FUNPVM
FUNC ROW AREA PATTERN	FUNROW

AREA PATTERNS	CELL NAME
CROSSHATCH AREA PATTERN	HATCH
LINE AREA PATTERN	LINE
LINE ESMT AREA PATTERN	LINEE
LINE WORKZONE AREA PATRN	LINEWZ
CRWN VETCH_METAL AREA PATTERN	METAL
RIP RAP AREA PATTERN	RIPRAP
TURF REINFORCEMENT MAT	TURFRM
WETLANDS SWAMP MARSH	WETLND
SCARIFY AREA PATTERN	ZZ

AREA PATTERN EXAMPLES	CELL NAME
EXAMPLE 135 DEGREE LINES AREA PATTERN	135DEGEXAMPLE
EXAMPLE 45 DEGREE LINES AREA PATTERN	45DEGEXAMPLE
AIR RIGHT PATTERN EXAMPLE	AIRRGTEXAMPLE
EXAMPLE BASE STONE AREA PATTERN	BASESTONEEXAMPLE
EXAMPLE BASE STONE SMALL AREA PATTERN	BASESTONESMEXAMPLE
EXAMPLE CITY BOUNDARY AREA PATTERN	CITYBOUNDARYEXAMPLE
EXAMPLE CONCRETE AREA PATTERN	CONCEXAMPLE
EXAMPLE CONSTRUCTION EASEMENT AREA PATTERN	CONSTEASEMENTEXAMPLE
EXAMPLE CROWN VETCH AREA PATTERN	CROWNVETCHEXAMPLE
EXAMPLE DEWATERING STRUCTURE AREA PATTERN	DEWATREXAMPLE
EXAMPLE DOTS SMALL 45 DEGREE .05 SPACING AREA PATTERN	DOTSSM45DEG05EXAMPLE
EXAMPLE DOTS SMALL 45 DEGREE .07 SPACING AREA PATTERN	DOTSSM45DEG07EXAMPLE
EXAMPLE DOTS SMALL 60 DEGREE .06 SPACING AREA PATTERN	DOTSSM60DEG06EXAMPLE
EXAMPLE DOTS SMALL 60 DEGREE .08 SPACING AREA PATTERN	DOTSSM60DEG08EXAMPLE
EXAMPLE DOTS SMALL 90 DEGREE .02 SPACING AREA PATTERN	DOTSSM90DEG02EXAMPLE
EXAMPLE DOTS SMALL 90 DEGREE .03 SPACING AREA PATTERN	DOTSSM90DEG03EXAMPLE
EXAMPLE DOTS SMALL 90 DEGREE .04 SPACING AREA PATTERN	DOTSSM90DEG04EXAMPLE
EXAMPLE DOTS SMALL 90 DEGREE .05 SPACING AREA PATTERN	DOTSSM90DEG05EXAMPLE
EXAMPLE DOTS SMALL 90 DEGREE .06 SPACING AREA PATTERN	DOTSSM90DEG06EXAMPLE

AREA PATTERN EXAMPLES	CELL NAME
EXAMPLE DOTS SMALL 90 DEGREE .07 SPACING AREA PATTERN	DOTSSM90DEG07EXAMPLE
EXAMPLE DRAINAGE EASEMENT AREA PATTERN	DRNEASEEXAMPLE
EXAMPLE DUMPED ROCK AREA PATTERN	DUMPEDROCKEXAMPLE
EXAMPLE DUMPED ROCK SMALL AREA PATTERN	DUMPEDROCKSMALLEXAMPLE
EXAMPLE EARTH AREA PATTERN	EARTHEXAMPLE
EXAMPLE EROSION CONTROL BLANKET AREA PATTERN	ECBLANKETEXAMPLE
EXAMPLE EXTRA LARGE DOTS AREA PATTERN	EXLARDOTSEXAMPLE
EXAMPLE FUNCTIONAL BRIDGE AREA PATTERN	FUNBREXAMPLE
EXAMPLE FUNCTIONAL PAVEMENT AREA PATTERN	FUNPVMEXAMPLE
EXAMPLE FUNCTIONAL ROW AREA PATTERN	FUNROWEXAMPLE
EXAMPLE HORIZONTAL LINES AREA PATTERN	HORZLINESEXAMPLE
EXAMPLE LOSS OF ACCESS AREA PATTERN	LOSSACCEXAMPLE
EXAMPLE PRIVATE DRIVE SHADING AREA PATTERN	PVTDRIVESHADINGEXAMPLE
EXAMPLE REINFORCED CONCRETE AREA PATTERN	REINFCONEXAMPLE
EXAMPLE RIPRAP AREA PATTERN	RIPRAPEXAMPLE
EXAMPLE SCARIFY AREA PATTERN	SCARIFYEXAMPLE
EXAMPLE SLOPE EASEMENT AREA PATTERN	SLOPEEASEEXAMPLE
EXAMPLE SLOPE SURFACE ROUGHENING AREA PATTERN	SLOPESURFEXAMPLE
EXAMPLE TRAFFIC CONTROL WORK ZONE AREA PATTERN	TRAFFCONTWZEXAMPLE
TURF REINFORCEMENT MAT EXAMPLE	TURFRMEXAMPLE
EXAMPLE VERTICAL LINES AREA PATTERN	VERTICALLINESEXAMPLE
EXAMPLE WATER SURFACE AREA PATTERN	WATERSURFACEEXAMPLE
EXAMPLE WETLANDS MITIGATION AREA PATTERN	WETLANMITIGEXAMPLE

AREA PATTERNS - GEOTECHNICAL	CELL NAME
ALUMINUM AREA PATTERN	ALUM
ANSI 131 AREA PATTERN	ANS131
ANSI 132 AREA PATTERN	ANS132
ANSI 133 AREA PATTERN	ANS133
ANSI 134 AREA PATTERN	ANS134
ANSI 135 AREA PATTERN	ANS135
ANSI 138 AREA PATTERN	ANS138
BRACKETS GEOTECH AREA PATTERN	BRACK
BRICKS AREA PATTERN	BRICK
EXAMPLE CEDAR AREA PATTERN	CEDAR
CHERTY AREA PATTERN	CHCLAY
CHERT AREA PATTERN	CHERT
CINDER BLOCK AREA PATTERN	CINDR
CLAY AREA PATTERN	CLAY
CONCRETE AREA PATTERN SOILS	CONC
SEPARATED CROSS AREA PATTERN	CROSS2
COURSE RUBBLE AREA PATTERN	CRSRBL
DASH AREA PATTERN	DASH
DIAMOND AREA PATTERN	DIAM
DOLOMITE AREA PATTERN	DOLMIT
EARTH AREA PATTERN	EARTH
GRASS AREA PATTERN	GRASS
GRAVEL AREA PATTERN	GRAVEL
ISOMETRIC AREA PATTERN	ISO
ROCK AREA PATTERN	ROCK
SAND AREA PATTERN	SAND
ALT SHALE AREA PATTERN	SHAL2
SHALE AREA PATTERN	SHALE
SILT AREA PATTERN	SILT

AREA PATTERN EXAMPLES - GEOTECHNICAL	CELL NAME
EXAMPLE ALUMINIUM GEOTECH AREA PATTERN	ALUMEXAMPLE
EXAMPLE ANSI 131 GEOTECH AREA PATTERN	ANS131EXAMPLE
EXAMPLE ANSI 132 GEOTECH AREA PATTERN	ANS132EXAMPLE
EXAMPLE ANSI 133 GEOTECH AREA PATTERN	ANS133EXAMPLE
EXAMPLE ANSI 134 GEOTECH AREA PATTERN	ANS134EXAMPLE
EXAMPLE ANSI 135 GEOTECH AREA PATTERN	ANS135EXAMPLE
EXAMPLE ANSI 138 GEOTECH AREA PATTERN	ANS138EXAMPLE
EXAMPLE BRACK GEOTECH AREA PATTERN	BRACKEXAMPLE
EXAMPLE BRICK GEOTECH AREA PATTERN	BRICKEXAMPLE
EXAMPLE CEDAR GEOTECH AREA PATTERN	CEDAREXAMPLE
EXAMPLE CHCLAY AREA PATTERN	CHCLAYEXAMPLE
EXAMPLE CHERT GEOTECH AREA PATTERN	CHERTEXAMPLE
EXAMPLE CIND GEOTECH AREA PATTERN	CINDREXAMPLE
EXAMPLE CLAY GEOTECH AREA PATTERN	CLAY45DEGEXAMPLE
EXAMPLE CONC GEOTECH AREA PATTERN	CONCGEOEXAMPLE
EXAMPLE CROSS2 45 DEGREE GEOTECH AREA PATTERN	CROSS245DEGEXAMPLE
EXAMPLE CRSRBL GEOTECH AREA PATTERN	CRSRBLEXAMPLE
EXAMPLE DASH GEOTECH AREA PATTERN	DASHEXAMPLE
EXAMPLE DIAM GEOTECH AREA PATTERN	DIAMEXAMPLE
EXAMPLE DOLOMITITE GEOTECH AREA PATTERN	DOLMITEXAMPLE
EXAMPLE EARTH GEOTECH AREA PATTERN	EARTHGEOEXAMPLE
EXAMPLE GRASS GEOTECH AREA PATTERN	GRASSEXAMPLE
EXAMPLE GRAVEL AREA PATTERN	GRAVELEXAMPLE
EXAMPLE ISO GEOTECH AREA PATTERN	ISOEXAMPLE
EXAMPLE ROCK GEOTECH AREA PATTERN	ROCKEXAMPLE
EXAMPLE SAND GEOTECH AREA PATTERN	SANDEXAMPLE
EXAMPLE SHAL2 GEOTECH AREA PATTERN	SHAL2EXAMPLE
EXAMPLE SHALE GEOTECH AREA PATTERN	SHALEEXAMPLE
EXAMPLE SILT GEOTECH AREA PATTERN	SILTEXAMPLE

CRASH CUSSION	CELL NAME
CRASH CUSSION	CC
CRASH CUSSION BARREL 200LB SAND	CCBARREL200
CRASH CUSSION BARREL 400LB SAND	CCBARREL400
CRASH CUSSION BARREL 700LB SAND	CCBARREL700
CRASH CUSSION BARREL 1400LB SAND	CCBARREL1400
CRASH CUSSION BARREL 2100LB SAND	CCBARREL2100

CURB RAMP	CELL NAME
PARRALELL CURB RAMP	PARCR
PARALLEL CURB RAMP BLENDED TRANSITION	PARCRBT
PARRALELL CURB RAMP LOWERED CORNER RAMP	PARCRLCR
PARALLEL CURB RAMP OUTSIDE RADIUS	PARCROR
PERPENDICULAR CURB RAMP 1	PCR1
PERPENDICULAR CURB RAMP 2	PCR2
PERPENDICULAR CURB RAMP IN CURVE BI-DIRECTIONAL SW	PCRCBDS
PERPENDICULAR CURB RAMP IN CURVE BI-DIRECTIONAL SW ALTERNATE	PCRCBDSA
PERPENDICULAR CURB RAMP IN CURVE MONO-DIRECTIONAL SW	PCRCMDS
PERPENDICULAR CURB RAMP IN CURVE MONO-DIRECTIONAL SW ALTERNATE	PCRCMDSA

EXISTING CONTOURS	CELL NAME
Existing Contour	EXCON
SPOT ELEVATION	SPTELV

EXISTING DRAINAGE	CELL NAME
EX CATCH BASIN INV PT	XBOT
BRIDGE INFO	XBRIDG
EXISTING CATCHBASIN	XCTB
EX DROP INLET	XDI
EX PIPE INVERT POINT	XINV
PIPE INFO	XPIPE
EXISTING NATURAL FEATURES	CELL NAME
AERIAL SURVEYS TREE SYMBOL	ASTREE
BOULDER	BOULDR
BUSH OR SMALL TREE	BUSH
RAPIDS OR WATERFALL	RAPIDS
SPRING	SPR
TREE	TREE
WATER ELEVATION	WELV
EXISTING NON-TRANSPORTATION FEATURES	CELL NAME
AERIAL SURVEYS LP TANK	ASLPTANK
AERIAL SURVEYS SATELLITE DISH	ASSATLIT
CEMETERY TOPO	CEMTOPO
FLAGPOLE	FLGPOL
LP TANK	LPTANK
MAILBOX	MB
SATELLITE DISH	SATLIT
SMALL SATELLITE DISH	SATLTS
EXIST SEPTIC TANK	SEPTIC
STRATA DIR ANGLE DIP	STRDR
RADIO OR TV TOWER	TOWER
WELL	WELL

EXISTING NON-TRANSPORTATION FEATURES	CELL NAME
EX FENCE POST	XFP
EXISTING MISC. POLE	XMPOLE
EXISTING R.O.W. & PROPERTY LINE FEATURES	CELL NAME
CONCRETE MARKER	CONCMK
PROPERTY LINE LABEL	PL
SAME OWNER SYMBOL	SMOWN
EX IRON PIN	XEIP
EX R O W MARKER FACE CENTER ORIGIN	XROWA
EX R O W MARKER CORNER ORIGIN	XROWB
EXISTING SIGNS & TRAFFIC CONTROL	CELL NAME
BILLBOARD OR OVERHEAD SIGN POST	BBPOST
LARGE BARRICADE	LGBARR
EXISTING RAILROAD SIGNAL	RRSIG
EX 2 IN CONDUIT	X2CON
EX 2 SIDED SIGN	X2SIGN
EX EMERGENCY VEHICLE PREEMPT DETECTOR	XEVPD
EXIST LOOP DETECTOR DOUBLE 50'	XLDD
EXIST LOOP DETECTOR QUADRAPOLE	XLDQUAD
EXIST LOOP DETECTOR SINGLE 50'	XLDS
EXIST LOOP DETECTOR SINGLE 20'	XLDS20
EXIST LOOP DETECTOR SQUARE SERIES	XLDSQSE
EXIST DOUBLE LOOP DETECTOR VOLUME DENSITY	XLDVD
EXIST SINGLE LOOP DETECTOR VOLUME DENSITY	XLDVDS
EX PAD MOUNT CONTROLLER	XPDMC
EXIST PEDESTRIAN SIGNAL HEAD SYMBOL	XPDSHN
EXIST PULL BOX SIGNALS	XPLB
EXIST PULL BOX FIBER OPTIC	XPLBFO
EX POLE MTD CONTROLLER	XPLMC

EXISTING SIGNS & TRAFFIC CONTROL	CELL NAME
EX PED PUSHBUTTON	XPPH
EXIST PEDESTRIAN POLE FOR PUSH BUTTON	XPPPB
EXIST VIDEO DETECTION CAMERA	XVDCAM
Pavement Arrows	
EX PV ARROW INTER ST RT	XPASRI
EX PV ARROW LEFT	XPVAL
EX PV ARROW LEFT RIGHT	XPVALR
EX PV ARROW RT	XPVAR
EX PV ARROW INTER RT	XPVARI
EX PV ARROW STRAIGHT	XPVAS
EX PV ARROW ALL	XPVASB
EX PV ARROW INTER ST	XPVASI
EX PV ARROW ST LT	XPVASL
EX PV ARROW ST RT	XPVASR
EX DIAMOND PVMT MARKING	XPVDM
EX PV ONLY LABEL	XPVONL
EX PV MARKING RAILROAD	XPVRR
EX R R HWY FLASH NO GATE	XRRFS
EX R R HWY FLASH W GATE	XRRFSG
EXIST SIGNAL HEAD SYMBOL	XSHN
EXIST SIGNAL HEAD SYMBOL WITH BACKPLATE	XSHNB
EX SIGN	XSIGN
EX SIGN 2 POST	XSIGN2
EX STRAIN POLE SIG SUPPORT	XSPSS
EX WOOD POLE SIG SUPPORT	XWPSS
EXIST PV ARROW STR RT INTERSTATE	XPVASRI

EXISTING TRANSPORTATION FEATURES	CELL NAME
AERIAL SURVEYS HANDICAP RAMP	ASHCRAMP
INTERSTATE RTE SHIELD	INTRT
RAILROAD SWITCH	SWITCH
US RT 3 DIGITS	USRT3
US RT SIGN 1 2 DIGITS	USRT12
EX HANDICAP RAMP	XHCR
PROP CABLE BARRIER TERMINAL	CBT
FLASHING BEACON - 220	FB220
FLASHING BEACON - 440	FB440
HIGH VISIBILITY FENCE LEGEND	HVFL
RADIO ANTENNA	RADANT
RADAR DETECTOR	RDRDETECT
RADAR DETECTION ZONE 6'	RDZ6
RADAR DETECTION ZONE 20'	RDZ20
RADAR DETECTION ZONE 50'	RDZ50
VERTICAL PANEL 1 FACE FOR LEFT	TVPLT
PR TYPE 21 GR END	TY21n
PR TYPE 38 GR END	TY38n
EXISTING UTILITIES	CELL NAME
EXISTING TRANSMISSION TOWER	TRANST
EX CABLE TV PEDESTAL	XCAPED
EX FIREPLUG	XFPLG
EX GUY DEV ANGLE ANCHOR	XGDAA
EX GUY DEV VERT ANCHOR	XGDVA
EX GAS METER	XGM
EX GUY WIRE ANCHOR	XGUY
EX GAS VALVE	XGV
EX HI MAST POLE LUM FULL LIGHT	XHMPLF
EX HI MAST POLE LUM HALF LIGHT	XHMPLH

EXISTING UTILITIES	CELL NAME
EX LIGHTING CNTRL CNTR	XLCC
EX LIGHT POLE	XLP
EX LIGHT POLE	XLP2
EX LIGHT POLE	XLP3
EX LIGHT POLE	XLP4
EX MANHOLE	XMANH
EX MANHOLE SANITARY SEWR	XMHSAS
EX MANHOLE STORM SEWR	XMHSTS
EX OFFSET LUMINAIRE POLE LIGHT	XOFTLP
EXIST PULL BOX LIGHTING	XPLBL
EX SANITARY SEWR METER	XSM
LOW WIRE SPOT ELEVATION	XSPOT
EX SANITARY SEWR VALVE	XSV
EX PHONE BOOTH	XTBTH
EX PHONE BOX	XTPBX
EX PHONE PEDESTAL	XTPED
EX UTILITY POLE	XUP
EX UTILITY POLE W LIGHT	XUPL
GENERIC UTILITY BOX	XUTIL
EX WATER METER	XWM
EX WATER VALVE	XWV
MISCELLANEOUS CELLS	CELL NAME
SMALL ARROWHEAD	DARR
LEISCH TURN 42 RT	LTM42
LEISCH TURN 45 RT	LTM45
LEISCH TURN 60 RT	LTM60
LEISCH TURN 75 RT	LTM75
NORTH ARROW REG 1	NARR1
NORTH ARROW REG 2	NARR2

MISCELLANEOUS CELLS	CELL NAME
NORTH ARROW REG 3	NARR3
NORTH ARROW REG 4	NARR4
Points	
GENERIC POINT WHITE	P
GENERIC POINT GRAY	P1
GENERIC POINT MANILA	P2
GENERIC POINT LT BLUE	P3
GENERIC POINT BLUE	P4
GENERIC POINT ORANGE	P5
GENERIC POINT RED	P6
GENERIC POINT YELLOW	P7
GENERIC POINT GREEN	P8
GENERIC POINT DK PURPLE	P9
GENERIC POINT VIOLET	P10
GENERIC POINT LT PURPLE	P11
GENERIC POINT DK BROWN	P12
GENERIC POINT LT BROWN	P13
GENERIC POINT LT GREEN	P14
GENERIC POINT DK RED	P15
GENERIC POINT PINK	P16
GENERIC POINT DK BLUE	P17
MEDIUM ARROWHEAD	TERM1
LARGE ARROWHEAD	TERM2
EXTRA LARGE ARROWHEAD	TERM3
LEISCH TEMPLATE TRUCK	TRUCK
SCARIFY LEGEND	ZZL
NATURAL STREAM DESIGN	CELL NAME
BOULDER CLUSTERS	BDRCLSTR
BOULDER CLUSTERS LEGEND	BDRCLSTRL

NATURAL STREAM DESIGN	CELL NAME
BOULDER CROSS VANE	BDRCRVN
BOULDER CROSS VANE LEGEND	BDRCRVNL
BOULDER CROSS VANE WITH STEP	BDRCRVNWS
BOULDER CROSS VANE WITH STEP LEGEND	BDRCRVNWSL
BOULDER AND LOG RIFFLE	BDRLGRFF
BOULDER AND LOG RIFFLE LEGEND	BDRLGRFFL
BOULDER RIFFLE	BDRRFFE
BOULDER RIFFLE LEGEND	BDRRFFEL
BOULDER STEP POOLS	BDRSPP
BOULDER STEP POOLS LEGEND	BDRSPPL
BOULDER TOE WITH GEO-LIFTS	BDRTG
BOULDER TOE WITH GEO-LIFTS LEGEND	BDRTGL
BOULDER VANE	BDRVNE
BOULDER VANE LEGEND	BDRVNEL
BOULDER W-WIER	BDRWWR
BOULDER W-WIER LEGEND	BDRWWRL
BRUSH MATTRESS PATTERNING	BSHMTRS
BRUSH MATTRESS PATTERNING LEGEND	BSHMTRSL
CONSTRUCTED ALLUVIAL RIFFLE	CAVLRFF
CONSTRUCTED ALLUVIAL RIFFLE LEGEND	CAVLRFFL
COIR FIBER ROLLS LEGEND	CCTFRLL
COIR FIBER EROSION CONTROL BLANKET	CFECB
COIR FIBER EROSION CONTROL BLANKET LEGEND	CFECBL
CLAY CHANNEL PLUG	CYCHLPG
CLAY CHANNEL PLUG LEGEND	CYCHLPGL
J-HOOK	JHOOK
J-HOOK LEGEND	JHOOKL
LIVE FASCINE LEGEND	LEFSEL
LIVE SILTATION LEGEND	LESTNL
LOG STEP POOLS	LGSP

NATURAL STREAM DESIGN	CELL NAME
LOG STEP POOLS LEGEND	LGSPPL
LONG STONE TOE LEGEND	LONGSTTL
LOG RIFFLE	LRFF
LOG RIFFLE LEGEND	LRFFL
LOG VANES, ROOT WADS AND BOULDER J-HOOK	LVRWBRJH
LOG VANES, ROOT WADS AND BOULDER J-HOOK LEGEND	LVRWBRJHL
NATURAL STREAM DESIGN LEGEND	NLSMDNL
WOOD TOE WITH GEO-LIFTS	WDTG
WOOD TOE WITH GEO-LIFTS LEGEND	WDTGL
PERMIT & FORMS	CELL NAME
GENERAL LOCATION MAP LANDSCAPE	GNLOCL
GENERAL LOCATION MAP PORTRAIT	GNLOCP
VICINITY MAP LANDSCAPE	NOIL
VICINITY MAP PORTRAIT	NOIP
BLANK PAGE BACK	PAGEB
BLANK PAGE FRONT	PAGEF
PERMIT LOCATION MAP LANDSCAPE	PMLOCL
PERMIT LOCATION MAP PORTRAIT	PMLOCP
PERMIT SKETCH	PMSK
PERMIT SKETCH WITH GRID	PMSKGR
PROPOSED CENTERLINE	CELL NAME
CENTERLINE LABEL	CL
FUNCTIONAL MATCHLINE LT	FUNMLL
FUNCTIONAL MATCHLINE RT	FUNMLR
MATCH LINE LEFT	MLL
MATCH LINE RIGHT	MLR
NORTH ARROW	NARR
PT OF CURVE OR TANGENCY	PCPT

PROPOSED CENTERLINE	CELL NAME
PT OF INTERSECTION	PI
SIMPLE CURVE DATA	SECUDA
SIMPLE DEFLECTION DATA	SEDEDA
SIMPLE PI DATA	SEPIDA
SPIRAL CURVE DATA	SLCUDA
PROPOSED CROSS SECTIONS	CELL NAME
XS GR SINGLE LT	GRLT
XS GR MEDIAN LT	GRMLT
XS GR MEDIAN RT	GRMRT
XS GR SINGLE RT	GRRT
GEOPAK XS GRID	XSGRID
PROPOSED DRAINAGE	CELL NAME
BOX BRDG CULV DETAIL	BCLDET
BOX BR CULV ELEV BLOCK	BXBCBL
PIPE CULVERT XS DRAINAGE DATA EXCEL	DRCLV1
BOX CULVERT or BR XS DRAINAGE DATA EXCEL	DRCLV2
PIPE CULVERT PROFILE DATA QUANTITY EXCEL	DRPRO
PIPE CULVERT PROFILE DATA NO QUANTITY EXCEL	DRPROPIPE
DEWATERING STRUCTURE LEGEND	DWSL
ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH)	ERCDDT
ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH) LEGEND	ERCDDL
ENHANCED ROCK CHECK DAM (V-DITCH)	ERCDDV
ENHANCED ROCK CHECK DAM (V-DITCH) LEGEND	ERCDDVL
DRAINAGE FLOW LINE SYMBOL	FL
INLET ELEVATION	INELV
OUTLET ELEVATION	OUTELV
Cells for Geopak drainage nodes in plan view	
<i>Origin at parapet face</i>	

PROPOSED DRAINAGE	CELL NAME
PR BR DRAIN 9INX2FT	BD9X2
PR BR DRAIN PARAPET	BDPRPT
<i>Origin at edge of roadway approach</i>	
PR BR END DRAIN 2FTX8FT	BD2X8
PR BR END DRAIN 4FTX8FT	BD4X8
<i>Origin at curb face, cell centered on gutter</i>	
PR GUTTER CB 10 FT DIAMETER	CB10DIA
PR GUTTER CB10 32INX26IN	CB32X26S
PR GUTTER CB 32INX32IN	CB32X32
PR GUTTER CB 4 FT DIAMETER	CB4DIA
PR GUTTER CB10 4 FT DIAMETER	CB4DIAS
PR GUTTER CB 4X3	CB4X3
PR GUTTER CB10 4X3	CB4X3S
PR GUTTER CB 4X4	CB4X4
PR GUTTER CB10 4X4	CB4X4S
PR GUTTER CB 5 FT DIAMETER	CB5DIA
PR GUTTER CB 62INX62IN	CB62X62
PR GUTTER CB 6 FT DIAMETER	CB6DIA
PR GUTTER CB 7 FT DIAMETER	CB7DIA
PR GUTTER CB 7X7	CB7X7
PR GUTTER CB 8 FT DIAMETER	CB8DIA
PR GUTTER CB 8X3	CB8X3
PR GUTTER CB 8X4	CB8X4
PR GUTTER CB 8X62IN	CB8X62
PR GUTTER CB 9 FT DIAMETER	CB9DIA
PR GUTTER CB 9X9	CB9X9
<i>Origin at center of median ditch, cell centered on median ditch</i>	
PR MEDIAN CB 32INX32IN	CB32X32M
PR MEDIAN CB 4X4	CB4X4M
PR MEDIAN CB 5 FT DIAMETER	CB5DIAM

PROPOSED DRAINAGE	CELL NAME
PR MEDIAN CB 62INX62IN	CB62X62M
PR MEDIAN CB 6 FT DIAMETER	CB6DIAM
PR MEDIAN CB 7 FT DIAMETER	CB7DIAM
PR MEDIAN CB 7X7	CB7X7M
PR MEDIAN CB 8 FT DIAMETER	CB8DIAM
PR MEDIAN CB 8X4	CB8X4M
PR MEDIAN CB 9X9	CB9X9M
<i>Origin at face of median barrier, cell beside median barrier</i>	
PR BARRIER CB 32INX32IN	CB32X32B
PR BARRIER CB 4X3	CB4X3B
PR BARRIER CB 4X4	CB4X4B
PR BARRIER CB 5 FT DIAMETER	CB5DIAB
PR BARRIER CB 62INX62IN	CB62X62B
PR BARRIER CB 6 FT DIAMETER	CB6DIAB
PR BARRIER CB 7 FT DIAMETER	CB7DIAB
PR BARRIER CB 7X7	CB7X7B
PR BARRIER CB 8 FT DIAMETER	CB8DIAB
PR BARRIER CB 8X4	CB8X4B
PR BARRIER CB 9X9	CB9X9B
<i>Origin at center of median barrier, centered on median barrier</i>	
PR BARRIER CB 7 FT DIAMETER CENTERED	CB7DIAC
PR BARRIER CB 7X7 CENTERED	CB7X7C
PR BARRIER CB 9X9 CENTERED	CB9X9C
PR BARRIER CB 32X80 CENTERED	CB32X80C
<i>Origin at face of retaining wall, cell beside retaining wall</i>	
PR RETAINING WALL CB 7X7	CB7X7R
PR RETAINING WALL CB 9X9	CB9X9R
PR RETAINING WALL CB 62INX62IN	CB62X62R
<i>Origin at center of structure, cell centered</i>	
PR DROP INLET 4X4	DI4X4

PROPOSED DRAINAGE	CELL NAME
PR DROP INLET 5 FT DIAMETER	DI5DIA
PR DROP INLET 6 FT DIAMETER	DI6DIA
PR DROP INLET 7 FT DIAMETER	DI7DIA
PR DROP INLET 7X7	DI7X7
PR DROP INLET 8 FT DIAMETER	DI8DIA
PR DROP INLET 8X4	DI8X4
PR DROP INLET 8X62 IN	DI8X62
PR DROP INLET 9X9	DI9X9
PR DROP INLET 32INX32IN	DI32X32
PR DROP INLET 62INX62IN	DI62X62
PR JUNCTION BOX 4 FT DIAMETER	JB4DIA
PR JUNCTION BOX 5 FT DIAMETER	JB5DIA
PR JUNCTION BOX 6 FT DIAMETER	JB6DIA
PR JUNCTION BOX 7 FT DIAMETER	JB7DIA
PR JUNCTION BOX 8 FT DIAMETER	JB8DIA
PR JUNCTION BOX 9 FT DIAMETER	JB9DIA
PR JUNCTION BOX 10 FT DIAMETER	JB10DIA
PR JUNCTION BOX 4X4	JB4X4
PR JUNCTION BOX 7X7	JB7X7
PR JUNCTION BOX 9X9	JB9X9
PR JUNCTION BOX 32INX32IN	JB32X32
PR JUNCTION BOX 62INX62IN	JB62X62
PR DRAINAGE MANHOLE 5 FT DIAMETER	MH5DIA
PR DRAINAGE MANHOLE 6 FT DIAMETER	MH6DIA
PR DRAINAGE MANHOLE 7 FT DIAMETER	MH7DIA
PR DRAINAGE MANHOLE 8 FT DIAMETER	MH8DIA
PR DRAINAGE MANHOLE 9 FT DIAMETER	MH9DIA
PR DRAINAGE MANHOLE 10 FT DIAMETER	MH10DIA
PR DRAINAGE MANHOLE 7X7	MH7X7
PR DRAINAGE MANHOLE 9X9	MH9X9

PROPOSED DRAINAGE	CELL NAME
PR DRAINAGE MANHOLE 62INX62IN	MH62X62
<i>Origin at pipe connection point</i>	
OUTLET HEADWALL NODE	EW
STUB JUNCTION NODE	STUB
BRIDGE PARAPET LEFT	BRPRPL
BRIDGE PARAPET RIGHT	BRPRPR
CATCHBASIN LABEL 1	CBLB1
CATCHBASIN LABEL 2	CBLB2
CATCHBASIN LABEL 3	CBLB3
PR CENTER CATCH BASIN NO SIZE	CTBC
PR GUTTER CATCH BASIN NO SIZE	CTBG
DRAINAGE ARROWHEAD	DARR1
PROP MANHOLE DRAINAGE	DMAN
BLANK DRAIN CODE LABEL	DRBLNK
STORM DRAIN CODE LABEL	DRCODE
ENDWALL CODE LABEL	EWCODE
ENDWALL LABEL	EWLB
JUNCTION BOX CODE LABEL	JBCODE
JUNCTION BOX LABEL	JBLB
MED BARRIER GLARE SCREEN	MDBRGS
MEDIAN BARRIER SHORT	MDBRS
MEDIAN BARRIER	MEDBAR
MANHOLE CODE LABEL	MHCODE
MANHOLE LABEL DRAIN	MHLBD2
ROCK CHECK DAM (TRAPEZOIDAL DITCH)	RCDT
ROCK CHECK DAM (TRAPEZOIDAL DITCH) LEGEND	RCDTL
ROCK CHECK DAM (V- DITCH)	RCDV
ROCK CHECK DAM (V- DITCH) LEGEND	RCDVL
PR 12 IN 20 FT SLOT DRAIN	SLOT12
PR 15 IN 20 FT SLOT DRAIN	SLOT15

PROPOSED DRAINAGE	CELL NAME
PR 18 IN 20 FT SLOT DRAIN	SLOT18
PR 24 IN 20 FT SLOT DRAIN	SLOT24
PR 30 IN 20 FT SLOT DRAIN	SLOT30
PR 36 IN 20 FT SLOT DRAIN	SLOT36
SP FB DITCH LT DEP SHD	SPFDL
SP FB DITCH LT DEP LIN	SPFDL2
SP FB DITCH RT DEP SHD	SPFDR
SP FB DITCH RT DEP LIN	SPFDR2
SP V DITCH LT	SPVDL
SP V DITCH RT	SPVDR
SINGLE SLOPE BRIDGE PARAPET WALL - LEFT	SSBRPRPL
SINGLE SLOPE BRIDGE PARAPET WALL - RIGHT	SSBRPRPR
SINGLE SLOPE MEDIAN BARRIER 32 INCH	SSMEDBAR32
SINGLE SLOPE MEDIAN BARRIER 51 INCH	SSMEDBAR51

PROPOSED EROSION CONTROL	CELL NAME
CATCH BASIN PROTECTION (TYPE A)	CBPTYPEA
CATCH BASIN PROTECTION (TYPE A) LEGEND	CBPTYPEAL
CATCH BASIN PROTECTION (TYPE B)	CBPTYPEB
CATCH BASIN PROTECTION (TYPE B) LEGEND	CBPTYPEBL
CATCH BASIN PROTECTION (TYPE C)	CBPTYPEC
CATCH BASIN PROTECTION (TYPE C) LEGEND	CBPTYPECL
CATCH BASIN PROTECTION (TYPE D)	CBPTYPED
CATCH BASIN PROTECTION (TYPE D) LEGEND	CBPTYPEDL
CATCH BASIN PROTECTION (TYPE E)	CBPTYPEE
CATCH BASIN PROTECTION (TYPE E) LEGEND	CBPTYPEEL
CATCH BASIN FILTER ASSEMBLY (TYPE 1)	CBTY1FA
CATCH BASIN FILTER ASSEMBLY (TYPE 1) LEGEND	CBTY1FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 2)	CBTY2FA
CATCH BASIN FILTER ASSEMBLY (TYPE 2) LEGEND	CBTY2FAL

PROPOSED EROSION CONTROL	CELL NAME
CATCH BASIN FILTER ASSEMBLY (TYPE 3)	CBTY3FA
CATCH BASIN FILTER ASSEMBLY (TYPE 3) LEGEND	CBTY3FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 4)	CBTY4FA
CATCH BASIN FILTER ASSEMBLY (TYPE 4) LEGEND	CBTY4FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 5)	CBTY5FA
CATCH BASIN FILTER ASSEMBLY (TYPE 5) LEGEND	CBTY5FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 6)	CBTY6FA
CATCH BASIN FILTER ASSEMBLY (TYPE 6) LEGEND	CBTY6FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 7)	CBTY7FA
CATCH BASIN FILTER ASSEMBLY (TYPE 7) LEGEND	CBTY7FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 8)	CBTY8FA
CATCH BASIN FILTER ASSEMBLY (TYPE 8) LEGEND	CBTY8FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 9)	CBTY9FA
CATCH BASIN FILTER ASSEMBLY (TYPE 9) LEGEND	CBTY9FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 10)	CBTY10FA
CATCH BASIN FILTER ASSEMBLY (TYPE 10) LEGEND	CBTY10FAL
CATCH BASIN FILTER ASSEMBLY (TYPE 11)	CBTY11FA
CATCH BASIN FILTER ASSEMBLY (TYPE 11) LEGEND	CBTY11FAL
GABION EROSION CHECK DAM	CDG
GABION EROSION CHECK DAM LEGEND	CDGL
CURB INLET - CELLS AND LEGENDS	
CURB INLET PROTECTION (TYPE 1)	CIPTY1
CURB INLET PROTECTION (TYPE 1) LEGEND	CIPTY1L
CURB INLET PROTECTION (TYPE 2)	CIPTY2
CURB INLET PROTECTION (TYPE 2) LEGEND	CIPTY2L
CURB INLET PROTECTION (TYPE 3)	CIPTY3
CURB INLET PROTECTION (TYPE 3) LEGEND	CIPTY3L
CURB INLET PROTECTION (TYPE 4)	CIPTY4
CURB INLET PROTECTION (TYPE 4) LEGEND	CIPTY4L
COMPOST FILTER BERM LEGEND	COMPOSTFBL

PROPOSED EROSION CONTROL	CELL NAME
CULVERT PROTECTION - CELLS AND LEGENDS	
CULVERT PROTECTION (TYPE 1)	CPTYPE1
CULVERT PROTECTION (TYPE 1) LEGEND	CPTYPE1L
CULVERT PROTECTION (TYPE 2)	CPTYPE2
CULVERT PROTECTION (TYPE 2) LEGEND	CPTYPE2L
EROSION CONTROL RIPRAP SYMBOL	DMPR
ER CTRL RIPRAP LEGEND	DMPRL
EROSION CONTROL BLANKET LEGEND	ECBLANKETL
SLOPE SURFACE ROUGHENING LEGEND	ECROUGHENL
ENHANCED ROCK CHECK DAM (CHANNEL)	ERCDCH
ENHANCED ROCK CHECK DAM (CHANNEL) LEGEND	ERCDCHL
EROSION LEGEND HEADER	EROLEG
ENHANCED SILT FENCE CHECK (TRAPEZOIDAL DITCH)	ESFCT
ENHANCED SILT FENCE CHECK (TRAPEZOIDAL DITCH) LEGEND	ESFCTL
ENHANCED SILT FENCE CHECK (V-DITCH)	ESFCV
ENHANCED SILT FENCE CHECK (V-DITCH) LEGEND	ESFCVL
FILTER SOCK - CELLS AND LEGENDS	
8 IN FILTER SOCK	FS8
12 IN FILTER SOCK	FS12
18 IN FILTER SOCK	FS18
24 IN FILTER SOCK	FS24
8 IN FILTER SOCK LEGEND	FSL8
12 IN FILTER SOCK LEGEND	FSL12
18 IN FILTER SOCK LEGEND	FSL18
24 IN FILTER SOCK LEGEND	FSL24
FLOATING TURBIDITY CURTAIN LEGEND	FTCURTAINL
INSTREAM DIVERSION LEGEND	INSTRDIVL
LEVEL SPREADER DUAL DIRECTION	LEVELSPD
LEVEL SPREADER DUAL DIRECTION LEGEND	LEVELSPDL
LEVEL SPREADER SINGLE DIRECTION	LEVELSPS

PROPOSED EROSION CONTROL	CELL NAME
LEVEL SPREADER SIGNLE DIRECTION LEGEND	LEVELSPSL
MULCH FILTER BERM LEGEND	MULCHFBL
PERMANENT SLOPE DRAIN INLET	PERMSDI
PERMANENT SLOPE DRAIN OUTLET PAD	PERMSDO
PERM RIPRAP ENERGY DISSIPATOR	PRRED
PERM RIPRAP ENERGY DISSIPATOR LEG	PRREDL
PERM SLOPE DRAIN PIPE (SHOW SIZE) LEGEND	PSDRAINL
ROCK AND EARTH SEDIMENT EMBANKMENT	RESE
ROCK AND EARTH SEDIMENT EMBANKMENT LEGEND	RESEL
ROCK SEDIMENT DAM	RSD
ROCK SEDIMENT DAM LEGEND	RSDL
SAND BAG BERM HORIZ LEGEND	SANDHL
SAND BAG BERM VERT LEGEND	SANDVL
SEDIMENT BASIN	SB
SEDIMENT BASIN LEGEND	SBL
SEDIMENT TUBE LEGENDS	
8 IN SEDIMENT TUBE LEGEND	SEDTUBEL8
12 IN SEDIMENT TUBE LEGEND	SEDTUBEL12
18 IN SEDIMENT TUBE LEGEND	SEDTUBEL18
20 IN SEDIMENT TUBE LEGEND	SEDTUBEL20
24 IN SEDIMENT TUBE LEGEND	SEDTUBEL24
SEDIMENT FILTER BAG 15 FT X 10 FT	SFB15X10
SEDIMENT FILTER BAG 15 FT X 15 FT	SFB15X15
SEDIMENT FILTER BAG LEGEND	SFBL
SILT FENCE WITH WIRE BACKING LEGEND	SILTBL
ENHANCED SILT FENCE LEG	SILTEL
TEMP SILT FENCE LEGEND	SILTFL
SUSPENDED PIPE DIVERSON	SPDIV
SUSPENDED PIPE DIVERSON LEGEND	SPDIVL
SEDIMENT TRAP WITH ENHANCED ROCK CHECK DAM	STERCD

PROPOSED EROSION CONTROL	CELL NAME
SEDIMENT TRAP WITH ENHANCED ROCK CHECK DAM LEGEND	STERCDL
SEDIMENT TRAP WITH GABION CHECK DAM	STGCD
SEDIMENT TRAP WITH GABION CHECK DAM LEGEND	STGCDL
TEMPORARY CULVERT CROSS	TCC
TEMPORARY CULVERT CROSS LEGEND	TCCL
TEMPORARY CONSTRUCTION EXIT	TCE
TEMPORARY CONSTRUCTION EXIT	TCEL
TEMPORARY CONSTRUCTION FORD	TCF
TEMPORARY CONSTRUCTION FORD LEGEND	TCFL
TEMPORARY DIVERSION CULVERT LEGEND	TDIVCULVERTL
TEMPORARY BERM LEGEND	TPBL
TEMPORARY DIVERSION CHANNEL LEGEND	TPDCL
TEMP SLOPE DRAIN INLET	TPSDI
TEMP SLOPE DRAIN LEGEND	TPSDL
TEMP SLOPE DRAIN WITH TEMPORARY BERM LEGEND	TPSDTBL
PROPOSED TREE	TREEPROPOSED
TURF REINFORCEMENT MAT LEGEND	TURFRML
PROPOSED LIGHTNING	CELL NAME
PR HI MAST LUMIN FULL	HMPLF
PR HI MAST LUMIN HALF	HMPLH
LIGHTING CONTRL CENTER	LCC
PR LIGHT POLE 1 LIGHT	LPOL
PR LIGHT POLE 2 LIGHTS	LPOL2
PR LIGHT POLE 3 LIGHTS	LPOL3
PR LIGHT POLE 4 LIGHTS	LPOL4
PR OFFSET LUMINAIRE	OFTLP
PR OFFSET LUMINAIRE DUAL ARM	OFTLPD
PROP TYPE A PULL BOX LIGHTING	PLBAL
PROP TYPE B PULL BOX LIGHTING	PLBBL

PROPOSED LIGHTNING	CELL NAME
PROP TYPE C PULL BOX LIGHTING	PLBCL
PROP WALL MOUNTED UNDERPASS LIGHT	WMUL
PROPOSED R.O.W.	CELL NAME
PROP ROW MARKER A	PROWA
PROP ROW MARKER B	PROWB
PROP ROW MARKER C	PROWC
PROPOSED TRAFFIC CONTROL - PERMENANT	CELL NAME
PR EMERGENCY VEHICLE PREEMPT DETECTOR	EVPD
FIBER OPTIC AERIAL STORAGE LOOP	FOASLOOP
FIBER OPTIC AERIAL SPLICE	FOASPLICE
PROP GUY DEV ANGLE ANC	GDA
PR GUY POLE SIGNAL SUPPORT	GDPSS
PROP GUY DEV VERT ANCH	GDVA
PROP LOOP DETECTOR DOUBLE 50'	LDD
PROP LOOP DETECTOR QUADRAPOLE	LDQUAD
PROP LOOP DETECTOR SINGLE 50'	LDS
PROP LOOP DETECTOR SINGLE 20'	LDS20
PROP LOOP DETECTOR SQUARE SERIES	LDSQSE
PROP DOUBLE LOOP DETECTOR VOLUME DENSITY	LDVD
PROP SINGLE LOOP DETECTOR VOLUME DENSITY	LDVDS
PROP MAST ARM FOR SIGNALS	MAST
PR PAD MOUNT CONTROLR	PDMC
PROP PEDESTRIAN SIGNAL HEAD SYMBOL	PDSHN
PROP TYPE A PULL BOX SIGNALS	PLBA
PROP TYPE B PULL BOX SIGNALS	PLBB
PROP TYPE A PULL BOX FIBER OPTIC SIGNALS	PLBFOA
PROP TYPE B PULL BOX FIBER OPTIC SIGNALS	PLBFOB
PR POLE MOUNT CONTROLR	PLMC

PROPOSED TRAFFIC CONTROL - PERMENANT	CELL NAME
PR PED PUSHBUTTON	PPH
PEDESTRIAN POLE FOR PUSH BUTTON	PPPB
PR RR XING FLASHER	RRFS
PR RR XING FLASH W GATE	RRFSG
PROP SIGNAL HEAD SYMBOL	SHN
PROP SIGNAL HEAD SYMBOL WITH BACKPLATE	SHNB
STRAIN POLE SIGNAL SUPPORT	SPSS
VIDEO DETECTION AREA 20 FT	VDA20
VIDEO DETECTION AREA 25 FT	VDA25
VIDEO DETECTION AREA 45FT	VDA45
VIDEO DETECTION AREA 50FT	VDA50
VIDEO DETECTION AREA DOUBLE VOLUME DENSITY	VDADVD
VIDEO DETECTION AREA SINGLE VOLUME DENSITY	VDASVD
PROP VIDEO DETECTION CAMERA	VDCAM
WOOD POLE SIGNAL SUPPORT	WPSS
Traffic Signal Heads	
SIGNAL HEAD 123A2V	123A2V
SIGNAL HEAD 130	130
SIGNAL HEAD 130A2 LT	130A2L
SIGNAL HEAD 130A2 RT	130A2R
SIGNAL HEAD 130A3F	130A3F
SIGNAL HEAD 130A3 LT	130A3L
SIGNAL HEAD 130A3 RT	130A3R
SIGNAL HEAD 130A3U	130A3U
SIGNAL HEAD 130A3V	130A3V
SIGNAL HEAD 140A1 LT	140A1L
SIGNAL HEAD 140A1 RT	140A1R
SIGNAL HEAD 140A4F	140A4F
SIGNAL HEAD 150A2 LT	150A2L
SIGNAL HEAD 150A2 RT	150A2R

PROPOSED TRAFFIC CONTROL - PERMENANT	CELL NAME
SIGNAL HEAD 150A2V	150A2V
SIGNAL HEAD 150A4H	150A4H
FLASH BEACN SIG HD RED	FBHR
FLASH BEACN SIG HD YEL	FBHY
PEDESTRIAN SIG HD WORD	PED
PEDESTRIAN SIGNAL HD LED	PEDLED
PEDESTRIAN SIGNAL HD COUTDOWN LED	PEDLEDC
PEDESTRIAN SIG HD SYMBL	PEDSYM
PR 2 SIDED SIGN SYMBOL	P2SIGN
PROP SIGN SYMBOL	PSIGN
PR 2 POST SIGN SYMBOL	PSIGN2
LANE LINE MARKER CTR	PVMRKC
LANE LINE MARKER LT	PVMRKL
LANE LINE MARKER RT	PVMRKR
Pavement Arrows	
PVMT ARROWS LT TURN LANE	PVA2L
PVMT ARROW LT	PVAL
PVMT ARROW RT	PVAR
PVMT ARROW LT & RT	PVALR
PVMT ARROW EXIT RT	PVARI
PVMT ARROW STRAIGHT	PVAS
PVMT ARROW STRAIGHT LT & RT	PVASB
PVMT ARROW EXIT STRAIGHT	PVASI
PVMT ARROW STRAIGHT & LT	PVASL
PVMT ARROW STRAIGHT & RT	PVASR
PV ARROW EXIT STRAIGHT & RT	PVASRI
PVMT ARROW EXIT WRONG WAY	PVAWWI
PVMT ARROW FISH HOOK LEFT	PVFHAL
PVMT ARROW FISH HOOK LEFT STRAIGHT	PVFHALS
PVMT ARROW FISH HOOK RIGHT LEFT	PVFHARL

PROPOSED TRAFFIC CONTROL - PERMENANT	CELL NAME
PVMT ARROW FISH HOOK RIGHT STRAIGHT	PVFHARS
PVMT ARROW FISH HOOK RIGHT STRAIGHT LEFT	PVFHARSL
PVMT ARROW LANE REDUCTION	PVALRED
PVMT MKING BIKE LANE SYMBOL WITH ARROW	PVBLANESYM
PVMT MKING BIKE SYMB ARROW SHARED LANE	PVBSHARE
PVMT MKING BIKE CROSSING	PVBXING
PVMT MKING STOP AHEAD SHARED USE	PVSASU
PVMT MK BIKE LN ARROW	PVBARW
PVMT MKING BIKE RIDER	PVBRDR
PVMT MKING BIKE SYMB	PVBSYM
PVMT MKING BIKE LANE	PVBWRD
PV MKING HOV DIAMOND	PVDMD
PVMT MKING HANDICAP PARKING	PVHCAP
PVMT MKING ONLY	PVONLY
PVMT MKING RR XING	PVRR
PVMT MKING STOP AHD	PVSA
PVMT MKNG SIGNAL AHD	PVSIGA
PVMT MKNG YIELD	PVYIELD
OVERHEAD SIGN	OHSIGN
TRAF FLOW SEMIDIRECT INTERCHANGE	TMINTSD
TRAF FLOW SEMIDIRECT INTERCHANGE LT	TMINTSDL
TRAF FLOW SEMIDIRECT INTERCHANGE RT	TMINTSDR
TRAF FLOW SEMIDIRECT T INTERCHANGE LT	TMINTSDTL
TRAF FLOW SEMIDIRECT T INTERCHANGE RT	TMINTSDTR
WORK ZONE SIGNIFICANCE DETERMINATION	TMP
PROPOSED TRAFFIC CONTROL - TEMPORARY	CELL NAME
TYPE 1 BARRICADE DET L	1BARDL
TYPE 1 BARRICADE DET R	1BARDR
TYPE 2 BARRICADE	2BAR

PROPOSED TRAFFIC CONTROL - TEMPORARY	CELL NAME
TYPE 2 BARRICADE DETOUR LT	2BARDL
TYPE 2 BARRICADE DETOUR RT	2BARDR
TYPE 2 BARRICADE LEGEND	2BARL
TYPE 3 BARRICADE	3BAR
TYPE 3 BARRICADE ROAD CLOSED	3BARDC
TYPE 3 BARRICADE DETOUR LT	3BARDL
TYPE 3 BARRICADE DETOUR RT	3BARDR
TYPE 3 BARRICADE LEGEND	3BARL
PLASTIC BARREL TYPICAL SECTION	BARLTS
PLASTIC BARREL	BARREL
PLASTIC BARREL LEGEND	BARRLL
PLASTIC BARREL LT	BARRLT
PLASTIC BARREL RT	BARRRT
FLASHING ARROW BOARD	FLAB
FLASHING SINGLE ARROW	FLABA
FLASHING SINGLE LEGEND	FLABAL
FLASHING DOUBLE ARROW	FLABB
FLASHING DOUBLE LEGEND	FLABBL
FLASHING CAUTION ARROW	FLABC
FLASHING CAUTION LEGEND	FLABCL
FLASHNG AROW BORD LEGEND	FLABL
SUPPLEMENTAL FLAGS	FLAGS
SUPPLEMENTAL FLAGS LEGEND	FLAGSL
FLAGGER SYMBOL	FLGR
FLAGGER SYMBOL LEGEND	FLGRL
TYPE A LIGHT	LTA
TYPE A LIGHT LEGEND	LTAL
TYPE B LIGHT	LTB
TYPE B LIGHT LEGEND	LTBL
TYPE C LIGHT	LTC

PROPOSED TRAFFIC CONTROL - TEMPORARY	CELL NAME
TYPE C LIGHT LEGEND	LTCL
CHGABL MESSAGE SIGN LEGEND	MESGSL
CHANGEABLE MESSAGE	MESSG
CHANGEABLE MESSAGE LEGEND	MESSGL
CHAMGEABLE MESSAGE SIGN	MESSGS
PORTABLE BARRIER	PBAR
PORTABLE BARRIER LEGEND	PBARL
PORT BARRIER DBL VERT PANEL LEGEND	PBRVDL
PORT BARRIER SNGL VERT PANEL LEGEND	PBRVSL
REMOVE PMVT STRIPING LEG	RPSTL
TEMP 2 SIDED SIGN	T2SIGN
TEMP 2 SIDED SIGN LEG	T2SINL
VERTICAL PANEL 2 FACES	T2VP
VERTICAL PANEL 2 FACES LEGEND	T2VPL
ARROW TRAFFIC FLOW LEGEND	TARROL
ARROW TRAFFIC FLOW	TARROW
TEMP ATTENUATOR	TATTN
TEMP ATTENUATOR LEGEND	TATTNL
TEMP BARRIER WALL DELINEATOR	TBWD
TEMP BARRIER WALL DELINEATOR LEGEND	TBWDL
TEMP FLEXIBLE DELINEATOR GROUND MOUNTED	TFDGM
TEMP FLEXIBLE DELINEATOR GROUND MOUNTED LEGEND	TFDGML
TEMP HIGH VISIBILITY CONSTRUCTION FENCE LEGEND	THVFENCEL
TRAFFIC CONTROL LEGEND	TRFLEG
TEMP SIGN	TSIGN
TEMP 2 POST SIGN	TSIGN2
TEMP SIGN LEGEND	TSIGNL
TEMP 2 POST SIGN LEGEND	TSIN2L
VERTICAL PANEL 1 FACE	TVP
VERTICAL PANEL 1 FACE LEGEND	TVPL

PROPOSED TRAFFIC CONTROL - TEMPORARY	CELL NAME
WORK ZONE LEGEND	WZL
PROPOSED TRANSPORTATION FEATURES	CELL NAME
GR POST 50 SCALE	5GPST
PR TYPE 12 GR END LT	TY12LT
PR TYPE 12 GR END RT	TY12RT
PR TYPE 13 GR END LT	TY13LT
PR TYPE 13 GR END RT	TY13RT
PR TYPE 21 GR END LT	TY21LT
PR TYPE 21 GR END RT	TY21RT
PR TYPE 38 GR END	TY38
PR TYPE INLINE GR TERM	TYINLN
Traffic Flow Diagrams	
TRAF FLOW DIA ONE WAY LT INT W/RAMPS	TFD6RAMPS
TRAF FLOW DIA + INT	TFD1
TRAF FLOW DIA T INT	TFD2
TRAF FLOW DIA INVT INT	TFD3
TRAF FLOW DIA RTT INT	TFD4
TRAF FLOW DIA LTT INT	TFD5
TRAF FLOW DIA ONE WAY LT INT	TFD6
TRAF FLOW DIA ONE WAY RT INT	TFD7
TRAF FLOW DIA INTERCHG	TMINT
TRAF FLOW DIA W BRIDGE OVERPASS	TMWBO
TRAF FLOW DIA W BRIDGE UNDERPASS	TMWBU
PROPOSED UTILITIES	CELL NAME
PR CABLE TV PEDESTAL	CAPED
PROP FIREPLUG	FPLG
PROP GUY DEVICE POLE	GDP
PROP GAS METER	GM

PROPOSED UTILITIES	CELL NAME
PROP MANHOLE GAS	GMAN
PROP GAS VALVE	GV
PR LIGHT POLE WITH POWER	LWPP
PR LIGHT POLE WITH TELEPHONE	LWTP
PROP MANHOLE SEWER	MANH
MANHOLE LABEL SEWER	MHLBS
PROP MANHOLE ELECTRIC	PMAN
PR POWER POLE	PWRP
PR SANITARY SEWER METER	SM
PR SANITARY SEWER VALVE	SV
PROP PHONE BOOTH	TBTH
PR TELEPHONE POLE	TELP
PROP TELEGRAPH POLE	TGP
PROP MANHOLE PHONE CATV	TMAN
PROP PHONE PEDESTAL	TPED
PROPOSED TRANSMISSION TOWER	TRANSP
PROP WATER METER	WM
PROP MANHOLE WATER	WMAN
PROP WATER VALVE	WV
PUBLIC HEARING	CELL NAME
TDOT LOGO	TL
TDOT LOGO 2	TL2
PUBLIC HEARING COMMENT CARD BOX LID	TLCOMM
PUBLIC HEARING COURT REPORTER SIGN	TLCOUT
PUBLIC HEARING NAME TAG	TLNAME
PUBLIC HEARING SIGN IN SIGN	TLSIGN
PUBLIC HEARING COMMENT CARD BOX SIDE	TLTHAN
PUBLIC HEARING WELCOME SIGN	TLWELC

SHEETS	CELL NAME
Sheet Borders	
STD PLAN NO COOR NOTE	BDR2ND
STD PLAN FOR INDEX & NOTES	BDR2NDIN
STD PLAN FOR TAB BLOCKS	BDR2NDTB
STD GEOTECHNICAL SHT	BDRSG
STD PLAN SHT COOR NOTE	BDRSHT
CULVERT CROSS-SECTION SHT	GRDSHT
Profile	MGRID
STD PLAN PROFILE SHT	PROSHT
SIGN SCHEDULE SHEET	SS1
SIGN SCHEDULE SHEET W/U-POST TABLE	SS2
SIGN STRUCTURE SHEET	SSHEET
STD DRAWING SHEET	STDBDR
TITLE SHEET	TITLE
STANDARD CROSS SECTION SHEET	XSTSHT
7 DECIMAL COORD NOTE	NTCO7D
BORDER COORDINATE NOTE	NTCORD
ENGINEERS SEAL BOX FOR SHEETS	SHTSEALBOX
Sheet Title Blocks	
1 BLANK LINE	STB00
1 BLANK LINE SHEET OF	STB00A
(1/2 BLOCK) 1 BLANK LINE (CENTER)	STB00B
(1/2 BLOCK) 1 BLANK LINE (BOTTOM)	STB00C
2 BLANK LINES	STB01
2 BLANK LINES SHEET OF	STB01A
(1/2 BLOCK) 2 BLANK LINES	STB01B
3 BLANK LINES	STB02
3 BLANK LINES SHEET OF	STB02A
(1/2 BLOCK) 3 BLANK LINES	STB02B
4 BLANK LINES	STB03

SHEETS	CELL NAME
4 BLANK LINES SHEET OF	STB03A
DRAINAGE MAP STA SCALE	STB04
DETAIL SHT SHEET OF	STB10
SIGNAL PLANS STA SCALE	STB11
TRAFFIC CONTROL PLAN	STB12
SIGNAL PLAN SCALE	STB13
SIGN SCHEDULE	STB14
UTILITIES STA SCALE	STB16
NATURAL STREAM DESIGN STA SCALE	STB17
ENVIRONMENTAL MITIGATION PLAN	STB18
SIDE ROAD PROFILES H V SCALE	STB19
RAMP PROFILES H V SCALE	STB20
(1/2 BLOCK) EXIST CONTOURS	STB21
(1/2 BLOCK) PROP. CONTOURS	STB22
PROFILE STA H V SCALE	STB23
INTERCHANGE GRADING PLAN	STB24
PROJECT COMMITMENTS	STB25
PROP MAP & ROW ACQ TABLE	STB26
EPSC NOTES	STB27
PRESENT LAYOUT STA SCALE	STB30
R.O.W. DETAILS STA SCALE	STB31
R.O.W. UTIL NOTES & UTIL OWNERS	STB32
PRI DRIVE & FIELD ENT PROFILES	STB33
EST BOX BRIDGE QUAN	STB35
EPSC PLANS	STB36
EPSC LEGEND & TABULATION	STB37
SIGNAL PLAN STA	STB38
PROP LAYOUT STA SCALE	STB41
PR LAY PROF STA H V SCALE	STB42
CULVERT SECTION	STB43

SHEETS	CELL NAME
PROPOSED CONTOURS STA SCALE	STB44
EXISTING CONTOURS STA SCALE	STB45
(1/2 BLOCK) STAGE 1	STB46
(1/2 BLOCK) STAGE 2	STB47
(1/2 BLOCK) STAGE 3	STB48
(1/2 BLOCK) STAGE 4	STB49
TABULATED QUANTITIES	STB50
GEOTECHNICAL PLANS STA SCALE	STB51
TAB QUANTITIES SHEET OF	STB52
SIGN & PAVEMENT MARK PLANS	STB53
DETAILS SHEET	STB54
LIGHTING LAYOUT	STB57
TRAF CONT, PHASE NOTES, LEG & TAB	STB58
GEOTECHNICAL PLANS	STB59
TYPICAL SECTIONS	STB60
TYP SECT PVMT SCHEDULE	STB61
TYPICAL SECTIONS SHT OF	STB64
TYP SECT PVMT SCHED SHT OF	STB66
PAVEMENT SCHEDULE	STB67
PAVE EDGE DROP-OFF NOTES FOR TRAF CONT	STB68
EST QUANTITIES SHEET OF	STB69
EST RDWY QUANTITIES	STB70
EST UTILITIES QUANTITIES	STB71
EST SIGNAL QUANTITIES	STB72
EST LIGHTING QUANTITIES	STB73
EST BRIDGE QUAN BRIDGE INDEX	STB77
MISCELLANEOUS SIGN DETAILS	STB80
GENERAL NOTES	STB81
EST RELOCATION QUANTITIES	STB82
SPECIAL NOTES	STB84

SHEETS	CELL NAME
(1/2 BLOCK) PHASE 1	STB85
(1/2 BLOCK) PHASE 2	STB86
(1/2 BLOCK) PHASE 3	STB87
(1/2 BLOCK) PHASE 4	STB88
(1/2 BLOCK) STATION TO STATION	STB89
INDEX AND STD DRAWINGS	STB90
MASTER STD DWG INDEX	STB93
TRAFFIC AND STRUCTURE DWG	STB94
TRAFFIC OPERATION DWG	STB95
STANDARD STRUCTURE DWG	STB96
(1/2 BLOCK) SCALE	STB97
(1/2 BLOCK) HORIZ & VERT SCALE	STB98
(1/2 BLOCK) NOT TO SCALE	STB99
SIGNATURE SHEETS	STB100
ITS PLANS	STB101
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) INDEX	STB102
RETAINING WALL DETAILS	STB103
RETAINING WALL REQUIREMENTS	STB104
RETAINING WALL LAYOUT	STB105
RETAINING WALL PROFILE AND DETAILS	STB106
RETAINING WALL QUANTITIES	STB107
RETAINING WALL DETAILS SHEET OF	STB108
DESIGN TRAFFIC DATA	BLKDES
DESIGN TRAFFIC DATA2	BLKDES2
DESIGN TRAFFIC DATA3	BLKDES3
Traffic Data Block No 4 - Resurface And Safety	BLKDES4
BEGIN PROJECT NO. ___ CONSTRUCTION	BPRCON
BEGIN PROJECT NO. ___ PRELIMINARY	BPRPRE
BEGIN PROJECT NO. ___ Resurface	BPRRes
BEGIN PROJECT NO. ___ Resurface Safety	BPRResSaf

SHEETS	CELL NAME
BEGIN PROJECT NO. ___ ROW	BPRROW
BEGIN PROJECT NO. ___ (ROW Utilities Only)	BPRRUO
CHAPTER 86	CH86
STD CULVERT CROSSSECTION SHT	CULCS
DELTA SYMBOL	DELTA
Design Exception Block	DEXCEP
BOX TABULATION CULVERT SECTION	DRBST
PIPE CULVERT XS DRAINAGE DATA TEXT	DRCLV1 A
BOX CULVERT or BR XS DRAINAGE DATA TEXT	DRCLV2 A
DRAINAGE DATA FOR DRAINAGE MAP EXCEL	DRCLV3
DRAINAGE DATA FOR DRAINAGE MAP TEXT	DRCLV3 A
PIPE CULVERT PROFILE DATA QUANTITY TEXT	DRPRO A
PIPE CULVERT PROFILE DATA NO QUANTITY TEXT	DRPROPIPE A
END PROJECT NO. ___ CONSTRUCTION	EPRCON
END PROJECT NO. ___ PRELIMINARY	EPRPRE
END PROJECT NO. ___ Resurface	EPRRes
END PROJECT NO. ___ Resurface Safety	EPRResSaf
END PROJECT NO. ___ ROW	EPRROW
END PROJECT NO. ___ (ROW Utilities Only)	EPRRUO
Exclusions Block	EXCBLK
MICRO SYMBOL	MICRO
No Exclusions Block	NOEXCBLK
For P.E. No. & PIN No. 1 at Construction, (DESIGN) No.	PEPINCON1
For P.E. No. & PIN No. 2 at Construction, (DESIGN) No.	PEPINCON2
For P.E. No. & PIN No. at Preliminary, (NEPA) No.	PEPINPRE
For P.E. No. & PIN No. at Resurface	PEPINRes
For P.E. No. & PIN No. at Resurface Safety	PEPINResSaf
For P.E. No. & PIN No. at Right-of-Way, (DESIGN) No.	PEPINROW
For P.E. No. & PIN No. at ROW UTILITIES ONLY, (DESIGN) No.	PEPINRUO
PROJECT OF LIMITED SCOPE	POLS

SHEETS	CELL NAME
BOX CULV. X SECTION	PROCUL
Project Length #1	PROLNC1
Project Length #2	PROLNC2
Project Length ROW	PROLROW
Proposed Contour	PROPCON
Project Lengths w/Lane Mile Resurfaced	PROTLML1
Project Lengths w/Lane Mile Resurfaced/note	PROTLML2
Project Length w/Lane Mile Resurfaced	PROTLMR
Project Length ROW Utility Only 0 Miles	PROTRUO
PROJECT OF LIMITED SCOPE	PTLS
Road To Be Closed During Const.	RCDC
SIGNATURE SHEET CELL	SIGSHTCELL
THETA SYMBOL	THETA
TITLESHT TENNESSEE MAP	TNMAP
Title Sheet Begin Project Construction 1	TSBPRCON1
Title Sheet Begin Project Construction 2	TSBPRCON2
Title Sheet Begin Project Preliminary	TSBPRPRE
Title Sheet Begin Project Resurface	TSBPRRes
Title Sheet Begin Project Resurface Safety	TSBPRResSaf
Title Sheet Begin Project Right-of-Way	TSBPRROW
Title Sheet Begin Project ROW Utilities Only	TSBPRRUO
Project Description & Type of Work (Construction 1)	TSDESCON1
Project Description & Type of Work (Construction 2)	TSDESCON2
Project Description & Type of Work (Preliminary)	TSDESPRE
Project Description & Type of Work (Resurface)	TSDESRes
Project Description & Type of Work (Resurface Safety)	TSDESResSaf
Project Description & Type of Work (Right-of-Way)	TSDESROW
Project Description & Type of Work (ROW UTILITIES ONLY)	TSDESRUO
Title Sheet End Project Construction 1	TSEPRCON1
Title Sheet End Project Construction 2	TSEPRCON2

SHEETS	CELL NAME
Title Sheet End Project Preliminary	TSEPRPRE
Title Sheet End Project Resurface	TSEPRRes
Title Sheet End Project Resurface Safety	TSEPRResSaf
Title Sheet End Project Right-of-Way	TSEPRROW
Title Sheet End Project ROW Utilities Only	TSEPRRUO
TITLE SHEET Identification Block CONSULTANT	TSIDFCON
TITLE SHEET Identification Block TDOT	TSIDFTDOT
Title Sheet Signatures	
SIGNATURE CLAY BRIGHT	SIGCB
SIGNATURE PAUL D DEGGES	SIGPDD
Plan Phase Sheet Stamps	
FINAL CONSTRUCTION PLANS REVIEW	FCONSTRPR
INITIAL STUDIES REQUEST	INISREQ
INFO ONLY	INONLY
CONSTRUCTABILITY REVIEW	SPCFRP
CONSTRUCTION FIELD REVIEW	SPCONSTFRP
CAUTION - PRELIMINARY PLANS SUBJECT TO CHANGE	SPCPP
FOR INCIDENTALS ONLY	SPINCO
PRELIMINARY FIELD REVIEW	SPPFR
PRELIMINARY PLANS	SPPP
R.O.W. FIELD REVIEW	SPRFR
R.O.W. FIELD REVIEW (UTILITIES ONLY)	SPRFRUO
R.O.W. PLANS	SPROW
R.O.W. PLANS - PERMIT APPLICATION	SPRPAP
R.O.W. PLANS (UTILITIES ONLY)	SPRPUO
FOR TITLE SEARCH ONLY	SPTITL
UNOFFICIAL SET - NOT FOR BIDDING	SPUOSNFB
SITE REVIEW	STEREV
AERIAL SURVEY TITLE BLK	AESTB
PLOTTER TIME DATE STAMP	DATER

SHEETS	CELL NAME
ROW TO BE ACQUIRED BY LOCAL GOVERNMENT	ROWACQ
SCALE BAR	SBAR
DGN SIGNATURE SHEET	SIGSHT
STANDARD DRAWINGS	CELL NAME
LARGE BREAK LINE	BLLG
SMALL BREAK LINE	BLSML
HEX BOLT HEAD	BOLT
CUT LINE POINTING DOWN	CUTDWN
CUT LINE POINTING UP	CUTUP
NOTE MINOR REVISION	MNRNOT
SYMBOL MINOR REVISION	MNRSYM
HEX NUT W BOLT	NUT
CYLINDER BREAK DOWN	SCDWN
CYLINDER BREAK UP	SCUP
SMALL HEX BOLT HEAD	SMBOLT
SMALL HEX NUT W BOLT	SMNUT
SURVEY CONTROL DATA	CELL NAME
BASELINE LABEL	BL
BENCHMARK	BM
STATE PLANE COORD GRID	CROSS
FULL CONTRL PT	FULLP
HORIZ CONTROL PT	HORPT
HORIZ CONTRL PT AERIAL	HORZAP
PASS POINT	PASSP
PROFILE BENCHMARK	PROBM
EX SPUR TRAVERSE POINT	TRAVSP
VERT CONTRL PT AERIAL	VERTAP
VERTICAL CONTRL PT	VERTP

SURVEY CONTROL DATA	CELL NAME
EX SURVEY CONTROL POINT	XCP
EX SURVEY TRAVERSE POINT	XTR
TYPICAL SECTIONS	CELL NAME
CG SUPER DETAIL SHLD	CGSDS
CG SUPER DETAIL SHLD LN	CGSDSL
CURB AND GUTTER TYP SEC	CGTYP
GUARDRAIL TYP SECTION	GRTYP
MEDIAN BARRIER TYPICAL SECTION MULTIPLE SLOPE	MBTYP
MEDIAN BARRIER TYPICAL SECTION SINGLE SLOPE	MBTYPSS
MOUNT CURB GUTTER TYP SECTION	MCGTYP
PROPOSED PAVEMENT SCHEDULE TITLE BLOCK	PPSTB
PROPOSED PAVEMENT SCHEDULE TITLE BLOCK (HALF)	PPSTBH
PAVEMENT SCHEDULE BLANK 1	PSBLANK1
PAVEMENT SCHEDULE BLANK 2	PSBLANK2
SUPER ROLLOVER NOTE	SRNOTE
UNDERDRAIN TYPICAL SECTION	UDTYP
RD01 Typical Sections	
PRIVATE DRIVE TYPICAL SECTION	PVTT
TYP SEC RDM01TS1A SUP	TS1AS
TYP SEC RDM01S1A TAN	TS1AT
TYP SEC RD01TS1 SUPER	TS1S
TYP SEC RD01TS1 TANGENT	TS1T
TYP SEC RD01TS2A 4 LN SUPER	TS2A4S
TYP SEC RD01TS2A 4 LN TANGENT	TS2A4T
TYP SEC RD01TS2A 6 LN SUPER	TS2A6S
TYP SEC RD01TS2A 6 LN TANGENT	TS2A6T
TYP SEC RD01TS2B 4 LN SUPER	TS2B4S
TYP SEC RD01TS2B 4 LN TANGENT	TS2B4T
TYP SEC RD01TS2B 6 LN SUPER	TS2B6S

TYPICAL SECTIONS	CELL NAME
TYP SEC RD01TS2B 6 LN TANGENT	TS2B6T
TYP SEC RD01TS2 SUPER	TS2S
TYP SEC RD01TS2 TANGENT	TS2T
TYP SEC RD01TS3A 4 LN SUPER	TS3A4S
TYP SEC RD01TS3A 4 LN TANGENT	TS3A4T
TYP SEC RD01TS3A 6 LN SUPER	TS3A6S
TYP SEC RD01TS3A 6 LN TANGENT	TS3A6T
TYP SEC RD01TS3B 4 LN SUPER	TS3B4S
TYP SEC RD01TS3B 4 LN TANGENT	TS3B4T
TYP SEC RD01TS3B 6 LN SUPER	TS3B6S
TYP SEC RD01TS3B 6 LN TANGENT	TS3B6T
TYP SEC RD01TS3C 4 LN SUPER	TS3C4S
TYP SEC RD01TS3C 4 LN TANGENT	TS3C4T
TYP SEC RD01TS3C 6 LN SUPER	TS3C6S
TYP SEC RD01TS3C 6 LN TANGENT	TS3C6T
TYP SEC RD01TS3C MED BARRIER 4 LN SUPER	TS3CMB4US
TYP SEC RD01TS3C MED BARRIER 4 LN TANGENT	TS3CMB4UT
TYP SEC RD01TS2B, 3C AND 6 18FT MED 4 LN SUPER	TS3CRM4S
TYP SEC RD01TS2B, 3C AND 6 18FT MED 4 LN TANGENT	TS3CRM4T
TYP SEC RD01TS3 SUPER	TS3S
TYP SEC RD01TS3 TANGENT	TS3T
TYP SEC RD01TS5A 4 LN SUPER	TS5A4S
TYP SEC RD01TS5A 4 LN TANGENT	TS5A4T
TYP SEC RD01TS5A 6 LN SUPER	TS5A6S
TYP SEC RD01TS5A 6 LN TANGENT	TS5A6T
TYP SEC RD01TS5B 4 LN SUPER	TS5B4S
TYP SEC RD01TS5B 4 LN TANGENT	TS5B4T
TYP SEC RD01TS5B 6 LN SUPER	TS5B6S
TYP SEC RD01TS5B 6 LN TANGENT	TS5B6T
TYP SEC RD04TS5C MILTI LN SUPER	TS5CS

TYPICAL SECTIONS	CELL NAME
TYP SEC RD04TS5C MILTI LN TANGENT	TS5CT
TYP SC RD01TS6A 18FT MED TANGENT	TS6A1T
TYP SC RD01TS6A 3.12TO16FT MED TANGENT	TS6A2T
TYP SC RD01TS6A 0TO4FT MED TANGENT	TS6A3T
TYP SC RD01TS6A NO MED TANGENT	TS6A4T
TYP SEC RD01TS7A SUPER	TS7AS
TYP SEC RD01TS7A TANGENT	TS7AT
TYP SEC RD01TS7 SUPER	TS7S
TYP SEC RD01TS7 TANGENT	TS7T
TYP SEC RDTS9 SINGLE LANE INTERSECTING ROADWAY	TS9IRT
TYP SEC RDTS9 SINGLE LANE ROUNDABOUT	TS9RT
TYP SEC RDTS10 MULTI-LANE INTERSECTING ROADWAY	TS10IRT
TYP SEC RDTS10 MULTI-LANE ROUNDABOUT	TS10RT
TYP SEC RD01TS4 1 LN SUPER	TS41S
TYP SEC RD01TS4 1 LN ALL AT SUPERELEVATION SUPER	TS41SES
TYP SEC RD01TS4 1 LN ALL AT SUPERELEVATION TANGENT	TS41SET
TYP SEC RD01TS4 1 LN TANGENT	TS41T
TYP SEC RD01TS4 1 LN SUPER	TS41US
TYP SEC RD01TS4 1 LN TANGENT	TS41UT
TYP SEC RD01TS4 2 LN SUPER	TS42S
TYP SEC RD01TS4 2 LN TANGENT	TS42T
TYP SEC RD01TS4 2 LN SUPER	TS42US
TYP SEC RD01TS4 2 LN TANGENT	TS42UT
TYP SEC RD01TS5 4 LN SUPER	TS54S
TYP SEC RD01TS5 4 LN TANGENT	TS54T
TYP SEC RD01TS5 6 LN SUPER	TS56S
TYP SEC RD01TS5 6 LN TANGENT	TS56T
TYP SC RD01TS6 36FT MED TANGENT	TS61T
TYP SC RD01TS6 18FT MED TANGENT	TS62T
TYP SC RD01TS6 12TO16FTMED TANGENT	TS63T

TYPICAL SECTIONS	CELL NAME
TYP SC RD01TS6 0TO4FT MED TANGENT	TS64T
TYP SEC RD01TS6 NO MED TANGENT	TS65T

SIGNS.CEL

BLANK SIGNS	CELL NAME
BLANK DIAMOND	BLKDIA
BLANK RECTANGLE - HORIZONTAL	BLKRECH
BLANK RECTANGLE - LONG	BLKRECL
BLANK RECTANGLE - VERTICAL	BLKRECV
BLANK SQUARE	BLKSQR

CONSTRUCTION SIGNS	CELL NAME
DETOUR SIGN	M4-8
END DETOUR SIGN	M4-8a
TEMP END SIGN	M4-8b
PEDESTRIAN DETOUR, LEFT	M4-9bL
PEDESTRIAN DETOUR, RIGHT	M4-9bR
BICYCLE DETOUR, LEFT	M4-9cL
BICYCLE DETOUR, RIGHT	M4-9cR
DETOUR W/ARROW, LEFT	M4-9L
DETOUR W/ARROW, RIGHT	M4-9R
DETOUR ARROW, LEFT	M4-10L
DETOUR ARROW, RIGHT	M4-10R
SPEED ZONE AHEAD	R2-5c
RIGHT LANE SUPPLEMENT	R3-5c
SIDEWALK CLOSED USE OTHER SIDE	R9-10
SIDEWALK CLOSED AHEAD CROSS HERE (left)	R9-11L
SIDEWALK CLOSED AHEAD CROSS HERE (right)	R9-11R
SIDEWALK CLOSED	R9-9

CONSTRUCTION SIGNS	CELL NAME
ROAD CLOSED	R11-2
ROAD CLOSED, XX MILES AHEAD, LOCAL TRAFFIC ONLY	R11-3a
BRIDGE OUT, XX MILES AHEAD, LOCAL TRAFFIC ONLY	R11-3b
CONSTRUCTION LANE ENDS (left)	W4-2LC
CONSTRUCTION LANE ENDS (right)	W4-2RC
NEXT X MILES (construction)	W7-3aPC
FALLEN ROCKS (ORANGE)	W8-14a
GROOVED PAVEMENT (ORANGE)	W8-15a
Motorcycle (ORANGE)	W8-15Pa
METAL BRIDGE DECK (ORANGE)	W8-16a
Shoulder Drop Off (ORANGE)	W8-17a
SHOULDER DROP-OFF (ORANGE)	W8-17Pa
ROAD MAY FLOOD (ORANGE)	W8-18a
GUSTY WINDS AREA (ORANGE)	W8-21a
FOG AREA (ORANGE)	W8-22a
NO SHOULDER (ORANGE)	W8-23a
STEEL PLATE AHEAD (ORANGE)	W8-24a
SHOULDER ENDS (ORANGE)	W8-25a
ADVISORY SPEED PLAQUE (construction)	W13-1PC
DISTANCE AHEAD PLAQUE, FEET (2 LINES) (construction)	W16-2PC
<ROAD> WORK AHEAD	W20-1
<ROAD> WORK XXX FT	W20-1F
<ROAD> WORK XX MILE	W20-1M
<ROAD> WORK _____	W20-1S
DETOUR <AHEAD>	W20-2
DETOUR XXX FT	W20-2F
DETOUR XX MILE	W20-2M
<ROAD> CLOSED <AHEAD>	W20-3
<ROAD> CLOSED XXX FT	W20-3F
<ROAD> CLOSED XX MILE	W20-3M

CONSTRUCTION SIGNS	CELL NAME
ONE LANE ROAD <AHEAD>	W20-4
ONE LANE ROAD XXX FT	W20-4F
ONE LANE ROAD XX MILE	W20-4M
<2> LEFT LANES CLOSED <AHEAD>	W20-5aL
<2> RIGHT LANES CLOSED <AHEAD>	W20-5aR
LEFT LANE CLOSED <AHEAD>	W20-5L
LEFT LANE CLOSED XXX FT	W20-5LF
LEFT LANE CLOSED XX MILE	W20-5LM
RIGHT LANE CLOSED <AHEAD>	W20-5R
RIGHT LANE CLOSED XXX FT	W20-5RF
RIGHT LANE CLOSED XX MILE	W20-5RM
Flagger symbol	W20-7
FLAGGER <AHEAD>	W20-7a
Workers symbol	W21-1
WORKERS	W21-1a
WORKERS PRESENT	W21-1M
FRESH <OIL>	W21-2
ROAD MACHINERY <AHEAD>	W21-3
SHOULDER WORK	W21-5
<RIGHT> SHOULDER CLOSED	W21-5a
<RIGHT> SHOULDER CLOSED <AHEAD>	W21-5b
SURVEY CREW	W21-6
UTILITY WORK AHEAD	W21-7
BLASTING ZONE AHEAD	W22-1
TURN OFF 2-WAY RADIO AND CELL PHONE	W22-2
END BLASTING ZONE	W22-3
Double reverse curve (2 lanes) (left)	W24-1aL
Double reverse curve (2 lanes) (right)	W24-1aR
Double reverse curve (3 lanes) (left)	W24-1bL
Double reverse curve (3 lanes) (right)	W24-1bR

CONSTRUCTION SIGNS	CELL NAME
Double reverse curve (1 lane) (left)	W24-1L
Double reverse curve (1 lane) (right)	W24-1R
DESTINATION SIGNS	CELL NAME
DESTINATION	D1-1
DESTINATION (miles) (left)	D1-1aL
DESTINATION (miles) (right)	D1-1aR
DESTINATION SMALL (miles) (left)	D1-1bL
DESTINATION SMALL (miles) (right)	D1-1bR
DESTINATION STREET	D1-1c
DESTINATION (left)	D1-1L
DESTINATION (right)	D1-1R
DESTINATION DUAL	D1-2
DESTINATION TRIPLE	D1-3
DISTANCE	D2-1
DISTANCE DUAL	D2-2
DISTANCE TRIPLE	D2-3
PARK & RIDE SIGN (left)	D4-2L
PARK & RIDE SIGN (right)	D4-2R
BICYCLE PARKING	D4-3
ADVANCE REST AREA DISTANCE	D5-1
REST AREA EXIT DIRECTION	D5-2
NEXT REST AREA (XX MILES)	D5-6
ADVANCE REST AREA—TOURIST INFORMATION CENTER SIGN	D5-7
TOURIST INFORMATION CENTER SIGN	D5-7a
REST AREA TOURIST INFO CENTER EXIT DIRECTION	D5-8
REST AREA—WELCOME SIGN	D5-9
REST AREA—WELCOME CENTER SIGN (ALTERNATE)	D5-11
AMERICA'S BYWAYS SIGN	D6-4
AMERICA'S BYWAYS SIGN (small)	D6-4a

DESTINATION SIGNS	CELL NAME
ADVANCE WEIGH STATION DISTANCE	D8-1
WEIGH STATION NEXT RIGHT (OPEN)/(CLOSED)	D8-2
WEIGH STATION	D8-3
TELEPHONE SIGN	D9-1
CAMPING SIGN	D9-3
TRAILER PARK SIGN	D9-3a
LITTER CONTAINER SIGN	D9-4
HANDICAPPED SIGN	D9-6
VAN ACCESSIBLE SIGN	D9-6P
FUEL SIGN	D9-7
FOOD SIGN	D9-8
LODGING SIGN	D9-9
INFO SIGN	D9-10
DIESEL FUEL SIGN	D9-11
RV SANITARY STATION SIGN	D9-12
EMERGENCY MEDICAL SERVICES SIGN	D9-13
POLICE SIGN	D9-14
PROPANE GAS SIGN	D9-15
TRUCK PARKING SIGN	D9-16
REFERENCE LOCATION, 1 DIGIT	D10-1
INTERMEDIATE REFERENCE LOCATION, 1 DIGIT	D10-1a
REFERENCE LOCATION, 2 DIGITS	D10-2
INTERMEDIATE REFERENCE LOCATION, 2 DIGITS	D10-2a
REFERENCE LOCATION, 3 DIGITS	D10-3
INTERMEDIATE REFERENCE LOCATION, 3 DIGITS	D10-3a
INTERMEDIATE ENHANCED REFERENCE LOCATION	D10-5
INTERMEDIATE ENHANCED REFERENCE LOCATION (blue)	D10-5.1
BIKE ROUTE SIGN	D11-1
TRAVEL INFO CALL 511	D12-5
MOTORIST SERVICES SYMBOL SIGN	E1-5

DESTINATION SIGNS	CELL NAME
MOTORIST SERVICES SIGN	E1-5a
EXIT SIGN	E5-1
EXIT SIGN (2 digits)	E5-1a
EXIT SIGN (3 digits)	E5-1b
EXIT SIGN (4 digits)	E5-1c
EXIT SIGN LOOP (2 digits)	E5-1d
EXIT SIGN LOOP (3 digits)	E5-1e
RAMP SIGN	E5-1f
EXIT LOOP SIGN	E5-1g
RAMP LOOP SIGN	E5-1h
EXIT OPEN SIGN	E5-2
EXIT CLOSED SIGN	E5-2a
EXIT ONLY SIGN	E5-3
STATE LINE	I-2
AIRPORT SIGN	I-5
BUS STATION SIGN	I-6
TRAIN STATION SIGN	I-7
LIBRARY SIGN	I-8
RECYCLING SIGN	I-11
ROUTE MARKER SIGNS	CELL NAME
INTERSTATE ROUTE, 1 DIGIT	M1-1.1
INTERSTATE ROUTE, 2 DIGITS	M1-1.2
INTERSTATE ROUTE, 3 DIGITS	M1-1.3
BUSINESS LOOP/SPUR, 1 DIGIT	M1-2.1
BUSINESS LOOP/SPUR, 2 DIGITS	M1-2.2
BUSINESS LOOP/SPUR, 3 DIGITS	M1-2.3
U.S. ROUTE, 1 DIGIT	M1-4.1
U.S. ROUTE, 2 DIGITS	M1-4.2
U.S. ROUTE, 3 DIGITS	M1-4.3

ROUTE MARKER SIGNS	CELL NAME
STATE ROUTE, 1 DIGIT	M1-5.1
STATE ROUTE, 2 DIGITS	M1-5.2
STATE ROUTE, 3 DIGITS	M1-5.3
COUNTY ROUTE, 1 DIGIT	M1-6.1
COUNTY ROUTE, 2 DIGITS	M1-6.2
COUNTY ROUTE, 3 DIGITS	M1-6.3
FOREST ROUTE, 1 DIGIT	M1-7.1
FOREST ROUTE, 2 DIGITS	M1-7.2
FOREST ROUTE, 3 DIGITS	M1-7.3
BICYCLE ROUTE 1 OR 2 DIGITS 1	M1-8
BICYCLE ROUTE 1 OR 2 DIGITS 2	M1-9
JCT SIGN	M2-1
NORTH SIGN	M3-1
EAST SIGN	M3-2
SOUTH SIGN	M3-3
WEST SIGN	M3-4
ALTERNATE SIGN	M4-1
ALT SIGN	M4-1a
BY-PASS SIGN	M4-2
BUSINESS SIGN	M4-3
TRUCK SIGN	M4-4
TO SIGN	M4-5
END SIGN	M4-6
TEMPORARY SIGN	M4-7
TEMP SIGN	M4-7a
BEGIN SIGN	M4-14
ADVANCE 90° TURN ARROW (left)	M5-1L
ADVANCE 90° TURN ARROW (right)	M5-1R
ADVANCE 45° TURN ARROW	M5-2
CURVED ADVANCE TURN ARROW	M5-3

ROUTE MARKER SIGNS	CELL NAME
90° DIRECTION ARROW	M6-1
45° DIRECTION ARROW UP	M6-2
45° DIRECTION ARROW DOWN	M6-2a
0° DIRECTION ARROW	M6-3
DUAL 90° DIRECTION ARROW	M6-4
DUAL 45° DIRECTION ARROW	M6-5
0° AND 90° DIRECTION ARROW	M6-6
0° AND 45° DIRECTION ARROW	M6-7
REGULATORY SIGNS	CELL NAME
STOP SIGN	R1-1
YIELD SIGN	R1-2
TO ONCOMING TRAFFIC	R1-2a
4-WAY SIGN	R1-3
ALL WAY SIGN	R1-3P
YIELD HERE TO PEDESTRIANS (left)	R1-5aL
YIELD HERE TO PEDESTRIANS (right)	R1-5aR
YIELD HERE TO Pedestrians (left)	R1-5L
YIELD HERE TO Pedestrians (right)	R1-5R
STATE LAW YIELD TO Pedestrians WITHIN CROSSWALK	R1-6
STATE LAW STOP FOR Pedestrians WITHIN CROSSWALK	R1-6a
OVERHEAD PEDESTRIAN CROSSING (YIELD)	R1-9
OVERHEAD PEDESTRIAN CROSSING (STOP)	R1-9a
EXCEPT RIGHT TURN	R1-10P
SPEED LIMIT SIGN	R2-1
WORK ZONE SPEED LIMIT XX WHEN FLASHING	R2-1m
TRUCKS SPEED LIMIT SIGN	R2-2P
NIGHT SPEED LIMIT SIGN	R2-3P
SPEED LIMIT 55 MINIMUM 30	R2-4a
MINIMUM SPEED LIMIT SIGN	R2-4P

REGULATORY SIGNS	CELL NAME
REDUCED SPEED AHEAD	R2-5a
END REDUCED SPEED	R2-5b
FINES DOUBLE SIGN	R2-6aP
FINES HIGHER SIGN	R2-6P
BEGIN HIGHER FINES ZONE	R2-10
END HIGHER FINES ZONE SIGN	R2-11
NO RIGHT TURN SIGN	R3-1
NO LEFT TURN SIGN	R3-2
NO TURNS SIGN	R3-3
NO U-TURNS	R3-4
ONLY WITH SYMBOL	R3-5a
LEFT LANE SUPPLEMENT	R3-5b
LEFT TURN ONLY	R3-5L
RIGHT TURN ONLY	R3-5R
AHEAD OR TURN LEFT	R3-6L
AHEAD OR TURN RIGHT	R3-6R
LEFT LANE MUST TURN LEFT	R3-7L
RIGHT LANE MUST TURN RIGHT	R3-7R
ADVANCE INTERSECTION LANE CONTROL (left-left/straight-right)	R3-8aL
ADVANCE INTERSECTION LANE CONTROL (left-right/straight-right)	R3-8aR
ADVANCE INTERSECTION LANE CONTROL (left-straight-right)	R3-8b
ADVANCE INTERSECTION LANE CONTROL (left)	R3-8L
ADVANCE INTERSECTION LANE CONTROL (left/right)	R3-8MOD
ADVANCE INTERSECTION LANE CONTROL (right)	R3-8R
TWO-WAY LEFT TURN ONLY	R3-9a
CENTER LANE ONLY	R3-9b
HOV - PREFERENTIAL ONLY LANE AHEAD	R3-10
BUS LANE ONLY - PREFERENTIAL ONLY LANE AHEAD	R3-10a
HOV - INHERENTLY LOW EMISSION VEHICLES ALLOWED	R3-10b
HOV - NO TRUCKS 3+ AXLES 7AM - 9AM	R3-10m

REGULATORY SIGNS	CELL NAME
HOV - NO TRUCKS 3+ AXLES 4PM - 6PM	R3-10m2
HOV - HOV 2+ ONLY (time range)	R3-11a
MOTORCYCLES ALLOWED	R3-11P
7AM - 9AM; MON - FRI	R3-11PM
4PM - 6PM; MON - FRI	R3-11PM2
HOV - HOV LANE ENDS	R3-12a
HOV - HOV LANE ENDS (1 mile)	R3-12b
HOV - HOV LANE ENDS (1/2 mile)	R3-12b2
HOV - HOV LANE AHEAD (1 mile)	R3-12c
HOV - HOV LANE AHEAD (1/2 mile)	R3-12c2
HOV - HOV 2+ ONLY (1/2 mile)	R3-12d
HOV - HOV 2+ ONLY (time range) (MON-FRI)	R3-13a
HOV - HOV 2+ ONLY (time range) (MON-FRI) HORIZ	R3-14
HOV - HOV LANE AHEAD	R3-15
HOV - HOV LANE ENDS	R3-15a
HOV - HOV 2+ LANE (1 mile)	R3-15b
HOV - HOV 2+ LANE (1/2 mile)	R3-15c
BIKE LANE	R3-17
AHEAD	R3-17a
ENDS	R3-17b
COMBINATION U-TURN AND LEFT TURN PROHIBITED	R3-18
NO STRAIGHT	R3-27
DO NOT PASS	R4-1
DO NOT PASS IN RIGHT LANE	R4-1m
PASS WITH CARE	R4-2
SLOWER TRAFFIC KEEP RIGHT	R4-3
BEGIN RIGHT TURN LANE - YIELD TO BIKES	R4-4
TRUCKS USE RIGHT LANE	R4-5
TRUCK LANE 500 FEET	R4-6
KEEP RIGHT	R4-7

REGULATORY SIGNS	CELL NAME
KEEP RIGHT W/0° ARROW	R4-7a
KEEP RIGHT W/30° ARROW	R4-7b
KEEP LEFT	R4-8
KEEP LEFT W/180° ARROW	R4-8a
KEEP LEFT W/150° ARROW	R4-8b
STAY IN LANE	R4-9
DO NOT PASS ON SHOULDER	R4-18
DO NOT ENTER	R5-1
WRONG WAY	R5-1a
NO TRUCKS (SYMBOL)	R5-2
NO TRUCKS	R5-2a
NO MOTOR VEHICLES	R5-3
NO COMMERCIAL VEHICLES	R5-4
NO BICYCLES	R5-6
INTERSTATE CROSSOVER SIGN	R5-11
ONE WAY (left)	R6-1L
ONE WAY (right)	R6-1R
ONE WAY left	R6-2L
ONE WAY right	R6-2R
DIVIDED HIGHWAY CROSSING (4 LEG)	R6-3
DIVIDED HIGHWAY CROSSING (T INTERSECTION)	R6-3a
ROUNDAABOUT DIRECTIONAL (2 CHEVRONS)	R6-4
ROUNDAABOUT DIRECTIONAL (3 CHEVRONS)	R6-4a
ROUNDAABOUT DIRECTIONAL (4 CHEVRONS)	R6-4b
ROUNDAABOUT CIRCULATION (PLAQUE)	R6-4p
NO PARKING ANY TIME	R7-1
NO PARKING ANY TIME (left)	R7-1L
NO PARKING ANY TIME WITH TOW AWAY ZONE PLAQUE	R7-1P
NO PARKING ANY TIME (right)	R7-1R
NO PARKING (time)	R7-2

REGULATORY SIGNS	CELL NAME
NO PARKING (time) (left)	R7-2aL
NO PARKING (time) (right)	R7-2aR
NO STANDING ANY TIME	R7-4
NO STANDING ANY TIME (left)	R7-4L
NO STANDING ANY TIME (right)	R7-4R
ONE HOUR PARKING	R7-5
NO PARKING LOADING ZONE	R7-6
NO PARKING LOADING ZONE (left)	R7-6L
NO PARKING LOADING ZONE (right)	R7-6R
NO PARKING BUS STOP	R7-7
NO PARKING BUS STOP (left)	R7-7L
NO PARKING BUS STOP (right)	R7-7R
RESERVED PARKING (Accessible)	R7-8
VAN ACCESSIBLE	R7-8a
VAN ACCESSIBLE (blue)	R7-8b
RESERVED PARKING (Accessible, Left)	R7-8L
RESERVED PARKING (Accessible, Right)	R7-8R
NO PARKING BUS STOP	R7-107
NO PARKING (WITH TRANSIT LOGO)	R7-107a
NO PARKING ON PAVEMENT	R8-1
NO PARKING EXCEPT ON SHOULDER	R8-2
NO PARKING (symbol)	R8-3
NO PARKING	R8-3a
EMERGENCY STOPPING ONLY	R8-7
DO NOT STOP ON TRACKS	R8-8
TRACKS OUT OF SERVICE	R8-9
NO PEDESTRIAN CROSSING	R9-3a
KEEP LEFT/RIGHT TO PEDESTRIANS AND BICYCLISTS	R9-7
PEDESTRIAN TRAFFIC SIGNAL (left)	R10-3bL
PEDESTRIAN TRAFFIC SIGNAL (right)	R10-3bR

REGULATORY SIGNS	CELL NAME
COUNT-DOWN PEDESTRIAN (left)	R10-3eL
COUNT-DOWN PEDESTRIAN (right)	R10-3eR
LEFT ON GREEN ARROW ONLY	R10-5
STOP HERE ON RED	R10-6
STOP HERE ON RED	R10-6a
STAY IN LANE EXTEND GREEN	R10-6M
DO NOT BLOCK INTERSECTION	R10-7
LEFT TURN SIGNAL	R10-10L
RIGHT TURN SIGNAL	R10-10R
NO TURN ON RED (with red ball)	R10-11
NO TURN ON RED (24 x 30)	R10-11a
NO TURN ON RED (24 x 24)	R10-11b
LEFT TURN YIELD ON GREEN (with green ball)	R10-12
EMERGENCY SIGNAL	R10-13
TURNING VEHICLES YIELD TO PEDESTRIANS (left)	R10-15L
TURNING VEHICLES YIELD TO PEDESTRIANS (right)	R10-15R
PHOTO ENFORCED	R10-19aP
CROSSWALK - STOP ON RED	R10-23
KEEP OFF MEDIAN	R11-1
ROAD CLOSED TO THRU TRAFFIC	R11-4
WEIGHT LIMIT XX TONS	R12-1
AXLE WEIGHT LIMIT X TONS	R12-2
NO TRUCK OVER XXXX EMPTY WT	R12-3
WEIGHT LIMIT X TONS PER AXLE XX TONS GROSS	R12-4
WEIGHT LIMIT	R12-5
TRUCK ROUTE	R14-1
RAILROAD CROSSING	R15-1
NUMBER OF TRACKS	R15-2P
EXEMPT	R15-3P
MOVE DAMAGED VEHICLE	R16-4

REGULATORY SIGNS	CELL NAME
LIGHTS ON WHEN RAINING	R16-6
SCHOOL SIGNS	
SCHOOL SIGN	S1-1
SCHOOL BUS STOP	S3-1
SCHOOL BUS TURN AHEAD	S3-2
SLOW SCHOOL ZONE	S3-5
School Zone Applicable Times	S4-1P
WHEN CHILDREN ARE PRESENT	S4-2P
SCHOOL SIGN	S4-3P
WHEN FLASHING	S4-4P
REDUCE SPEED SCHOOL ZONE AHEAD	S4-5
<xx> MPH SCHOOL ZONE AHEAD	S4-5a
MON-FRI	S4-6P
SPEED LIMIT XX WHEN FLASHING	S5-1
END SCHOOL ZONE	S5-2
END SCHOOL SPEED LIMIT	S5-3
SCHOOL SPEED LIMIT SIGN (overhead)	TN-8-OH
SCHOOL SPEED LIMIT SIGN (side mounted)	TN-8-S
STOP FOR SCHOOL BUS	TN-10
DISTANCE AHEAD PLAQUE, FEET (2 LINES) (school)	W16-2PS
CROSSING LOCATION ARROW PLAQUE (school)	W16-7PS
AHEAD PLAQUE (school)	W16-9PS
SPECIAL SIGNS	
CAUTION WATCH FOR VEHICLES XING CL	SP-1
CUSTOM TURN/INTERSECTION 1	SP-2
CUSTOM TURN/INTERSECTION 2	SP-3
CUSTOM INTERSECTION WARNING 1	SP-4
CUSTOM INTERSECTION WARNING 2	SP-5

SPECIAL SIGNS	CELL NAME
CUSTOM CURVE/INTERSECTION	SP-6
SHARP CURVE XX MPH X MILE AHEAD	SP-7
WATCH FOR TRUCKS XING CL	SP-8
TRUCKS MONITOR CB CH 19	SP-9
TRUCKS XING CL WARNING	SP-10
MAXIMUM __ MINUTE RED	SPEC_1
MAINTAIN __ MPH SPEED	SPEC_2
HORIZ. CLEARANCE __ FEET	SPEC_3
1 LANE BR X FT HZ X FT	SPEC_4F
1 LANE BR X MI HZ X FT	SPEC_4M
MERGE NOW	SPEC_5
TRUCKS USE LEFT LANE	SPEC_8
TENNESSEE SIGNS	CELL NAME
TENNESSEE STATE LINE SIGN	TN-1
COUNTY LINE SIGN	TN-2
CITY LIMIT SIGN	TN-3
UNINCORPORATED COMMUNITY SIGN	TN-4
STREAM NAME SIGN	TN-5
STATE ROUTE MARKER (one digit)	TN-6
STATE ROUTE MARKER (two digit)	TN-6a
STATE ROUTE MARKER (three digit)	TN-6b
STATE ROUTE MARKER (TN BORDER) (one digit)	TN-6c
STATE ROUTE MARKER (TN BORDER) (two digit)	TN-6d
STATE ROUTE MARKER (TN BORDER) (three digit)	TN-6e
STATUTORY SPEED LIMIT	TN-7a
STATUTORY SPEED LIMIT (car/truck)	TN-7b
STATUTORY FREEWAY SPEED LIMIT (car/truck)	TN-7c
END XX MPH SPEED (CONST)	TN-9c
TRUCKS KEEP 300 FEET APART	TN-11

TENNESSEE SIGNS	CELL NAME
WEIGHT LIMIT (standard)	TN-12.1
WEIGHT LIMIT (freeway and expressway)	TN-12.2
TYPE 3 OBJECT MARKER (left)	TN-14L
TYPE 3 OBJECT MARKER (right)	TN-14R
LOG MILE REFERENCE MARKER (1 digit)	TN-17a
LOG MILE REFERENCE MARKER (2 digits)	TN-17b
DRIVEWAY CONNECTIONS SIGN	TN-18
NO DUMPING ALLOWED SIGN	TN-19
STATE AID PROJECT MARKER SIGN	TN-20
PEDESTRIANS PROHIBITED SIGN	TN-21
TENNESSEE SCENIC PARKWAY SIGN	TN-22a
TENNESSEE SCENIC PARKWAY SIGN (alt)	TN-22b
SCENIC HIGHWAY SIGN	TN-23
LEFT TURN ON RED SIGN	TN-24
COMMEMORATIVE BRIDGE OR HIGHWAY SIGN	TN-26
BUCKLE UP SIGN	TN-30
INTERSTATE HOSPITAL SERVICE SIGN	TN-33
TOURIST INFO SIGN (ramp)	TN-34a
TOURIST INFO SIGN (conventional)	TN-34b
TOURIST INFO SIGN (Interstate with existing motorist service signing)	TN-34c
SHOULDER NARROWS AHEAD SIGN	TN-35
CAR VANPOOL SIGN (standard)	TN-37
CAR VANPOOL SIGN (expressway/freeway)	TN-37a
REDUCED TRUCK SPEED AHEAD SIGN	TN-38
REDUCED TRUCK SPEED AHEAD SIGN (yellow)	TN-38a
RESERVED PARKING SIGN	TN-41
ADOPT A HIGHWAY SIGN	TN-43
WORKERS PRESENT SIGN	TN-44
EMERGENCY REFERENCE MARKERS (directional ramp A)	TN-45b
ERM BRIDGE SIGN	TN-45d

TENNESSEE SIGNS	CELL NAME
HIGHWAY EMERGENCY * 847 SIGN	TN-47
TENNESSEE WELCOMES YOU (Freeway/Expressway)	TN-50a
RECORD-A-COMMENT SIGN	TN-55a
RECORD-A-COMMENT	TN-55b
UNMUFFLED ENGINE BRAKING PROHIBITED	TN-58a
UNMUFFLED ENGINE BRAKING PROHIBITED (conventional highways)	TN-58b
RESTRICTED TRUCK LANE SIGN (Advance Shoulder)	TN-60a
RESTRICTED TRUCK LANE SIGN (Advance Median-Barrier Mounted)	TN-60b
RESTRICTED TRUCK LANE SIGN (Begin/Confirm Shoulder)	TN-60c
RESTRICTED TRUCK LANE SIGN (Begin/Confirm Median-Barrier Mounted)	TN-60d
RESTRICTED TRUCK LANE SIGN (End Shoulder)	TN-60e
RESTRICTED TRUCK LANE SIGN (End Median-Barrier Mounted)	TN-60f
ADVANCE SHOULDER SIGN	TN-61
BIOFUEL SIGN (mainline)	TN-65
BIOFUEL SIGN (ramp)	TN-65a
WATERSHED SIGN (Freeway)	TN-66a
WATERSHED SIGN (State Route)	TN-66b
TENNESSEE LOGO SIGN (mainline)	TN-67a
TENNESSEE LOGO SIGN (ramp)	TN-67b
TENNESSEE LOGO SIGN (trailblazer)	TN-67c
LEFT TURN YIELD ON FLASHING YELLOW (yellow arrow)	TN-69a
NO TURN ON RED	TN-69b
DECREASING RADIUS CURVE SIGN	TN-71
FREE STANDING EMERGENCY ROOMS (mainline)	TN-72
FREE STANDING EMERGENCY ROOMS (ramp)	TN-72a
TRUCK STOP	TN-73
BYPASS RAMP WHEN FULL	TN-73a
SHARE THE ROAD SIGN	TN-74
CELL PHONE PROHIBITED	TN-75

WARNING SIGNS	CELL NAME
Left turn w/speed	W1-1aL
Right turn w/speed	W1-1aR
TURN (left)	W1-1L
TURN/INTERSECTION LEFT	W1-1LI
TURN (right)	W1-1R
TURN/INTERSECTION RIGHT	W1-1RI
Left curve symbol w/speed	W1-2aL
Right curve symbol w/speed	W1-2aR
CURVE (left)	W1-2L
CURVE (right)	W1-2R
REVERSE TURN (left)	W1-3L
REVERSE TURN (right)	W1-3R
TWO LANE SHIFT (left)	W1-4bL
TWO LANE SHIFT (right)	W1-4bR
THREE LANE SHIFT (left)	W1-4cL
THREE LANE SHIFT (right)	W1-4cR
REVERSE CURVE (left)	W1-4L
LANE SHIFT AHEAD	W1-4M
LANE SHIFT XX FT	W1-4M2
REVERSE CURVE (right)	W1-4R
WINDING ROAD (left)	W1-5L
WINDING ROAD (right)	W1-5R
ONE-DIRECTION LARGE ARROW (left)	W1-6L
ONE-DIRECTION LARGE ARROW (right)	W1-6R
Two-direction large arrow	W1-7
CHEVRON (left)	W1-8L
CHEVRON (right)	W1-8R
CURVE/STRAIGHT LEFT	W1-10bL
CURVE/STRAIGHT RIGHT	W1-10bR
REVERSE CURVE/INTERSECTION LEFT	W1-10dL

WARNING SIGNS	CELL NAME
REVERSE CURVE/INTERSECTION RIGHT	W1-10dR
CURVE/INTERSECTION LEFT	W1-10L
CURVE/INTERSECTION RIGHT	W1-10R
Hairpin curve	W1-11
Truck rollover warning	W1-13
270° loop	W1-15
Cross road	W2-1
SIDE ROAD (left)	W2-2L
SIDE ROAD (right)	W2-2R
Skewed side road	W2-3
T-intersection	W2-4
Y-intersection	W2-5
Circular Intersection	W2-6
INTERSECTION WARNING LT FIRST	W2-7L
INTERSECTION WARNING DBL LT FIRST	W2-7LM
INTERSECTION WARNING RT FIRST	W2-7R
INTERSECTION WARNING DBL RT FIRST	W2-7RM
INTERSECTION WARNING DBL LT	W2-8L
INTERSECTION WARNING SNG LT FIRST	W2-8LM
INTERSECTION WARNING DBL RT	W2-8R
INTERSECTION WARNING SNG RT FIRST	W2-8RM
INTERSECTION WARNING SKEW	W2-9
STOP AHEAD	W3-1
STOP AHEAD (symbol)	W3-1S
YIELD AHEAD	W3-2
YIELD AHEAD (symbol)	W3-2S
Signal ahead	W3-3
BE PREPARED TO STOP	W3-4
Speed reduction	W3-5
XX MPH SPEED ZONE AHEAD	W3-5a

WARNING SIGNS	CELL NAME
DRAW BRIDGE	W3-6
Merge	W4-1
LANE ENDS (left)	W4-2L
LANE ENDS (right)	W4-2R
ADDED LANE (left)	W4-3L
ADDED LANE (right)	W4-3R
TRAFFIC FROM LEFT DOES NOT STOP	W4-4aP
ONCOMING TRAFFIC DOES NOT STOP	W4-4bP
CROSS TRAFFIC DOES NOT STOP	W4-4P
Traffic entering	W4-5
Entering roadway added lane	W4-6
ROAD NARROWS	W5-1
NARROW BRIDGE	W5-2
ONE LANE BRIDGE	W5-3
RAMP NARROWS	W5-4
BIKEWAY NARROWS	W5-4a
Divided highway	W6-1
Divided highway ends	W6-2
Two way traffic	W6-3
Two way traffic plate	W6-4
Hill	W7-1
Hill with grade	W7-1a
TRUCKS USE LOWER GEAR	W7-2bP
USE LOW GEAR	W7-2P
NEXT X MILES	W7-3aP
XX GRADE XX MILES	W7-3bP
XX% GRADE	W7-3P
RUNAWAY TRUCK RAMP 1 MILE	W7-4
RUNAWAY TRUCK RAMP W/ Arrow	W7-4b
TRUCK ESCAPE RAMP	W7-4c

WARNING SIGNS	CELL NAME
SAND	W7-4dP
GRAVEL	W7-4eP
PAVED	W7-4fP
HILL BLOCKS VIEW	W7-6
BUMP	W8-1
DIP	W8-2
PAVEMENT ENDS	W8-3
SOFT SHOULDER	W8-4
Slippery when wet	W8-5
ICE	W8-5aP
STEEL DECK	W8-5bP
EXCESS OIL	W8-5cP
WHEN WET	W8-5P
TRUCK CROSSING	W8-6
LOOSE GRAVEL	W8-7
ROUGH ROAD	W8-8
LOW SHOULDER	W8-9
Bicycle Surface Condition	W8-10
SLIPPERY WHEN WET	W8-10P
UNEVEN LANES	W8-11
NO CENTER LINE	W8-12
BRIDGE ICES BEFORE ROAD	W8-13
FALLEN ROCKS	W8-14
GROOVED PAVEMENT	W8-15
Motorcycle	W8-15P
METAL BRIDGE DECK	W8-16
Shoulder Drop Off	W8-17
SHOULDER DROP-OFF	W8-17P
ROAD MAY FLOOD	W8-18
GUSTY WINDS AREA	W8-21

WARNING SIGNS	CELL NAME
FOG AREA	W8-22
NO SHOULDER	W8-23
STEEL PLATE AHEAD	W8-24
SHOULDER ENDS	W8-25
LEFT LANE ENDS	W9-1L
RIGHT LANE ENDS	W9-1R
LANE ENDS MERGE LEFT	W9-2L
LANE ENDS MERGE RIGHT	W9-2R
CENTER LANE CLOSED AHEAD	W9-3
CENTER LANE CLOSED AHEAD SYMBOL	W9-3a
SLOW CHILDREN AT PLAY	W9-12
RAILROAD CROSSING ADVANCE SIGN	W10-1
EXEMPT	W10-1aP
PARALLEL RAILROAD CROSSING (CROSSROAD) (left)	W10-2L
PARALLEL RAILROAD CROSSING (CROSSROAD) (right)	W10-2R
PARALLEL RAILROAD CROSSING (SIDE ROAD) (left)	W10-3L
PARALLEL RAILROAD CROSSING (SIDE ROAD) (right)	W10-3R
PARALLEL RAILROAD CROSSING (T INTERSECTION) (left)	W10-4L
PARALLEL RAILROAD CROSSING (T INTERSECTION) (right)	W10-4R
LOW GROUND CLEARANCE RAILROAD CROSSING	W10-5
TRAINS MAY EXCEED <xx> MPH	W10-8
NO TRAIN HORN	W10-9P
STORAGE SPACE (RAILROAD CROSSING)	W10-11
<xx> FEET BETWEEN TRACKS & HIGHWAY	W10-11a
<xx> FEET BETWEEN HIGHWAY & TRACKS BEHIND YOU	W10-11b
SKEWED CROSSING	W10-12
NO GATES OR LIGHTS	W10-13P
USE NEXT CROSSING	W10-14aP
NEXT CROSSING	W10-14P
ROUGH CROSSING	W10-15P

WARNING SIGNS	CELL NAME
Bicycle	W11-1
Pedestrian	W11-2
Deer	W11-3
Cattle	W11-4
Farm machinery	W11-5
Farm machinery (TRACTOR)	W11-5a
Equestrian	W11-7
Fire Station	W11-8
Handicapped Crossing	W11-9
Truck	W11-10
EMERGENCY SIGNAL AHEAD	W11-12P
BUGGY	W11-14
Bicycle/Pedestrian	W11-15
TRAIL CROSSING	W11-15a
TRAIL X-ING	W11-15P
TRUCKS ENTERING HIGHWAY	W11-V4
Double arrow	W12-1
Low clearance	W12-2
Low clearance, plaque	W12-2a
ADVISORY SPEED PLAQUE	W13-1P
Advisory exit speed	W13-2
Advisory ramp speed	W13-3
DEAD END	W14-1
DEAD END directional, Lt	W14-1aL
DEAD END directional, Rt	W14-1aR
NO OUTLET	W14-2
NO OUTLET directional, Lt	W14-2aL
NO OUTLET directional, Rt	W14-2aR
NO PASSING ZONE pennant	W14-3
PLAYGROUND	W15-1

WARNING SIGNS	CELL NAME
SHARE THE ROAD	W16-1P
Distance plaque, feet (1 line)	W16-2aP
DISTANCE AHEAD PLAQUE, FEET (2 LINES)	W16-2P
Distance plaque, miles (1 lines)	W16-3aP
Distance plaque, miles (2 lines)	W16-3P
NEXT Distance plaque	W16-4P
Arrow plaque	W16-5P
Arrow plaque, ahead	W16-6P
CROSSING LOCATION ARROW PLAQUE	W16-7P
AHEAD PLAQUE	W16-9P
PHOTO ENFORCED	W16-10aP
HOV	W16-11P
TRAFFIC CIRCLE plaque	W16-12P
WHEN FLASHING	W16-13P
NEW plaque	W16-15P
ROUNDAABOUT plaque	W16-17P
NOTICE plaque	W16-18P
SPEED HUMP	W17-1
NO TRAFFIC SIGNS	W18-1
SLOW TRAFFIC AHEAD	W23-1
NEW TRAFFIC PATTERN AHEAD	W23-2
ONCOMING TRAFFIC HAS EXTENDED GREEN	W25-1
ONCOMING TRAFFIC MAY HAVE EXTENDED GREEN	W25-2
OBJECT MARKERS & MISCELLANEOUS SIGNS	CELL NAME
AREA CLOSED SIGN	EM-2
TRAFFIC CONTROL POINT SIGN	EM-3
MAINTAIN TOP SAFE SPEED SIGN	EM-4
ROAD USE PERMIT REQUIRED SIGN	EM-5
SLIDE AREA AHEAD	F9-1

OBJECT MARKERS & MISCELLANEOUS SIGNS	CELL NAME
SUPPLEMENTAL FLAGS	FLAGS
ROAD WORK NEXT <x> MILES	G20-1
END ROAD WORK	G20-2
PILOT CAR FOLLOW ME	G20-4
WORK ZONE SIGN	G20-5aP
PLEASE USE TURN SIGNAL	MISC NO. 1
OBJECT MARKER TYPE 3 (center)	OM-3C
OBJECT MARKER TYPE 3 (left)	OM-3L
OBJECT MARKER TYPE 3 (right)	OM-3R
OBJECT MARKER TYPE 1 - 1	OM1-1
OBJECT MARKER TYPE 1 - 2	OM1-2
OBJECT MARKER TYPE 1 - 3	OM1-3
OBJECT MARKER TYPE 2 - 1 (horizontal)	OM2-1H
OBJECT MARKER TYPE 2 - 1 (vertical)	OM2-1V
OBJECT MARKER TYPE 2 - 2 (horizontal)	OM2-2H
OBJECT MARKER TYPE 2 - 2 (vertical)	OM2-2V
OBJECT MARKER TYPE 4 - 1	OM4-1
OBJECT MARKER TYPE 4 - 2	OM4-2
OBJECT MARKER TYPE 4 - 3	OM4-3
PR 2 POST SIGN SYMBOL	PSIGN2
OTHER SIGN CELLS	CELL NAME
FOUR LANE TO TWO LANE SPLIT ARROW	4LTO2L
SIGN FOR 45MPH CURVE	45CUR
ARROW	ARROW
CANTILEVER SUPPRT DETAILS	CANTSU
CANTILEVER SUPPORT DETAILS	CANTSUP
RAMP CANTILEVER X SECTION	CS1
ROADWAY CANTILEVER X SECTION	CS2
OVERHEAD X SECTION	CS3

OTHER SIGN CELLS	CELL NAME
SCHOOL FLASHER OVHD	CS4
SCHOOL FLASHER OVHD2	CS5
SCHOOL FLASHER OVHD3	CS5.5
SCHOOL FLASHER OH4	CS6
SPAN POLE SIGNS	CS7
CROSS ROADS SIGNING ONE WAY & WRONG WAY	CSOWWW
CROSS ROAD SIGNING ONE WAY & WRONG WAY WITH CHANNELIZED TURN LANES	CSOWWWCH
LOOP ARROW - 180 DEGREES	LOOP180
LOOP ARROW - 270 DEGREES	LOOP270
TYPE A LIGHT	LTA
TYPE B LIGHT	LTB
TYPE C LIGHT	LTC
AMBER SOLAR FLASHING ASSEMBLY LIGHT	LTSFAA
RED SOLAR FLASHING ASSEMBLY LIGHT	LTSFAR
PR 2 SIDED SIGN SYMBOL	P2SIGN
PROP SIGN SYMBOL	PSIGN
HIKING TRAIL	RS-068
SIGN SCHEDULE SHEET 1	SS1
SIGN SCHEDULE SHEET 2	SS2
SIGN STRUCTURE SHEET	SSHEET
TEMP 2 SIDED SIGN	T2SIGN
TEMP SIGN	TSIGN
TEMP 2 POST SIGN	TSIGN2

GEOTECHNICAL.CEL

GEOTECHNICAL	CELL NAME
BOREHOLE IDENTIFICATION	BHID
FAT CLAY/ ELASTIC SILT	FATCLAY
EXAMPLE OF FAT CLAY	FATCLAYEXAMPLE
GEOTECH BLANK SHEET	GEOBLKSHT1
GEOTECH BLANK SHEET W/O SEAL BLOCK	GEOBLKSHT2
GEOTECH GRID SHEET	GEOGRSHT
GEO. NOTES AND EST. QTYS.	GTB01
GEO. SOIL DESCRIPTION	GTB02
GEO. BORING LAYOUT	GTB03
GEO. BORING PROFILE	GTB04
GEO. TYPICAL SECTIONS	GTB05
GEO. SINKHOLE REPAIR	GTB06
BORING LAYOUT LEGEND	LEGEND
PROFILE/TYPICAL SECTIONS LEGEND	LEGEND 2
BORING STICK	MHCH
REFUSAL PROFILE PATTERN WITH TEXT	REFPRO
BHID #1-9	REFUSAL
BHID #10-99	REFUSAL 2
BHID #100-999	REFUSAL 3
BHID #1-9	TERMINATED
BHID #10-99	TERMINATED 2
BHID #100-999	TERMINATED 3
TERMINATED PROFILE TEXT	TERPRO
GEOTECHNICAL CROSS SECTIONS TITLE	TYPICAL SECTIONS TEXT
AT TIME OF DRILLING	WATER LEVEL
AT END OF DRILLING	WATER LEVEL 2
AFTER DRILLING	WATER LEVEL 3

STRUCTURES.CEL

AASHTO BEAMS	CELL NAME
AASHTO BEAM TYPE 1	AASHTO1
AASHTO BEAM TYPE 2	AASHTO2
AASHTO BEAM TYPE 3	AASHTO3
AASHTO BEAM TYPE 4	AASHTO4

BOX BEAMS	CELL NAME
12 X 36 BOX BEAM	B12X36
12 X 48 BOX BEAM	B12X48
17 X 36 BOX BEAM	B17X36
17 X 48 BOX BEAM	B17X48
21 X 36 BOX BEAM	B21X36
21 X 48 BOX BEAM	B21X48
24 X 36 BOX BEAM	B24X36
24 X 48 BOX BEAM	B24X48
27 X 36 BOX BEAM	B27X36
27 X 48 BOX BEAM	B27X48
30 X 36 BOX BEAM	B30X36
30 X 48 BOX BEAM	B30X48
33 X 36 BOX BEAM	B33X36
33 X 48 BOX BEAM	B33X48
36 X 36 BOX BEAM	B36X36
36 X 48 BOX BEAM	B36X48
39 X 36 BOX BEAM	B39X36
39 X 48 BOX BEAM	B39X48
42 X 36 BOX BEAM	B42X36
42 X 48 BOX BEAM	B42X48
45 X 36 BOX BEAM	B45X36
45 X 48 BOX BEAM	B45X48

BOX BEAMS	CELL NAME
48 X 36 BOX BEAM	B48X36
48 X 48 BOX BEAM	B48X48
51 X 36 BOX BEAM	B51X36
51 X 48 BOX BEAM	B51X48

REBAR	CELL NAME
NO.3 REBAR 3/8 IN. DIA.	03REBAR
NO.4 REBAR 1/2 IN. DIA.	04REBAR
NO.5 REBAR 5/8 IN. DIA.	05REBAR
NO.6 REBAR 3/4 IN. DIA.	06REBAR
NO.7 REBAR 7/8 IN. DIA.	07REBAR
NO.8 REBAR 1 IN. DIA.	08REBAR
NO.9 REBAR 1-1/8 IN. DIA.	09REBAR
NO.10 REBAR 1-1/4 IN. DIA.	10REBAR
NO.11 REBAR 1-7/16 IN. DIA.	11REBAR
NO.14 REBAR 1-11/16 IN. DIA.	14REBAR
NO.18 REBAR 2-1/4 IN. DIA.	18REBAR

REBAR CALL-OUT	CELL NAME
REBAR "A" CALL-OUT	BARSA
REBAR "B" CALL-OUT	BARSB
REBAR "C" CALL-OUT	BARSC
REBAR "CB" CALL-OUT	BARSCB
REBAR "CD" CALL-OUT	BARSCD
REBAR "D" CALL-OUT	BARSD
REBAR "E" CALL-OUT	BARSE
REBAR "F" CALL-OUT	BARSF
REBAR "G" CALL-OUT	BARSG
REBAR "H" CALL-OUT	BARSH

REBAR CALL-OUT	CELL NAME
REBAR "HB" CALL-OUT	BARSHB
REBAR "HC" CALL-OUT	BARSHC
REBAR "HP" CALL-OUT	BARSHP
REBAR "J" CALL-OUT	BARSJ
REBAR "JX" CALL-OUT	BARSJX
REBAR "K" CALL-OUT	BARSK
REBAR "L" CALL-OUT	BARSL
REBAR "LS" CALL-OUT	BARSLS
REBAR "R" CALL-OUT	BARSR
REBAR "T" CALL-OUT	BARST
REBAR "TA" CALL-OUT	BARSTA
REBAR "V" CALL-OUT	BARSV
REBAR "VA" CALL-OUT	BARSVA
REBAR "X" CALL-OUT	BARSX
REBAR "XA" CALL-OUT	BARSXA
REBAR "YA" CALL-OUT	BARSYA
REBAR "YB" CALL-OUT	BARSYB
REBAR "Z" CALL-OUT	BARSZ
STRUCTURE STANDARD DRAWINGS	CELL NAME
STD-1-1 LEFT	STD11L
STD-1-1 RIGHT	STD11R
STD-1-1SS LEFT	STD11SSL
STD-1-1SS RIGHT	STD11SSR
STD-1-3 ALTERNATE A	STD13A
STD-1-3 ALTERNATE B	STD13B
STD-1-3SS 32IN	STD13SS32
STD-1-3SS 51IN	STD13SS51
STD-11-1 LEFT	STD111L
STD-11-1 RIGHT	STD111R

STRUCTURE STANDARD DRAWINGS	CELL NAME
STD-1-3 32IN	STD1332
STRUCTURE SIGNATURES	
STRUCTURE SIGNATURES	CELL NAME
SIGNATURE CLAY BRIGHT	SIGCB
SIGNATURE PAUL D DEGGES	SIGPDD
SIGNATURE TED A KNIAZEWYCZ	SIGTAK
SIGNATURE TED A KNIAZEWYCZ 2	SIGTAK2
PATTERNINGS	
PATTERNINGS	CELL NAME
HIDDEN STONE PATTERN	ASHHID
EXAMPLE HIDDEN STONE PATTERN	ASHHIDEXAMPLE
STONE PATTERN	ASHLAR
EXAMPLE STONE PATTERN	ASHLAREXAMPLE
CONCRETE PATTERN	CONCR
EXAMPLE CONCRETE PATTERN	CONCREXAMPLE
EARTH AREA PATTERN	EARTH
EXAMPLE EARTH AREA PATTERN	EARTHEXAMPLE
GROUT PATTERN	GROUT
EXAMPLE GROUT PATTERN	GROUTEXAMPLE
LIME STONE PATTERN	LIME
EXAMPLE LIME PATTERN	LIMEEXAMPLE
STONE PATTERN 2	STONE2
EXAMPLE STONE PATTERN 2	STONE2EXAMPLE
WETLANDS SWAMP MARSH	WETLND
EXAMPLE WETLANDS PATTERN	WETLNDEXAMPLE
WEATHERED LIME STONE PATTERN	WLIME
EXAMPLE WEATHERED LIME PATTERN	WLIMEEXAMPLE

OTHER STRUCTURE CELLS	CELL NAME
BRIDGE SPECS	ADT
ELEVATION RAIL POST	ALELRL
ALUMINUM POST SECTION	ALPOST
ARROW	ARROW
ASTERISK	AST
TABLE	BLOCK
BREAK LINE	BRKLN
54 BULB TEE	BT54
63 BULB TEE	BT63
72 BULB TEE	BT72
CUT SECTION HORIZONTAL	CUTH
CUT SECTION VERTICAL	CUTV
DOT TERM	DTERM
ELEVATION BEARING TYPE	ELBRG
FINAL CONSTRUCTION FIELD REVIEW	FSPCONSTFR
GRATE INLET DRAIN DETAIL	GIDD
GRADING	GRD
GRADE NOTE	GRDNT
GIRDER DESIGNATION	GRDRDES
UTILITY HANGER	HANGER
10 X 42 FRONT ELEVATION	HP10F
10 X 42 SIDE ELEVATION	HP10S
10 X 42 CROSS SECTION	HP10X
12 X 53 FRONT ELEVATION	HP12F
12 X 53 SIDE ELEVATION	HP12S
12 X 53 CROSS SECTION	HP12X
LIST OF DRAWINGS	LISTOFDWG
LIST OF REFERENCE DRAWINGS	LREFDWG
LIST OF SPECIAL PROVISIONS	LSPPRO
MOUNTED PORTABLE BARRIER RAIL	MTPORTBR

OTHER STRUCTURE CELLS	CELL NAME
NORTH ARROW	NARR1
TN NORTH ARROW	NARR2
PORTABLE BARRIER RAIL	PBR
PROJECT PAGE TITLE	PJTPGTLE
PROPERTY LINE	PL
+/- TOLERANCE	PLUSMINUS
PRESTRESSED STRANDS	PRSTRST
REVISION SYMBOL	REVSYM
SLAB CONSTRUCTION JOINT DETAIL	SLBJT
SPOT ELEVATION	SPTLV
STATION TERM	STATER
STRUCTURE INFO	STRINFO
STRUCTURE SHEET BORDER	STRSHTBDR
SURVEY ARROW	SURARRW
SURFACE TERM	SURFTERM
RED TRIANGLE SYMBOL	SYM1
VERTICAL CONTROL POINT SYMBOL	SYM2
RED SQUARE SYMBOL	SYM3
HORIZONTAL CONTROL POINT SYMBOL	SYM4
SYMBOL NO.5	SYM5
SYMBOL NO.6	SYM6
HALF RED TRIANGLE SYMBOL	SYM7
HALF RED CIRCLE SYMBOL	SYM8
HALF RED SQUARE SYMBOL	SYM9
ARROW TRAFFIC FLOW	TARROW
TERMINATOR ARROW	TERM
MEDIUM ARROWHEAD	TERM1
LARGE ARROWHEAD	TERM2
EXTRA LARGE ARROWHEAD	TERM3
TDOT LOGO	TL

OTHER STRUCTURE CELLS	CELL NAME
TDOT LOGO 2	TL2
TITLESHT TENNESSEE MAP	TNMAP
WATER SURFACE MARK	WATSUR
WATER ELEVATION	WELV
BRIDGE INFO	XBRIDG

TYPICAL.CEL

TYPICAL SECTIONS - PAVEMENT ITEMS	CELL NAME
MINERAL AGGREGATE, TYPE A BASE, GRADE D	303-01
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING A	307-01.01
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING B	307-01.06
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING B-M	307-01.07
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING B-M2	307-01.08
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING C	307-01.09
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING C-W	307-01.10
ASPHALT CONCRETE MIX (PG64-22) FOR 3/4 IN. SUPERPAVE MIX	307-01.13
ASPHALT CONCRETE MIX (PG64-22) FOR 1 IN. SUPERPAVE MIX	307-01.14
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING CS	307-01.15
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING A-S	307-01.20
BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22, GRADING A-S	307-01.21
BITUMINOUS PLANT MIX BASE (HOT MIX) PG76-22, GRADING A-S	307-01.22
BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22, GRADING A-CRL	307-01.23
BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22, GRADING A-CRL	307-01.24
BITUMINOUS PLANT MIX BASE (HOT MIX) PG76-22, GRADING A-CRL	307-01.25
BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22, GRADING A	307-02.01
BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22, GRADING B	307-02.06
BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22, GRADING B-M	307-02.07
BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22, GRADING B-M2	307-02.08
ASPHALT CONCRETE MIX (PG70-22) FOR 3/4 IN. SUPERPAVE MIX	307-02.13

TYPICAL SECTIONS - PAVEMENT ITEMS	CELL NAME
ASPHALT CONCRETE MIX (PG70-22) FOR 1 IN. SUPERPAVE MIX	307-02.14
BITUMINOUS PLANT MIX BASE (HOT MIX) PG76-22, GRADING A	307-03.01
BITUMINOUS PLANT MIX BASE (HOT MIX) PG76-22, GRADING B	307-03.06
BITUMINOUS PLANT MIX BASE (HOT MIX) PG76-22, GRADING B-M	307-03.07
BITUMINOUS PLANT MIX BASE (HOT MIX) PG76-22, GRADING B-M2	307-03.08
BITUMINOUS PLANT MIX BASE (HOT MIX) PG76-22, GRADING C	307-03.09
ASPHALT CONCRETE MIX (PG76-22) FOR 3/4 IN. SUPERPAVE MIX	307-03.13
ASPHALT CONCRETE MIX (PG76-22) FOR 1 IN. SUPERPAVE MIX	307-03.14
BITUMINOUS PLANT MIX BASE (HOT MIX) PG82-22, GRADING B-M2	307-04.08
BITUMINOUS PLANT MIX BASE (HOT MIX)	307-20.01
BITUMINOUS COATED AGGREGATE BASE (PLANT MIX) COLD MIXES (NO. 1)	308-01.01 308-01.02
BITUMINOUS COATED AGGREGATE BASE (PLANT MIX) COLD MIXES (NO. 2)	308-02.01 308-02.02
TREATED PERMEABLE BASE	313-03
PRIME COAT	402-01 402-02
TACK COAT 0.07 GAL/S.Y.	403-01A
TACK COAT 0.10 GAL/S.Y.	403-01B
FOG SEAL (SHOULDERS)	403-05.01
DOUBLE BITUMINOUS SURFACE TREATMENT	404-01.01 404-01.02
DOUBLE BITUMINOUS SURFACE TREATMENT	405-01.01 405-01.02
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG64-22	411-01.03 411-01.04
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG64-22, GRADING E (SHLD.)	411-01.07
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG64-22, GRADING D	411-01.10
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG64-22, GRADING E (RDWY.)	411-01.11
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG70-22	411-02.03 411-02.04
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG70-22, GRADING D	411-02.10
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG70-22, GRADING E (RDWY.)	411-02.11
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG76-22	411-03.03 411-03.04
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG76-22, GRADING D	411-03.10
ASPHALTIC CONCRETE SURFACE (HOT MIX) PG82-22, GRADING D	411-04.10
PROPOSED PAVEMENT SCHEDULE TITLE BLOCK	PPSTB

TYPICAL SECTIONS - PAVEMENT ITEMS	CELL NAME
PROPOSED PAVEMENT SCHEDULE TITLE BLOCK (HALF)	PPSTBH
PAVEMENT SCHEDULE BLANK 1	PSBLANK1
PAVEMENT SCHEDULE BLANK 2	PSBLANK2
TYPICAL SECTIONS - RD11-TS-1 CELLS	CELL NAME
RD11-TS-1 LT. SE LOCAL ROADS (ADT = 2000) (2 LAYERS)	RD11TS12LLS
RD11-TS-1 RT. SE LOCAL ROADS (ADT = 2000) (2 LAYERS)	RD11TS12LRS
RD11-TS-1 TANGENT LOCAL ROADS (ADT = 2000) (2 LAYERS)	RD11TS12LT
RD11-TS-1 LT. SE LOCAL ROADS (ADT = 2000) (3 LAYERS)	RD11TS13LLS
RD11-TS-1 RT. SE LOCAL ROADS (ADT = 2000) (3 LAYERS)	RD11TS13LRS
RD11-TS-1 TANGENT LOCAL ROADS (ADT = 2000) (3 LAYERS)	RD11TS13LT
TYPICAL SECTIONS - RD11-TS-1A CELLS	CELL NAME
RD11-TS-1A LT. SE 2' & 4' SHOULDER (3 LAYERS)	RD11TS1A3L24SHLDLS
RD11-TS-1A RT. SE 2' & 4' SHOULDER (3 LAYERS)	RD11TS1A3L24SHLDRS
RD11-TS-1A TANGENT 2' & 4' SHOULDER (3 LAYERS)	RD11TS1A3L24SHLDT
RD11-TS-1A LT. SE 6' & 8' SHOULDER (3 LAYERS)	RD11TS1A3L68SLS
RD11-TS-1A RT. SE 6' & 8' SHOULDER (3 LAYERS)	RD11TS1A3L68SRS
RD11-TS-1A TANGENT 6' & 8' SHOULDER (3 LAYERS)	RD11TS1A3L68ST
RD11-TS-1A LT. SE W/ C&G NO SHLD. BREAK (3 LAYERS)	RD11TS1A3LCGNSLS
RD11-TS-1A RT. SE W/ C&G NO SHLD. BREAK (3 LAYERS)	RD11TS1A3LCGNSRS
RD11-TS-1A TANGENT W/ C&G NO SHLD. BREAK (3 LAYERS)	RD11TS1A3LCGNST
RD11-TS-1A LT. SE W/ C&G & SHLD. BREAK (3 LAYERS)	RD11TS1A3LCGSBLS
RD11-TS-1A RT. SE W/ C&G & SHLD. BREAK (3 LAYERS)	RD11TS1A3LCGSBRS
RD11-TS-1A TANGENT W/ C&G & SHLD. BREAK (3 LAYERS)	RD11TS1A3LCGSBT
RD11-TS-1A LT. SE RURAL NO SHLD. BREAK (3 LAYERS)	RD11TS1A3LRNSLS
RD11-TS-1A RT. SE RURAL NO SHLD. BREAK (3 LAYERS)	RD11TS1A3LRNSRS
RD11-TS-1A TANGENT RURAL NO SHLD. BREAK (3 LAYERS)	RD11TS1A3LRNST

TYPICAL SECTIONS - RD11-TS-2 CELLS	CELL NAME
RD11-TS-2 LT. SE COLLECTOR (3 LAYERS)	RD11TS23LLSC
RD11-TS-2 RT. SE COLLECTOR (3 LAYERS)	RD11TS23LRSC
RD11-TS-2 TANGENT COLLECTOR (3 LAYERS)	RD11TS23LTC
RD11-TS-2 LT. SE COLLECTOR (4 LAYERS)	RD11TS24LLSC
RD11-TS-2 RT. SE COLLECTOR (4 LAYERS)	RD11TS24LRSC
RD11-TS-2 TANGENT COLLECTOR (4 LAYERS)	RD11TS24LTC
TYPICAL SECTIONS - RD11-TS-2A CELLS	CELL NAME
RD11-TS-2A LT. SE ARTERIAL 4 & 6 LANE DEP. MED. (3 LAYERS)	RD11TS2A3LA46LDMLS
RD11-TS-2A RT. SE ARTERIAL 4 & 6 LANE DEP. MED. (3 LAYERS)	RD11TS2A3LA46LDMRS
RD11-TS-2A TANGENT ARTERIAL 4 & 6 LANE DEP. MED. (3 LAYERS)	RD11TS2A3LA46LDMT
RD11-TS-2A LT. SE ARTERIAL 4 & 6 LANE DEP. MED. (4 LAYERS)	RD11TS2A4LA46LDMLS
RD11-TS-2A RT. SE ARTERIAL 4 & 6 LANE DEP. MED. (4 LAYERS)	RD11TS2A4LA46LDMRS
RD11-TS-2A TANGENT ARTERIAL 4 & 6 LANE DEP. MED. (4 LAYERS)	RD11TS2A4LA46LDMT
TYPICAL SECTIONS - RD11-TS-2B CELLS	CELL NAME
RD11-TS-2B LT. SE 4 & 6 LANE FLUSH MED. (3 LAYERS)	RD11TS2B3L46LFMLS
RD11-TS-2B RT. SE 4 & 6 LANE FLUSH MED. (3 LAYERS)	RD11TS2B3L46LFMRS
RD11-TS-2B TANGENT 4 & 6 LANE FLUSH MED. (3 LAYERS)	RD11TS2B3L46LFMT
RD11-TS-2B LT. SE 4 & 6 LANE FLUSH MED. (4 LAYERS)	RD11TS2B4L46LFMLS
RD11-TS-2B RT. SE 4 & 6 LANE FLUSH MED. (4 LAYERS)	RD11TS2B4L46LFMRS
RD11-TS-2B TANGENT 4 & 6 LANE FLUSH MED. (4 LAYERS)	RD11TS2B4L46LFMT
TYPICAL SECTIONS - RD11-TS-3 CELLS	CELL NAME
RD11-TS-3 LT. SE ARTERIAL 2 LANE (3 LAYERS)	RD11TS33LA2LLS
RD11-TS-3 RT. SE ARTERIAL 2 LANE (3 LAYERS)	RD11TS33LA2LRS
RD11-TS-3 TANGENT ARTERIAL 2 LANE (3 LAYERS)	RD11TS33LA2LT
RD11-TS-3 LT. SE ARTERIAL 2 LANE (4 LAYERS)	RD11TS34LA2LLS
RD11-TS-3 RT. SE ARTERIAL 2 LANE (4 LAYERS)	RD11TS34LA2LRS

TYPICAL SECTIONS - RD11-TS-3 CELLS	CELL NAME
RD11-TS-3 TANGENT ARTERIAL 2 LANE (4 LAYERS)	RD11TS34LA2LT

TYPICAL SECTIONS - RD11-TS-3A CELLS	CELL NAME
RD11-TS-3A LT. SE ARTERIAL 4 & 6 LANE DEP. MED. (3 LAYERS)	RD11TS3A3LA46LDMLS
RD11-TS-3A RT. SE ARTERIAL 4 & 6 LANE DEP. MED. (3 LAYERS)	RD11TS3A3LA46LDMRS
RD11-TS-3A TANGENT ARTERIAL 4 & 6 LANE DEP. MED. (3 LAYERS)	RD11TS3A3LA46LDMT
RD11-TS-3A LT. SE ARTERIAL 4 & 6 LANE DEP. MED. (4 LAYERS)	RD11TS3A4LA46LDMLS
RD11-TS-3A RT. SE ARTERIAL 4 & 6 LANE DEP. MED. (4 LAYERS)	RD11TS3A4LA46LDMRS
RD11-TS-3A TANGENT ARTERIAL 4 & 6 LANE DEP. MED. (4 LAYERS)	RD11TS3A4LA46LDMT

TYPICAL SECTIONS - RD11-TS-3B CELLS	CELL NAME
RD11-TS-3B LT. SE 4 & 6 LANE FLUSH MED. (3 LAYERS)	RD11TS3B3L46LFMLS
RD11-TS-3B RT. SE 4 & 6 LANE FLUSH MED. (3 LAYERS)	RD11TS3B3L46LFMRS
RD11-TS-3B TANGENT 4 & 6 LANE FLUSH MED. (3 LAYERS)	RD11TS3B3L46LFMT
RD11-TS-3B LT. SE 4 & 6 LANE FLUSH MED. (4 LAYERS)	RD11TS3B4L46LFMLS
RD11-TS-3B RT. SE 4 & 6 LANE FLUSH MED. (4 LAYERS)	RD11TS3B4L46LFMRS
RD11-TS-3B TANGENT 4 & 6 LANE FLUSH MED. (4 LAYERS)	RD11TS3B4L46LFMT

TYPICAL SECTIONS - RD11-TS-3C CELLS	CELL NAME
RD11-TS-3C LT. SE 4 & 6 LANE INDEP. RD. (3 LAYERS)	RD11TS3C3L46LIRLS
RD11-TS-3C RT. SE 4 & 6 LANE INDEP. RD. (3 LAYERS)	RD11TS3C3L46LIRRS
RD11-TS-3C TANGENT 4 & 6 LANE INDEP. RD. (3 LAYERS)	RD11TS3C3L46LIRT
RD11-TS-3C LT. SE 4 & 6 LANE INDEP. RD. (4 LAYERS)	RD11TS3C4L46LIRLS
RD11-TS-3C RT. SE 4 & 6 LANE INDEP. RD. (4 LAYERS)	RD11TS3C4L46LIRRS
RD11-TS-3C TANGENT 4 & 6 LANE INDEP. RD. (4 LAYERS)	RD11TS3C4L46LIRT

TYPICAL SECTIONS - RD11-TS-4 CELLS	CELL NAME
RD11-TS-4 LT. SE ARTERIAL RAMP ASPHALT LEFT 16' (4 LAYERS)	RD11TS44L16RALLS
RD11-TS-4 RT. SE ARTERIAL RAMP ASPHALT LEFT 16' (4 LAYERS)	RD11TS44L16RALRS

TYPICAL SECTIONS - RD11-TS-4 CELLS	CELL NAME
RD11-TS-4 TANGENT ARTERIAL RAMP ASPHALT LEFT 16' (4 LAYERS)	RD11TS44L16RALT
RD11-TS-4 LT. SE ARTERIAL RAMP ASPHALT RIGHT 16' (4 LAYERS)	RD11TS44L16RARLS
RD11-TS-4 RT. SE ARTERIAL RAMP ASPHALT RIGHT 16' (4 LAYERS)	RD11TS44L16RARRS
RD11-TS-4 TANGENT ARTERIAL RAMP ASPHALT RIGHT 16' (4 LAYERS)	RD11TS44L16RART
RD11-TS-4 LT. SE ARTERIAL RAMP CONCRETE LEFT 16' (4 LAYERS)	RD11TS44L16RCLLS
RD11-TS-4 RT. SE ARTERIAL RAMP CONCRETE LEFT 16' (4 LAYERS)	RD11TS44L16RCLRS
RD11-TS-4 TANGENT ARTERIAL RAMP CONCRETE LEFT 16' (4 LAYERS)	RD11TS44L16RCLT
RD11-TS-4 LT. SE ARTERIAL RAMP CONCRETE RIGHT 16' (4 LAYERS)	RD11TS44L16RCRLS
RD11-TS-4 RT. SE ARTERIAL RAMP CONCRETE RIGHT 16' (4 LAYERS)	RD11TS44L16RCRRS
RD11-TS-4 TANGENT ARTERIAL RAMP CONCRETE RIGHT 16' (4 LAYERS)	RD11TS44L16RCRT
RD11-TS-4 LT. SE ARTERIAL RAMP ASPHALT LEFT 24' (4 LAYERS)	RD11TS44L24RALLS
RD11-TS-4 RT. SE ARTERIAL RAMP ASPHALT LEFT 24' (4 LAYERS)	RD11TS44L24RALRS
RD11-TS-4 TANGENT ARTERIAL RAMP ASPHALT LEFT 24' (4 LAYERS)	RD11TS44L24RALT
RD11-TS-4 LT. SE ARTERIAL RAMP ASPHALT RIGHT 24' (4 LAYERS)	RD11TS44L24RARLS
RD11-TS-4 RT. SE ARTERIAL RAMP ASPHALT RIGHT 24' (4 LAYERS)	RD11TS44L24RARRS
RD11-TS-4 TANGENT ARTERIAL RAMP ASPHALT RIGHT 24' (4 LAYERS)	RD11TS44L24RART
RD11-TS-4 LT. SE ARTERIAL RAMP CONCRETE LEFT 24' (4 LAYERS)	RD11TS44L24RCLLS
RD11-TS-4 RT. SE ARTERIAL RAMP CONCRETE LEFT 24' (4 LAYERS)	RD11TS44L24RCLRS
RD11-TS-4 TANGENT ARTERIAL RAMP CONCRETE LEFT 24' (4 LAYERS)	RD11TS44L24RCLT
RD11-TS-4 LT. SE ARTERIAL RAMP CONCRETE RIGHT 24' (4 LAYERS)	RD11TS44L24RCRLS
RD11-TS-4 RT. SE ARTERIAL RAMP CONCRETE RIGHT 24' (4 LAYERS)	RD11TS44L24RCRRS
RD11-TS-4 TANGENT ARTERIAL RAMP CONCRETE RIGHT 24' (4 LAYERS)	RD11TS44L24RCRT
TYPICAL SECTIONS - RD11-TS-5 CELLS	CELL NAME
RD11-TS-5 LT. SE FREEWAYS WITH DEP. MED. (3 LAYERS)	RD11TS53LFDMLS
RD11-TS-5 RT. SE FREEWAYS WITH DEP. MED. (3 LAYERS)	RD11TS53LFDMRS
RD11-TS-5 TANGENT FREEWAYS WITH DEP. MED. (3 LAYERS)	RD11TS53LFDMT
RD11-TS-5 LT. SE FREEWAYS WITH DEP. MED. (4 LAYERS)	RD11TS54LFDMLS
RD11-TS-5 RT. SE FREEWAYS WITH DEP. MED. (4 LAYERS)	RD11TS54LFDMRS
RD11-TS-5 TANGENT FREEWAYS WITH DEP. MED. (4 LAYERS)	RD11TS54LFDMT

TYPICAL SECTIONS - RD11-TS-5A CELLS	CELL NAME
RD11-TS-5A LT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT LEFT (3 LAYERS)	RD11TS5A3LF23LIRALLS
RD11-TS-5A RT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT LEFT (3 LAYERS)	RD11TS5A3LF23LIRALRS
RD11-TS-5A TANGENT FREEWAY 2 & 3 LANE IND. RD. ASPHALT LEFT (3 LAYERS)	RD11TS5A3LF23LIRALT
RD11-TS-5A LT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT RIGHT (3 LAYERS)	RD11TS5A3LF23LIRARLS
RD11-TS-5A RT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT RIGHT (3 LAYERS)	RD11TS5A3LF23LIRARRS
RD11-TS-5A TANGENT FREEWAY 2 & 3 LANE IND. RD. ASPHALT RIGHT (3 LAYERS)	RD11TS5A3LF23LIRART
RD11-TS-5A LT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT LEFT (4 LAYERS)	RD11TS5A4LF23LIRALLS
RD11-TS-5A RT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT LEFT (4 LAYERS)	RD11TS5A4LF23LIRALRS
RD11-TS-5A TANGENT FREEWAY 2 & 3 LANE IND. RD. ASPHALT LEFT (4 LAYERS)	RD11TS5A4LF23LIRALT
RD11-TS-5A LT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT RIGHT (4 LAYERS)	RD11TS5A4LF23LIRARLS
RD11-TS-5A RT. SE FREEWAY 2 & 3 LANE IND. RD. ASPHALT RIGHT (4 LAYERS)	RD11TS5A4LF23LIRARRS
RD11-TS-5A TANGENT FREEWAY 2 & 3 LANE IND. RD. ASPHALT RIGHT (4 LAYERS)	RD11TS5A4LF23LIRART
RD11-TS-5A LT. SE FREEWAY 2 & 3 LANE IND. RD. CONCRETE LEFT 24'	RD11TS5AF23LIRCL24LS
RD11-TS-5A RT. SE FREEWAY 2 & 3 LANE IND. RD. CONCRETE LEFT 24'	RD11TS5AF23LIRCL24RS
RD11-TS-5A TANGENT FREEWAY 2 & 3 LANE IND. RD. CONCRETE LEFT 24'	RD11TS5AF23LIRCL24T
RD11-TS-5A LT. SE FREEWAY 2 & 3 LANE IND. RD. CONCRETE RIGHT 24'	RD11TS5AF23LIRCR24LS
RD11-TS-5A RT. SE FREEWAY 2 & 3 LANE IND. RD. CONCRETE RIGHT 24'	RD11TS5AF23LIRCR24RS
RD11-TS-5A TANGENT FREEWAY 2 & 3 LANE IND. RD. CONCRETE RIGHT 24'	RD11TS5AF23LIRCR24T
TYPICAL SECTIONS - RD11-TS-5B CELLS	CELL NAME
RD11-TS-5B LT. SE FREEWAY WITH MED. BARRIER (3 LAYERS)	RD11TS5B3LFMBLS
RD11-TS-5B RT. SE FREEWAY WITH MED. BARRIER (3 LAYERS)	RD11TS5B3LFMBRS
RD11-TS-5B TANGENT FREEWAY WITH MED. BARRIER (3 LAYERS)	RD11TS5B3LFMBT
RD11-TS-5B LT. SE FREEWAY WITH MED. BARRIER (4 LAYERS)	RD11TS5B4LFMBLS
RD11-TS-5B RT. SE FREEWAY WITH MED. BARRIER (4 LAYERS)	RD11TS5B4LFMBRS
RD11-TS-5B TANGENT FREEWAY WITH MED. BARRIER (4 LAYERS)	RD11TS5B4LFMBT
TYPICAL SECTIONS - RD11-TS-5W CELLS	CELL NAME
RD11-TS-5W LT. SE FREEWAY WIDENING IN MED. ONLY (3 LAYERS)	RD11TS5W3LFWMOLS

RD11-TS-5W RT. SE FREEWAY WIDENING IN MED. ONLY (3 LAYERS)	RD11TS5W3LFWMORS
RD11-TS-5W TANGENT FREEWAY WIDENING IN MED. ONLY (3 LAYERS)	RD11TS5W3LFWMOT
RD11-TS-5W LT. SE FREEWAY WIDENING IN MED. ONLY (4 LAYERS)	RD11TS5W4LFWMOLS
RD11-TS-5W RT. SE FREEWAY WIDENING IN MED. ONLY (4 LAYERS)	RD11TS5W4LFWMORS
RD11-TS-5W TANGENT FREEWAY WIDENING IN MED. ONLY (4 LAYERS)	RD11TS5W4LFWMOT

TYPICAL SECTIONS - RD11-TS-6 CELLS	CELL NAME
RD11-TS-6 LT. SE 18' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L18CGSGSLS
RD11-TS-6 RT. SE 18' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L18CGSGSRS
RD11-TS-6 TANGENT 18' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L18CGSGST
RD11-TS-6 LT. SE 2'-4' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L24CGSGSLS
RD11-TS-6 RT. SE 2'-4' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L24CGSGSRS
RD11-TS-6 TANGENT 2'-4' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L24CGSGST
RD11-TS-6 LT. SE 36' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L36CGSGSLS
RD11-TS-6 RT. SE 36' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L36CGSGSRS
RD11-TS-6 TANGENT 36' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L36CGSGST
RD11-TS-6 LT. SE 12'-16' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L1216CGSGSLS
RD11-TS-6 RT. SE 12'-16' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L1216CGSGSRS
RD11-TS-6 TANGENT 12'-16' MEDIAN C&G W/ SHLD. & GRASS (4 LAYERS)	RD11TS64L1216CGSGST

TYPICAL SECTIONS - RD11-TS-6A CELLS	CELL NAME
RD11-TS-6A LT. SE 18' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L18CGGSLS
RD11-TS-6A RT. SE 18' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L18CGGSRS
RD11-TS-6A TANGENT 18' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L18CGGST
RD11-TS-6A LT. SE 0'-4' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L24CGGSLS
RD11-TS-6A RT. SE 0'-4' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L24CGGSRS
RD11-TS-6A TANGENT 0'-4' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L24CGGST
RD11-TS-6A LT. SE 12'-16' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L1216CGGSLS
RD11-TS-6A RT. SE 12'-16' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L1216CGGSRS
RD11-TS-6A TANGENT 12'-16' MEDIAN C&G GRASS (4 LAYERS)	RD11TS6A4L1216CGGST
RD11-TS-6A LT. SE CURB & GUTTER NO SHOULD. & GRASS STRIP 18' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS18MLS

TYPICAL SECTIONS - RD11-TS-6A CELLS	CELL NAME
RD11-TS-6A RT. SE CURB & GUTTER NO SHOULD. & GRASS STRIP 18' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS18MRS
RD11-TS-6A TANGENT CURB & GUTTER NO SHOULD. & GRASS STRIP 18' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS18MT
RD11-TS-6A LT. SE CURB & GUTTER NO SHOULD. & GRASS STRIP 0'-4' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS24MLS
RD11-TS-6A RT. SE CURB & GUTTER NO SHOULD. & GRASS STRIP 0'-4' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS24MRS
RD11-TS-6A TANGENT CURB & GUTTER NO SHOULD. & GRASS STRIP 0'-4' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS24MT
RD11-TS-6A LT. SE CURB & GUTTER NO SHOULD. & GRASS STRIP 12'-16' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS1216MLS
RD11-TS-6A RT. SE CURB & GUTTER NO SHOULD. & GRASS STRIP 12'-16' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS1216MRS
RD11-TS-6A TANGENT CURB & GUTTER NO SHOULD. & GRASS STRIP 12'-16' MED. (4 LAYERS)	RD11TS6A4LCGNSGSS1216MT
TYPICAL SECTIONS - RD11-TS-6B CELLS	CELL NAME
RD11-TS-6B LT. SE 18' RAISED MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L18CGSLLS
RD11-TS-6B RT. SE 18' RAISED MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L18CGSLRS
RD11-TS-6B TANGENT 18' RAISED MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L18CGST
RD11-TS-6B LT. SE 0'-4' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L24CGSLS
RD11-TS-6B RT. SE 0'-4' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L24CGSRS
RD11-TS-6B TANGENT 0'-4' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L24CGST
RD11-TS-6B LT. SE 36' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L36CGSLS
RD11-TS-6B RT. SE 36' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L36CGSRS
RD11-TS-6B TANGENT 36' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L36CGST
RD11-TS-6B LT. SE 12'-16' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L1216CGSLS
RD11-TS-6B RT. SE 12'-16' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L1216CGSRS
RD11-TS-6B TANGENT 12'-16' MEDIAN C&G W/ SHLD. (4 LAYERS)	RD11TS6B4L1216CGST
RD11-TS-6B LT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 18' RAISED MED. (4 LAYERS)	RD11TS6B4LCGSB18RMLS
RD11-TS-6B RT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 18' RAISED MED. (4 LAYERS)	RD11TS6B4LCGSB18RMRS
RD11-TS-6B TANGENT CURB & GUTTER WITH SHOULD. W/ BREAK 18' RAISED MED. (4 LAYERS)	RD11TS6B4LCGSB18RMT
RD11-TS-6B LT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 0'-4' MED. (4 LAYERS)	RD11TS6B4LCGSB24MLS
RD11-TS-6B RT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 0'-4' MED. (4 LAYERS)	RD11TS6B4LCGSB24MRS
RD11-TS-6B TANGENT CURB & GUTTER WITH SHOULD. W/ BREAK 0'-4' MED. (4 LAYERS)	RD11TS6B4LCGSB24MT
RD11-TS-6B LT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 36' MED. (4 LAYERS)	RD11TS6B4LCGSB36MLS
RD11-TS-6B RT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 36' MED. (4 LAYERS)	RD11TS6B4LCGSB36MRS

TYPICAL SECTIONS - RD11-TS-6B CELLS	CELL NAME
RD11-TS-6B TANGENT CURB & GUTTER WITH SHOULD. W/ BREAK 36' MED. (4 LAYERS)	RD11TS6B4LCGSB36MT
RD11-TS-6B LT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 12'-16' MED. (4 LAYERS)	RD11TS6B4LCGSB1216MLS
RD11-TS-6B RT. SE CURB & GUTTER WITH SHOULD. W/ BREAK 12'-16' MED. (4 LAYERS)	RD11TS6B4LCGSB1216MRS
RD11-TS-6B TANGENT CURB & GUTTER WITH SHOULD. W/ BREAK 12'-16' MED. (4 LAYERS)	RD11TS6B4LCGSB1216MT
TYPICAL SECTIONS - RD11-TS-6C CELLS	CELL NAME
RD11-TS-6C LT. SE 18' MEDIAN C&G (4 LAYERS)	RD11TS6C4L18CGLS
RD11-TS-6C RT. SE 18' MEDIAN C&G (4 LAYERS)	RD11TS6C4L18CGRS
RD11-TS-6C TANGENT 18' MEDIAN C&G (4 LAYERS)	RD11TS6C4L18CGT
RD11-TS-6C LT. SE 0'-4' MEDIAN C&G (4 LAYERS)	RD11TS6C4L24CGLS
RD11-TS-6C RT. SE 0'-4' MEDIAN C&G (4 LAYERS)	RD11TS6C4L24CGRS
RD11-TS-6C TANGENT 0'-4' MEDIAN C&G (4 LAYERS)	RD11TS6C4L24CGT
RD11-TS-6C LT. SE 12'-16' MEDIAN C&G (4 LAYERS)	RD11TS6C4L1216CGLS
RD11-TS-6C RT. SE 12'-16' MEDIAN C&G (4 LAYERS)	RD11TS6C4L1216CGRS
RD11-TS-6C TANGENT 12'-16' MEDIAN C&G (4 LAYERS)	RD11TS6C4L1216CGT
RD11-TS-6C LT. SE CURB & GUTTER NO SHOULDERS 18' MED. (4 LAYERS)	RD11TS6C4LCGNS18MLS
RD11-TS-6C RT. SE CURB & GUTTER NO SHOULDERS 18' MED. (4 LAYERS)	RD11TS6C4LCGNS18MRS
RD11-TS-6C TANGENT CURB & GUTTER NO SHOULDERS 18' MED. (4 LAYERS)	RD11TS6C4LCGNS18MT
RD11-TS-6C LT. SE CURB & GUTTER NO SHOULDERS 0'-4' MED. (4 LAYERS)	RD11TS6C4LCGNS24MLS
RD11-TS-6C RT. SE CURB & GUTTER NO SHOULDERS 0'-4' MED. (4 LAYERS)	RD11TS6C4LCGNS24MRS
RD11-TS-6C TANGENT CURB & GUTTER NO SHOULDERS 0'-4' MED. (4 LAYERS)	RD11TS6C4LCGNS24MT
RD11-TS-6C LT. SE CURB & GUTTER NO SHOULDERS 12'-16' MED. (4 LAYERS)	RD11TS6C4LCGNS1216MLS
RD11-TS-6C RT. SE CURB & GUTTER NO SHOULDERS 12'-16' MED. (4 LAYERS)	RD11TS6C4LCGNS1216MRS
RD11-TS-6C TANGENT CURB & GUTTER NO SHOULDERS 12'-16' MED. (4 LAYERS)	RD11TS6C4LCGNS1216MT
TYPICAL SECTIONS - RD11-TS-7, 7A & 7B CELLS	CELL NAME
RD11-TS-7 LT. SE CENTER TURN LANE NO GRASS STRIP (4 LAYERS)	RD11TS74LCTLNSSLS
RD11-TS-7 RT. SE CENTER TURN LANE NO GRASS STRIP (4 LAYERS)	RD11TS74LCTLNSSRS
RD11-TS-7 TANGENT CENTER TURN LANE NO GRASS STRIP (4 LAYERS)	RD11TS74LCTLNSSST
RD11-TS-7A LT. SE CENTER TURN LANE WITH GRASS STRIP (4 LAYERS)	RD11TS7A4LCTLGSSLS

TYPICAL SECTIONS - RD11-TS-7, 7A & 7B CELLS	CELL NAME
RD11-TS-7A RT. SE CENTER TURN LANE WITH GRASS STRIP (4 LAYERS)	RD11TS7A4LCTLGSSRS
RD11-TS-7A TANGENT CENTER TURN LANE WITH GRASS STRIP (4 LAYERS)	RD11TS7A4LCTLGSST
RD11-TS-7B LT. SE CENTER TURN LANE RURAL (4 LAYERS)	RD11TS7B4LCTLRLS
RD11-TS-7B RT. SE CENTER TURN LANE RURAL (4 LAYERS)	RD11TS7B4LCTLRRS
RD11-TS-7B TANGENT CENTER TURN LANE RURAL (4 LAYERS)	RD11TS7B4LCTLRT
TYPICAL SECTIONS - RD11 ROUNDABOUT CELLS	CELL NAME
ROUNDABOUT INTERSECTING ROADWAY	RD11ROUNDRAMP
RD11-TS-9 SINGLE LANE RURAL OR URBAN ROUNDABOUT	RD11TS9SLROUND
RD11-TS-10 MULTI-LANE RURAL OR URBAN ROUNDABOUT	RD11TS10MLROUND
TYPICAL SECTIONS - MISCELLANEOUS CELLS	CELL NAME
GUARDRAIL TYPICAL SECTION	GRTYP
PRIVATE DRIVE TYPICAL SECTION	PVTT
UNDERDRAIN TYPICAL SECTION	UDTYP

Index

3PC.....	123	VBA Program.....	58	VBA program	62
AASHTO BEAMS.....	288	BOX BEAMS	288	Cross Section Sheet Production	108
Aerial Survey Files.....	103	Box Culvert SectionSee Seed Files		CULVERT PROTECTION	
Aerial Survey Graphics Level Fix		Bridge Level Modify		Cells.....	239
VBA program	55	VBA Program.....	58	CulvertPattern	5
Aerial Survey Surface Graphics		Cell Area Patterning.....	37	CulvertXSections.....	5
Level Fix		Cell Place Rotate Tools		CURB INLET	
VBA program	56	VBA program	59	Cells.....	238
Aerial Survey Tools		Cell Tools		CURB RAMP.....	223
VBA program	56	Centerline Cells		CURVE	
Aerial Survey Update Contours		VBA program	59	GEOPAK.....	17
VBA program	56, 57	CHAIN		Custom Line Style	51
Aerial Surveys Process Surface		GEOPAK.....	17	D&C Manager47, 55, 69, 72, 123,	
Text Files		Chain & profile.....	10	124, 126, 127, 128, 319, 324	
VBA program	55	Change Linestyle Scale		Delete All XSection Grids	
Aerial Surveys Update Surface File		VBA program	59	VBA program	62
VBA program	55	Characters & Symbols.....	41	Delete EarthWork Shapes	
ALIGNMENT		Code Pavement Layers		VBA program	62
Text	40	VBA program	59	Delete Prop XSection Graphics	
Alignments	4, 12	COGO12, 13, 14, 15, 16, 17, 18,		VBA program	62
Arc Radius Length Label		103, 198		Design & Computation Manager	
VBA program	57	COGO Database12, 13, 14, 15, 16		.....	103
AREA PATTERN EXAMPLES219		Concept Level Modify		Design DGN Project Filenames3	
AREA PATTERN EXAMPLES -		VBA Program.....	60	Design Project File Types.....	4
GEOTECHNICAL	222	Concept Sheet Cells		DESTINATION SIGNS	264
Area Patterns		VBA Program.....	60	DGN2, 3, 4, 5, 6, 10, 11, 12, 13,	
VBA program	57	Condition Codes Etc Cells....	60	14, 15, 16, 19, 20, 47, 98, 100,	
AREA PATTERNS	218	ConstCriteria Files.....	122	137, 149, 165, 313, 322, 323,	
AREA PATTERNS -		Construction Sign Cells		326, 327	
GEOTECHNICAL	221	VBA program	60	Digital Terrain Model2, 12, 13, 14,	
Arial		CONSTRUCTION SIGNS ..	261	15, 16	
Text	40	CONTINENTAL		Distance Bearing Label	
Barrier Rail Cells		Text.....	40	VBA program	62
VBA Program.....	57	Correspondence		dotx.....	24
Base Drawings		Project Folders Structure	8	DP Profile	
Project Folders Structure	8	Cost Estimate		VBA program	63
Batch Text Editor		Project Folders Structure	8	Drainage Files	106
VBA program	57	County Map Convert Tools		Drainage Plan Cells	
Beam Type Cells		VBA program	60	VBA program	63
VBA Program.....	58	CRASH CUSSION	223	Drainage Profile Cells	
Benching.....	130	Crash Identifier Cells		VBA program	63
BLANK SHEET FOR 2ND SHEET		VBA Program.....	61	DrainageMap.....	4
NOTES	See Seed Files	Crash Legend Cells		Draw Box Plan	
Blank Sign Cells		VBA Program.....	62	VBA program	63
VBA program	58	Criteria Files	115	Draw Box Profile	
BLANK SIGNS	261	Criteria Files Not Used By Typical		VBA program	64
Blue Highway Condensed		Sections.....	118	Draw Curb Ramp	
Text	40	Cross Drain Tab Info		VBA program	65
Box Beam Cells					

Draw Flow Direction VBA program.....68	Existing Pipe Profile Labeler VBA program..... 75	VBA program 80
Draw Handicap Ramp VBA program.....68	EXISTING R.O.W. & PROPERTY LINE FEATURES.....225	IDC Band Place Filter Assembly VBA program 81
Draw Perm Slope Drain VBA program.....69	EXISTING SIGNS & TRAFFIC CONTROL .....225	Index and Standard DrawingsSee Seed Files
Draw Pipe Profile VBA program.....69	EXISTING TRANSPORTATION FEATURES.....227	Interplot Client .....30
Draw Plot Border VBA program.....70	EXISTING UTILITIES.....227	Introduction.....1
Draw Profile Grid VBA program.....70	ExistingContours .....4	lplot.....30
Draw Slab Profile VBA program.....71	Field Survey Documents Word and Excel Files 29	lplot Set VBA program 81
Draw Temp Slope Drain VBA program.....72	FileType .....3, 4	IRP336.HLF..... See lplot
Draw Type "A" Endwall VBA program.....72	FILTER SOCK Cells..... 239	IRP336.STD See lplot
Draw Type "SD" Endwall VBA program.....73	Gen Bridge Detail VBA Program..... 77	lrP336c.hlf See lplot
Draw Type "ST" Endwall VBA program.....73	General Notes ..See Seed Files	K Value Design Tables .....105
Draw Type "U" Endwall 74	Generate 2D from 3D Top VBA program 77	Label Conduit VBA program 81
Draw Vehicle Trajectory Path VBA program.....75	Geopak Project Folders Structure 8	Label ESPC StormWater Outfalls VBA program 81
Drop Off Notes Traffic ControlSee Seed Files	GEOPAK create..... 16	Label Pull Box VBA program 81
Environmental Project Folders Structure .....8	GEOPAK COGO Input Files.16	Label Style Files .....104
Erosion Control Cells VBA program .....75	Geotech Project Folders Structure 8	Level Filters .....132
Erosion Control Legend Cells VBA program .....75	GeoTech Area Patterns VBA program 78	Lighting Cells VBA program 81
ESPC 4	GEOTECHNICAL.....287	LINE GEOPAK..... 17
ESPC Notes..... See Seed Files	GEOTECHNICAL.CEL .....287	Line Styles.....49
Ex Other Cells VBA Program.....75	Get Cogo Element VBA program 78	Macros.....55
Ex Regulatory Cells VBA Program.....76	GPK2, 10, 12, 13, 14, 15, 16, 17, 98, 132, 138, 139, 158, 164	Manual Revisions .....310
Ex Route Marker Cells VBA Program.....76	GPK Naming Conventions ... 10	Measure Area and Annotate VBA program 81
Ex School Cells VBA Program.....76	Graphical Survey Data 11	mfc 2 dtm VBA program 82
Ex Tennessee Cells VBA Program.....76	GS Other Cells VBA Program..... 78	MicroStation Libraries.....33
Ex Warning Cells VBA Program.....77	GS Regularity Cells VBA Program..... 78	MicroStation Print .....31
EXISTING CONTOURS..... 223	GS Route Markers Cells VBA Program..... 79	MISCELLANEOUS CELLS.228
EXISTING DRAINAGE 224	GS Tennessee Cells VBA Program..... 79	RD11 Cells..... 304
EXISTING NATURAL FEATURES 224	GS Warning Cells VBA Program..... 79	Move Raster by Datum Adjust VBA program 82
EXISTING NON- TRANSPORTATION FEATURES 224	HA points VBA program 80	Multimodal Project Folders Structure 8
	HA Spiral Curve Design Tables104	My Templates .....24
	HA Turning path Design Tables105	NAD/83(1995) .....1
	HA_Intersect Label VBA program 79	NATURAL STREAM DESIGN229
	Highway Route Sign Cells	Non-Roadway Typical Sections Typical Sections..... 114
		NSD cells VBA program 82
		Object Hazard Cells VBA Program 83
		OBJECT MARKERS & MISCELLANEOUS SIGNS284
		OfficeSee Microsoft Office 2010
		OTHER SIGN CELLS.....285

Parcel.....	11	Plan & Profile Sheet Production	108	VBA Program	88
PARCEL		Plan Phase Cells		RD11-TS-1 CELLS.....	296
GEOPAK	17	VBA program	87	RD11-TS-1A Cells	
PATTERNINGS	291	Plan Phase Sheet Stamps		VBA Program	88
Pavement Arrows		Cells.....	256	RD11-TS-1A CELLS.....	296
Cells	226, 244	Plan Phase Stamps.....	101	RD11-TS-2 Cells	
Pavement Design		<u>pltcfg</u>	31	VBA Program	89
Project Folders Structure	8	PLUS3SYM		RD11-TS-2 CELLS.....	297
PAVEMENT ITEMS	294	Text.....	40	RD11-TS-2A Cells	
Pavement Marking Cells		Points		VBA Program	88
VBA program	83	Cells.....	229	RD11-TS-2B Cells	
PDF.FUL.....	See lplot	points, curves & spirals	10	VBA Program	88
PDFColor.FUL	See lplot	Pre V8i Dot Pattern Fix		RD11-TS-2B CELLS.....	297
PERMIT & FORMS		VBA program	87	RD11-TS-3 Cells	
Cells	231	Pre V8i Dot Pattern Fix BATCH		VBA Program	89
Permit Forms Cells		VBA program	87	RD11-TS-3 CELLS.....	297
VBA program	83	Preface.....	vii	RD11-TS-3A Cells	
Phased Project Data Workflow	13	PROFILE		VBA Program	89
Place and Annotate XS sheets		GEOPAK.....	17	RD11-TS-3A CELLS.....	298
VBA program	83	Project Data Workflow.....	11	RD11-TS-3B Cells	
Place Arrow Head		Project Folders Structure.....	7	VBA Program	89
VBA Program.....	83	PropertyMap.....	4	RD11-TS-3B CELLS.....	298
Place Billboard Sign		Proposed.....	4	RD11-TS-3C Cells	
VBA program	83	PROPOSED CENTERLINE	231	VBA Program	89
Place Coor Grid Tick		PROPOSED CROSS SECTIONS		RD11-TS-3C CELLS	298
VBA program	83	.....	232	RD11-TS-4 Cells	
Place Crosswalk		PROPOSED DRAINAGE ..	232	VBA Program	89
VBA program	84	PROPOSED EROSION CONTROL		RD11-TS-4 CELLS.....	298
Place Jacked Bored Conduit		.....	237	RD11-TS-5 Cells	
VBA program	84	PROPOSED LIGHTNING ..	241	VBA Program	89
Place Label		PROPOSED R.O.W.	242	RD11-TS-5 CELLS.....	299
VBA program	84	PROPOSED TRAFFIC CONTROL		RD11-TS-5A Cells	
Place Light Pole		- PERMENANT	242	VBA Program	89
VBA program	84	PROPOSED TRAFFIC CONTROL		RD11-TS-5A CELLS.....	300
Place North Arrow		- TEMPORARY	245	RD11-TS-5B Cells	
VBA program	84	PROPOSED TRANSPORTATION		VBA Program	89
Place Overhead Sign		FEATURES.....	248	RD11-TS-5B CELLS.....	300
VBA program	85	PROPOSED UTILITIES	248	RD11-TS-5W Cells	
Place Plan Phase Stamps		ProposedContours	4	VBA Program	89
VBA program	85	PUBLIC HEARING	249	RD11-TS-5W CELLS.....	300
Place Proposed Trees		Public Hearing Cells		RD11-TS-6 Cells	
VBA program	85	VBA program	88	VBA Program	90
Place Steps		PvtDrivePattern	5	RD11-TS-6 CELLS.....	301
VBA program	86	PvtDriveProfiles.....	5	RD11-TS-6A Cells	
Place Stop Bar		Quantities		VBA Program	89
VBA program	86	Project Folders Structure	8	RD11-TS-6A CELLS.....	301
Place Trans Tower		RD11 Miscellaneous Cells		RD11-TS-6B Cells	
VBA program	86	VBA Program.....	88	VBA Program	90
Place Utility Pole		RD11 Roundabout Cells		RD11-TS-6B CELLS.....	302
VBA program	86	VBA Program.....	88	RD11-TS-6C Cells	
Place Vegetation		RD11 ROUNDABOUT CELLS	304	VBA Program	90
VBA program	87	RD11 Typical Section Cells		RD11-TS-6C CELLS	303
Place Yield Line		VBA Program.....	90	RD11-TS-7 7A 7B Cells	
VBA program	87	RD11-TS-1 Cells		VBA Program	90

RD11-TS-7, 7A & 7B CELLS	303	Sheet 3 ROW Notes Utility Notes		Standard Traffic Operations	
REBAR.....	289	Utility Owners	See Seed Files	Drawings.....	See Seed Files
REBAR CALL-OUT	289	Sheet Borders	250	STDCOLOR.TBL.....	1, 19, 33
Rebar CallOut Cells		Sheet Level Structure Summary &		STDS.CEL.....	1, 19, 218
VBA Program.....	90	Cross Reference.....	137	Storm Drainage Pipe Label	
Rebar Cells		Sheet Title Blocks		VBA program	95
VBA Program.....	90	Cells.....	250	Structure Area Patterns	
Redefine.....	18	Sheet Title Cells		VBA Program	95
Regulatory Sign Cells		VBA program	94	Structure Sheet Design Cells	
VBA program	91	SHEETS		VBA Program	96
REGULATORY SIGNS	268	Cells.....	250	STRUCTURE SIGNATURES	291
Rename Aerial Survey Tif Files		Sign Detail Cells		STRUCTURE STANDARD	
VBA program	91	VBA program	94	DRAWINGS	290
Roadname	4	SIGN.CEL	1	Structures	
Roadway Design 2nd Sheets	27	Signal Head Cells		Project Folders Structure	8
Roadway Design Forms & Letters		VBA program	94	STRUCTURES.CEL.....	288
.....	25	Signal Height Attachment Diagram		Submittals	
Roadway Typical Sections		VBA program	94	Project Folders Structure	8
Typical Sections	111	Signalization.....	4	Superelevation Preferences	105
roadwayCulvertXSections.....	6	Signalization Device Cells		Survey	3
RoadwayPattern	5	VBA program	94	Project Folders Structure	8
roadwayXSections	5, 6	SIGNS.CEL.....	261	SURVEY CHAIN	
Rotate Element Horizontal		Slope Calculator		GEOPAK.....	17
VBA program	91	VBA program	94	SURVEY CONTROL DATA	257
Rotate Fence Contents Horizontal		Special Ditches	129	Survey DGN project Filenames	2
VBA Program.....	93	Special Notes...See Seed Files		Survey Project File Types.....	3
ROUTE MARKER SIGNS..	266	SPECIAL SIGNS.....	274	Survey Project WorkFlow Toolbox	
RSAR Other Cells		Special Symbols.....	46	VBA program	96
VBA Program.....	91	SPIRAL		SurveySUE.....	3
RSAR Regulatory Cells		GEOPAK.....	17	SURVSEED.....	See Seed Files
VBA Program.....	91	Sta Off Label		<u>sym</u> b.....	40
RSAR Route Marker Cells		VBA program	95	Table of Contents	i
VBA Program.....	92	STANDARD DRAWINGS...257		TDOT Design Div Toolbox	
RSAR School Cells		Standard File Extensions	2	VBA program	96
VBA Program.....	92	Standard Filenames	2	TDOT English Tabulated Quantities	
RSAR Special Cells		Standard Fonts.....	40	.....	28
VBA Program.....	92	Standard GEOPAK Files.....	103	TDOT.cfg.....	100
RSAR Tennessee Cells		Standard Levels and Element		tdot.ddb	
VBA Program.....	93	Parameters	149	D&C Manager	103
RSAR Warning Cells		Standard Line		tdot.kvl	
VBA Program.....	93	Weights\Thickness.....	32	K Value	105
School Sign Cells		Standard Office Templates...24		tdot01.kvl	
VBA program	93	Standard Parameters	1	K Value	105
SCHOOL SIGNS.....	274	Standard Plot Control Files ..30		tdotEXIST.lpf	104
SEDIMENT TUBE LEGENDS		Standard Roadway DrawingsSee		TDOTFONT.RSC	40
Cells	240	Seed Files		TDOTLINE.rsc.....	1, 33
Seed Files	19	Standard Sheet Cells		tdotPROP.lpf	104
SEED2D.....	See Seed Files	VBA program	94	TDOTV8main.csv	100
SEED3D.....	See Seed Files	Standard Structure DrawingsSee		TDOTV8mainOnTheFly.csv	100
SEEDXS	See Seed Files	Seed Files		TDOTV8xsections.csv	100
SEEDZ.....	See Seed Files	Standard Traffic Operations and		Tennessee County Listings	9
SEShapes	5	Structure DrawingsSee Seed		Tennessee Sign Cells.....	96
Set Text Parameters AS		Files		TENNESSEE SIGNS.....	275
VBA program	93			TERRAMODEL	

Text	40	Traffic Control Legend Cells		V8_Import	
Text Sizes	39	VBA program	97	VBA program	98
Text Styles	47	Traffic Flow Diagram Cells		VA_labeler	
Text styles Plus		VBA program	97	VBA program	98
VBA program	97	Traffic Flow Diagrams		VA_Labeler RD and RD01	
Text Styles Plus	47	Cells.....	248	VBA program	98
TIN2, 10, 12, 13, 14, 15, 16, 104,		Traffic Signal Heads		VALabel_Speed_kv1.txt	
113, 166		Cells.....	243	K Value	105
Title Sheet..... See Seed Files		TrafficControl.....	4	Vertical Curve Design	
Title Sheet Cells		Typical Section Cells		VBA program	98
VBA program	97	VBA program	97	View ON 1 thru 4	
Title Sheet Signatures		TYPICAL SECTIONS	258	VBA program	99
Cells	256	TYPICAL.CEL	294	Visual Basic Applications	
TNDOT.smd		Update Project Criteria Files		VBA.....	55
D&C Manager.....	103	VBA program	97	Warning Sign Cells	
Topo Graphics12, 13, 14, 15, 16		USERNOTE		VBA program	99
Topographic Cells		Text.....	40	WARNING SIGNS	278
VBA program	97	Utilities.....	5	xltx	24
Traffic		Utility Cells Exist		XS Text Styles Plus	47
Project Folders Structure.....	8	VBA program	98	XS Textstyles Plus	
Traffic Control Cells		Utility Cells Prop		VBA program	99
VBA program	97	VBA program	98		

Manual Revisions

June 2020

1. [Page i](#) – Updated Table of Content
2. [Page 7](#) – Added “Example Project Folders Structure” section
3. [Page 305](#) – Updated Index section

April 2020

1. Page i – Updated Table of Content.
2. Page 23 – Changed header from “TDOT Letters” to “Roadway Design Forms & Letters”
3. Page 23 – Revised files in “Roadway Design Forms & Letters” section.
4. Page 25 – Changed header from “TDOT 2nd Sheets” to “Roadway Design 2nd Sheets”
5. Page 25 – Revised files in “Roadway Design 2nd Sheets” section.
6. Page 26 – Revised files in “TDOT English Tabulated Quantities” section.
7. Page 26 – Changed header from “Survey” to “Field Survey Documents”
8. Pages 30-34 – Updated “Standard Color Table” section.
9. Page 38 – Updated “Standard Fonts” section.
10. Pages 49-53 – Updated “Custom Line Style” section.
11. Pages 54-101 – Updated “Visual Basic Applications” section.
12. Pages 134-138 – Updated “Standard Level Filters” section.
13. Pages 139-151 – Updated “Sheet Level Structure Summary & Cross Reference – TDOTmain.dgnlib” section.
14. Pages 152-220 – Updated “Standard Levels and Element Parameters” section.
15. Pages 153-159 – Added “TDOTmain.dgnlib > Concept”
16. Pages 161-182 – Revised “TDOTmain.dgnlib > Design”
17. Pages 183-185 – Added “TDOTmain.dgnlib > Geotechnical”
18. Pages 186-189 – Added “TDOTmain.dgnlib > Structure”
19. Pages 221-265 – Added “STDS.cel” cell library.
20. Pages 265-291 – Added “SIGN.cel” cell library.
21. Page 292 – Added “GEOTECHNICAL.cel” cell library.
22. Pages 293-299 – Added “STRUCTURES.cel” cell library.
23. Pages 299-310 – Added “TYPICAL.cel” cell library.

August 2018

1. Removed the Cell Library and created a new document named “CADDV8 – Cell Library” which contains both Standard and Sign library.
2. Updated Table of Contents
3. Updated all live hyperlinks in document.
4. Removed date extension from seed file names.
5. Edited ‘TDOT Letters’, ‘TDOT 2nd Sheets’ and ‘TDOT English Tabulated Quantities’.
6. Edited ‘Standard Fonts – TDOTFONT.RSC’ page to reflect Arial as the main font in MicroStation.
7. Added keyboard shortcuts for special characters for Arial.
8. Edited some of the phase stamps and added ‘Info Only’ and ‘Site Review’ stamp.
9. Edited some of the Level Filters to reflect the addition of the Title Sheet seed file.
10. Added two new levels: “DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TMP REQUIRED PRELIM” and “DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - UTILITY CHAPTER 86 ROW”.
11. Added new levels to ‘TDOTmain.dgnlib > Design’ page.
12. Added new levels to ‘TDOTmain.dgnlib > Functional’ page.

December 2017

1. Updated Table of Contents
2. Updated all live hyperlinks in document.
3. Page 49 – Added Coconut Fiber Roll, Live Fascine, Live Siltation and Longitudinal Stone Toe to “Custom Line Style Name List” section.
4. Page 76 – Added NSDcells.mvba with description to “Standard MicroStation Macros” section.
5. Pages 124-125 – Added new Title Sheet filters to “Standard Level Filter – TDOTmain.dgnlib” section.
6. Pages 127-129 – Added three new headers to “Sheet Level Structure Summary & Cross Reference”, Consultant Title Sheet, TDOT Title Sheet and Resurfacing Title Sheet. Added new Title Sheet levels to “Level Name” list. Added:
 - DESIGN - TITLE SHEET - LOCATION MAP - CONSTRUCTION #1
 - DESIGN - TITLE SHEET - LOCATION MAP - CONSTRUCTION #2
 - DESIGN - TITLE SHEET - LOCATION MAP - COUNTY MAP

- DESIGN - TITLE SHEET - LOCATION MAP - PRELIMINARY
- DESIGN - TITLE SHEET - LOCATION MAP - ROW
- DESIGN - TITLE SHEET - PROJECT DESCRIPTION - CONSTRUCTION
- DESIGN - TITLE SHEET - PROJECT DESCRIPTION - CONSTRUCTION #2
- DESIGN - TITLE SHEET - PROJECT DESCRIPTION - PRELIMINARY
- DESIGN - TITLE SHEET - PROJECT DESCRIPTION - RESURFACING
- DESIGN - TITLE SHEET - PROJECT DESCRIPTION - RESURFACING SAFETY
- DESIGN - TITLE SHEET - PROJECT DESCRIPTION - ROW
- DESIGN - TITLE SHEET - PROJECT DESCRIPTION - ROW UTILITIES ONLY
- DESIGN - TITLE SHEET - PROJECT LENGTH - CONSTRUCTION #2 (NON-RIDING SURFACE)
- DESIGN - TITLE SHEET - PROJECT LENGTH - CONSTRUCTION #2 (RIDING SURFACE)
- DESIGN - TITLE SHEET - PROJECT LENGTH - CONSTRUCTION (NON-RIDING SURFACE)
- DESIGN - TITLE SHEET - PROJECT LENGTH - CONSTRUCTION (RIDING SURFACE)
- DESIGN - TITLE SHEET - PROJECT LENGTH - RESURFACING (NON-RIDING SURFACE)
- DESIGN - TITLE SHEET - PROJECT LENGTH - RESURFACING (RIDING SURFACE)
- DESIGN - TITLE SHEET - PROJECT LENGTH - RESURFACING ONLY
- DESIGN - TITLE SHEET - PROJECT LENGTH - ROW
- DESIGN - TITLE SHEET - PROJECT LENGTH - ROW UTILITIES ONLY
- DESIGN - TITLE SHEET - REVISION TEXT - CONSTRUCTION
- DESIGN - TITLE SHEET - REVISION TEXT - ROW
- DESIGN - TITLE SHEET - SHEET AND INDEX - CONSTRUCTION PHASE
- DESIGN - TITLE SHEET - SHEET AND INDEX - PRELIMINARY PHASE
- DESIGN - TITLE SHEET - SHEET AND INDEX - RESURFACING

- DESIGN - TITLE SHEET - SHEET AND INDEX - RESURFACING AND SAFETY
 - DESIGN - TITLE SHEET - SHEET AND INDEX - RIGHT-OF-WAY PHASE
 - DESIGN - TITLE SHEET - STATE MAP - COUNTY NAMES
 - DESIGN - TITLE SHEET - STATE MAP - STATE AND COUNTIES BORDER
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - DESIGN EXCEPTION
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - EXCLUSIONS
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - NO EXCLUSIONS
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - ROAD TO BE CLOSED
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #1 (SURVEY DATA)
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #2
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #3
 - DESIGN - TITLE SHEET - TITLE SHEET BLOCKS - TRAFFIC DATA BLOCK #4 (RESURFACE AND SAFETY)
 - DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - CONSULTANT IDENTIFICATION BLOCK
 - DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - LINE WORK
 - DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - TDOT IDENTIFICATION BLOCK
 - DESIGN - TITLE SHEET - TITLE SHEET PROPERTIES - TEXT
7. Page 137 – Added new levels to “Standard Levels and Element Parameters - TDOTmain.dgnlib” section.
 8. Page 206 – Added “Natural Stream Design” cells to Standard Cell Library Index
 9. Page 253 – Added new “Haul Road Typical Section” to “Typical Section” in Standard Cell Library Index
 10. Page 266 – Added index to document.

March 2017

1. Updated Table of Contents

2. Added a preface about CADD Support
3. Page 1 – Edited Standard Parameters section to indicate that as of October 13, 2008, TDOT will no longer produce metric drawings.
4. Page 18 – Deleted ‘EAST2D.DGN & EAST3D.DGN (Regions One and Two)’ and ‘WEST2D.DGN & WEST3D.DGN (Regions Three and Four)’ from Standard MicroStation Seed Files section because of the metric parameters.

Added:

- Index and Standard Drawings XXXXXX.dgn (2D)
 - Box Culvert Section XXXXXX.dgn (2D)
 - Drop Off Notes Traffic Control XXXXXX.dgn (2D)
 - ESPC Notes XXXXXX.dgn (2D)
 - General Notes XXXXXX.dgn (2D)
 - Sheet 3 ROW Notes Utility Notes Utility Owners XXXXXX.dgn (2D)
 - Special Notes XXXXXX.dgn (2D)
 - Standard Roadway Drawings XXXXXX.dgn (2D)
 - Standard Structure Drawings XXXXXX.dgn (2D)
 - Standard Traffic Operations and Structure Drawings XXXXXX.dgn (2D)
 - Standard Traffic Operations Drawings XXXXXX.dgn (2D)
5. Page22 – Edited Standard Office Templates section by adding new documents under the TDOT Letters. Added:
 - Construction Plans Revision.dotx
 - Field Review Memorandum.dotx
 - Green Sheet Certification Letter.dotx
 - Letting Plans Revision.dotx
 - NEPA Project Description Form.dotx
 - *Notice to Proceed With Retaining Wall Design Form.dotx*
 - Region 1 Letterhead.dotx
 - Region 2 Roadway Design Letterhead.dotx
 - Region 3 Letterhead.dotx
 - Region 3 Survey and Roadway Design Letterhead.dotx

- Region 4 Roadway Design Letterhead.dotx
- Retaining Wall Cost Estimate Form.dotx
- Roadway Design Division letterhead.dotx
- Roadway Design Division Office of Aerial Surveys Letterhead.dotx
- ROW Appraisals and Acquisition Transmittal Letter.dotm
- ROW Plans Revision.dotx
- Soils and Geology Request Form.dotx
- TDOT fillable.dotx
- Utility CAD Plans Disclaimer.dotx

Page 22 – Deleted two documents from section:

- EvaluationOfSurvey.dot
- PlansRevision.dot

Page 23 – Added documents to TDOT 2nd Sheets section:

- Standard Traffic Operations Drawings XXXXXX.dotx
- General Notes XXXXXX.dotx
- Index and Standard Drawings XXXXXX.dotx
- Items.dat
- PRELIMINARY INDEX TITLE SHEET XXXXXX.dotx
- RIGHT OF WAY INDEX TITLE SHEET XXXXXX.dotx
- Sheet 3 ROW Notes Utility Notes Utility Owners XXXXXX.dotx
- Special Notes XXXXXX.dotx
- Standard Roadway Drawings XXXXXX.dotx
- Standard Structure Drawings XXXXXX.dotx
- Standard Traffic Operations and Structure Drawings XXXXXX.dotx
- Drop Off Notes Traffic Control XXXXXX.dotx
- ESPC Notes XXXXXX.dotx

Page 23 – Deleted documents from TDOT 2nd Sheets section

- ROW_Notes.dot
- IB_ToBePrintedwithPlans_Metric.dot
- MetricDropOffNotes.dot
- MetricEPSCSpecialNotes.dot
- MetricGeneralNotes.dot
- MetricIndex&StdDwgs.dot
- IB_ToBePrintedwithPlans_English.dot

Pages 23 & 24 – Added documents to TDOT English Tabulated Quantities section:

- Side Drain Endwalls.xltx
- DRAINAGE DATA TAB BLOCKS XXXXXX.xltx
- Erosion Prevention and Sediment Control.xltx
- Grading Quantities Composition Known.xltx
- Grading Quantities Composition Unknown.xltx
- Median Drain Endwalls.xltx
- OutFalls.xltx
- Sediment Control Structure Dimensions.xltx
- Sediment Control Structure Quantities.xltx
- Side Drain 24 FT Fill.xltx
- Cross Drain Endwalls.xltx

Pages 23 & 24 – Deleted documents from TDOT English Tabulated Quantities section:

- CrossDrainArterialsWOFullAccessControl.xlt
- Grading1.xlt
- Grading2.xlt
- Guardrail.xlt
- UtilityOwners.xlt

Page 25 – Added documents to Survey section:

- Region 1 Survey Letterhead.dotx
- Region 3 Survey and Roadway Design Letterhead.dotx
- Survey Check List_Field.dotx
- Survey Check List_Office.dotx
- Survey Contact Letter and R.O.W. Acquisition Table Creator.pdf
- Survey Weekly Progress Report.xltx
- Utility Owners.xltx

Page 25 – Deleted documents from Survey section:

- Blank Weekly Progress Report.xls
- ROWAcqMetric.xlt
- SURVEY CHECK LIST.DOC
- Survey_Contact_Acq_Create2003.xlt

December 2010

1. Updated table of contents.

2. Under Standard Office Templates, TDOT Letters:

Added new templates ResurfacingSafetyReviewChecklist.dot, Retaining Wall Transmittal.dot and Red Flag Report Form 6-18-10.dotx.

Deleted obsolete templates EvaluationOfSurvey.dot and projectDevelopmentDelayForm.dot.

3. Under **Standard MicroStation Macros**, the following changes have been made:

Added the following new program:

Visual Basic Applications

LabelESPCStormWaterOutfalls.mvba places storm water outfall labels on ESPC sheets.

Includes control of label text and an auto increment option for the number part of the label.

Revised description for visual basic application, **ErosionControlCells.mvba**, to include all command button options including new option to access the Label ESPC Storm Water Outfalls tool.

4. Under **Standard GEOPAK Files**, the following changes have been made:

Under Typical Sections and Criteria Files

Added the following new typical sections:

WALLEFT Retaining wall left of roadway centerline

WALLRIGHT Retaining wall right of roadway centerline

Added the following new criteria file not used directly by the typical sections:

SubgradeVerticalTieRamp.x Forms vertical tie from subgrade to FG, for use with ramp typicals at edge of lane additions etc. where normal side slopes are not needed on one side of cross section.

Moved criteria file, **RetainingWall.x**, to group of main criteria files used by typical sections since it now utilized by new typical sections WALLEFT and WALLRIGHT.

5. Under **Standard Cell Library Index**, made the following changes.

In STDS.cel & METRIC.cel:

Added the following new cell to update current plan sheets with the new engineer's seal box:

SHTSEALBOX Engineer Seal Box for Sheets

Deleted the following obsolete cells:

XSTCOL SIGJCJ

6. Added the latest manual revision notes. Deleted revision notes from February of 2009.

June 2010

1. Updated table of contents.

2. Under Standard Office Templates, TDOT Tabulated Quantities, added new template EnhancedSiltFenceCheckDesignDimensions.xlt based on standard roadway drawing EC-STR-4B.

3. Under **Standard Office Templates, Survey**, added new template **Property Owner Contact Letter - Aerial Flagging.dot** and updated list to reflect all Office templates for Survey.

4. Under **Standard Line Styles - TDOTLINE.RSC**, added the following new linestyles:

C&G 4-30 RM

INSTREAM DIVERSION

MB SINGLE SLOPE WALL-HALF

MB SINGLE SLOPE WALL-PIER

MB WALL-HALF

RADIUS SLOPE

RUMBLE STRIP 16" CONT

RUMBLE STRIP 16" NON-CONT

RUMBLE STRIP 36" CONCRETE

RUMBLE STRIPE 4" NON-CONT

RUMBLE STRIPE 8"NON-CONT

TRENCH DRAIN

YIELD LINE

5. Under **Standard MicroStation Macros**, the following changes have been made:

Visual Basic Applications

Added the following new program:

PlaceYieldLine.mvba place yield line triangle pavement marking. Key in fields are provided to control triangle base width and spacing. Triangle shapes are placed with line style used for area quantity calculations.

Revised description for visual basic application, **DrawHandicapRamp.mvba**, to reflect new ramp options for roundabout splitter island refuge areas and bicycle ramps as shown on standard roadway drawing Rp-R-2. Also listed new check box control to set perpendicular ramp landing beginning to the sidewalk edge when the grass separator width plus the curb offset is greater than the minimum of 8 feet

Revised description for visual basic application, **pavementMarkingCells.mvba**, to include new command button option to access the place Yield Line tool.

6. Under **Standard GEOPAK Files**, the following changes have been made:

Under Typical Sections and Criteria Files

Added the following new typical sections for roundabout intersections:

ROUNDABOUT Rural or Urban Roundabout
ROUNDRAmp Roundabout Intersecting Roadway

Added the following new criteria files used by roundabout typicals:

RoundaboutC&G4in30RM.x4" Roundabout Mountable Curb & Gutter
RoundaboutCentralIsland.x Roundabout Central Island w\Type "A" 6" NM Curb
Roundaboutpavement.x Roundabout pavement & Subgrade w/Widening
RoundaboutRamp pavement.x Roundabout Intersecting Roadway pavement & Subgrade w/Widening
RoundaboutSplitterIsland.x Roundabout Splitter Island w/6" Non-Mountable Curb & Gutter
RoundaboutTruckApron.x Roundabout Truck Apron

Added the following new criteria file not used directly by the typical sections:

SimpleSideSlopeRamp.x places user specified slope to ground and includes subgrade closure for use on ramps only.

SubgradeVerticalTieResurf.x Forms vertical tie from subgrade to FG, for use with resurfacing typicals where section ends within exiting pavement and subgrade depth equals overlay height plus pavement removal depth.

Under 3pC Files for D&C Manager

Added the following new 3pC program files:

DoubleTurnArrow_Computation.x This application reads a D&C Manager set & then counts the specified pavement marking cells and reports the quantity back to D&C Manager.

DoubleTurnArrow_ComputationMetric.x Metric version of
DoubleTurnArrow_Computation.x.

7. Under **Standard Cell Library Index**, made the following changes.

In STDS.cel & METRIC.cel:

Added the following new erosion prevention and sediment control legend cell:

INSTRDIVL	Instream Diversion Legend
-----------	---------------------------

Added the following new signalization video detection area cells:

VDA20	Video Detection Area 20 Feet
VDA25	Video Detection Area 25 Feet
VDA45	Video Detection Area 45 Feet (Originally named VDA)
VDA50	Video Detection Area 50 Feet
VDADVD	Video Detection Area – Double Volume Density
VDASVD	Video Detection Area – Single Volume Density

Added the following new pavement marking cells:

PVFHAL	Left Turn (Fish-hook for Roundabouts)
PVFHALS	Straight & Left Turn (Fish-hook for Roundabouts)
PVFHARS	Straight & Right Turn (Fish-hook for Roundabouts)
PVFHARL	Left & Right Turn (Fish-hook for Roundabouts)
PVFHARSL	Straight, Left & Right Turn (Fish-hook for Roundabouts)
PVYIELD	“Yield” Word pavement Marking

Added the following new roundabout typical section cells:

TS9RT	RD-TS-9 Single Lane Roundabout
TS9IRT	RD-TS-9 Single Lane Roundabout Intersecting Roadway
TS10RT	RD-TS-10 Multi-Lane Roundabout
TS10IRT	RD-TS-10 Multi-Lane Roundabout Intersecting Roadway

Deleted the following obsolete cells which are handled by options in GEOPAK Design & Computation manager under Drafting Standards > parcels:

TRACT	TRACT2
TRACT3	TRACT4
TRANO	TRANO2
TRANO3	TRANO4

In SIGN.cel :

Added the following new regulatory sign cells:

R6.4	Roundabout Directional Arrow (2 Chevrons)
R6.4A	Roundabout Directional Arrow (3 Chevrons)
R6.4B	Roundabout Directional Arrow (4 Chevrons)
R6.5P	Roundabout Circulation plaque - Supplemental

Added the following new warning sign cells:

W5.4A	Path Narrows
W5.4AM	Bikeway Narrows
W16.12P	Traffic Circle - Supplemental
W16.17P	Roundabout - Supplemental

8. Added the latest manual revision notes. Deleted revision notes from November of 2008

December 2009

1. Updated table of contents.
2. Added default file folders where standard files are found to various file groups where they were not previously shown.
3. Under Standard Office Templates, TDOT Tabulated Quantities, added template SpecialDitches.xlt which was left out on a previous update.
4. Under **Standard plot Control Files**, sub-section **MicroStation print**, added new plot driver file **Tdotpdffulc.plt**. This new file is for creating color full size PDF files from inside MicroStation using MicroStation print.
5. Under **Standard Line Styles - TDOTLINE.RSC**, added new linestyle HANDICAP RAMP.
6. Under **Standard MicroStation Macros**, the following changes have been made:

Added the following new programs:

Visual Basic Applications

AerialSurveysprocessSurfaceTextFiles.mvba This program is set up for use by Aerial Survey personnel to generate DTM surface graphics from ASCII text files and then check this surface information by building surfaces from them. It automatically reads the text files and displays spot points and break lines in the DGN file and then sets up the views for reviewing. Various aerial survey software functions including creating a surface, displaying & deleting contours and ultimately saving the surface are started for the user when requested.

AerialSurveysUpdateSurfaceFile.mvba This program is set up for use by Aerial Survey personnel to use when checking surface information and building surfaces from them. It automatically converts the files to V8, sets up views for reviewing and automatically starts various aerial survey software functions for setting coordinate system, creating a surface, displaying & deleting contours and ultimately saving the surface and creating an updated V7 DGN file.

DrawHandicapRamp.mvba This program draws proposed handicap ramps in the plan view based on standard roadway drawings RP-H-3 to RP-H-9. Options in the dialog for type, location, ramp width, landing length, sidewalk width, grass separator width and roadway curb width are given to determine the handicap ramp dimensions. Additional check box controls are offered to match parallel ramps to the sidewalk width when greater than minimum and to place a leader line with text labels. The outer limits of all ramps are created as a shape using the handicap ramp line style so that later area calculations can be done with GEOPAK's D&C Manger quantity calculation tools. If a perpendicular ramp is placed which exceeds the limits specified by the widths of the sidewalk and

grass separator then additional lines are drawn from the back of the ramp to aide in adjusting the back of the sidewalk to accommodate the ramp.

DrawplotBorder.mvba This program sets symbology, etc. and provides a tool for users to draw plot border shapes on plans sheets. This is intended for use on older jobs where sheets were used that did not include plot shapes as they do now. A plot Border Type option is provided to place either standard or PDF plot border shapes. The Open DGN command button is provided to go to the File Open dialog so the user can jump to the next sheet file

Revised description for visual basic application, **SignalizationDeviceCells.mvba**, to include new command button option to access the Draw Handicap Ramp tool.

Under **MicroStation Basic Macros**, removed the macros, **pB.ba** and **PdfpB.ba** which have been replaced by the new visual basic application described above.

7. Added new section **Standard MicroStation Image Files**, with the .following JPEG image files which were developed from the standard MicroStation plan phase stamp cells so that they can be easily applied as watermarks to PDF plan sets using Adobe Acrobat.

Phase Stamp - Construction Field Review.jpg

Phase Stamp - For Incidentals Only.jpg

Phase Stamp - For Title Search Only.jpg

Phase Stamp - Hydraulic Grade Approval.jpg

Phase Stamp - Preliminary Field Review.jpg

Phase Stamp - Preliminary Plans Subject to Change.jpg

Phase Stamp - Preliminary Plans.jpg

Phase Stamp - ROW Field Review (Utilities Only).jpg

Phase Stamp - ROW Field Review.jpg

Phase Stamp - ROW Plans (Utilities Only).jpg

Phase Stamp - ROW Plans permit Application plan Set.jpg

Phase Stamp - ROW Plans.jpg

8. Under **Standard GEOPAK Files**, the following changes have been made:

Under Typical Sections and Criteria Files

Added the following new typical sections:

1LNRMPU 1 Lane Urban Interchange Ramp

1LNRMPRTU 1 Lane Urban Interchange Ramp, FG on left edge of lane

2LNRMPU 2 Lane Urban Interchange Ramp

4LNMBU 4 Lane Urban with Median Barrier

4LNRMD 4 Lane with Raised Median

Added the following new criteria files used by typical:

RampUrbanInsideShoulder.x Urban Inside Shoulder for Ramps

RampUrbanShoulder.x Urban Outside Shoulder for Ramps

Added the following new criteria files not used directly by the typical sections:

GrassSeparatortoWall.x Urban Grass Separator which starts at the back of curb and extends to a "Wall" which has been created in a previous run

SideSlopetoChainprofile.x Side Slope Tie to Chain & profile. Includes separate controls for left and right, used to force slope ties to user's specified locations

Added the following new metric criteria files:

RampUrbanInsideShoulderMetric.x Urban Inside Shoulder for Ramps

RampUrbanShoulderMetric.x Urban Outside Shoulder for Ramps

Under 3pC Files for D&C Manager

Added the following new 3pC program files:

Striping_Thermo_Flatline__Computation.x Reads a D&C Manager set & then counts the length of pavement striping lines and reports the quantity back to D&C Manager. This program automatically adjusts for gaps & double lines and is specifically set up to tabulate pavement striping lines as the thermoplastic flatline type.

Striping_Thermo_Flatline__ComputationMetric.x Metric version of Striping_Thermo_Flatline__Computation.x.

Striping_Thermo_Spray40_Computation.x Reads a D&C Manager set & then counts the length of pavement striping lines and reports the quantity back to D&C Manager. This program automatically adjusts for gaps & double lines and is specifically set up to tabulate pavement striping lines as the spray thermoplastic (40 mil) type.

Striping_Thermo_Spray40_ComputationMetric.x Metric version of Striping_Thermo_Spray40_Computation.x.

Striping_Thermo_Spray60_Computation.x Reads a D&C Manager set & then counts the length of pavement striping lines and reports the quantity back to D&C Manager. This program automatically adjusts for gaps & double lines and is specifically set up to tabulate pavement striping lines as the spray thermoplastic (60 mil) type.

Striping_Thermo_Spray60_ComputationMetric.x Metric version of Striping_Thermo_Spray60_Computation.x.

Deleted obsolete programs, Striping_preformed_Computation.x,
Striping_preformed_ComputationMetric.x, Striping_Thermo_Computation.x &
Striping_Thermo_ComputationMetric.x.

9. Under **Standard Cell Library Index**, made the following changes.

In STDS.cel & METRIC.cel:

Added the following new resurfacing project length cells:

PROTLML	Title Sheet project Lengths (Resurfacing)
PROTLMR	Title Sheet project Length (Resurfacing) (project & Lane Miles Lengths only)

Added the following new plan phase stamp cells:

SPHGA	Hydraulic Grade Approval
SPPP	Preliminary Plans
SPRPAP	ROW Plans permit Application plan Set
SPRFRUO	ROW Field Review (Utilities Only)
SPRPUO	ROW Plans (Utilities Only)

Added the following new typical section cells:

TS3CRM4T	Rural Raised Median Tangent 4-Lane
TS3CRM4S	Rural Raised Median Superelevated 4-Lane
TS3CMB4UT	Urban Median Barrier Tangent 4-Lane
TS3CMB4UT	Urban Median Barrier Superelevated 4-Lane
TS41UT	Urban Ramp Tangent 1-Lane
TS42UT	Urban Ramp Tangent 2-Lane
TS41US	Urban Ramp Superelevated 1-Lane
TS42US	Urban Ramp Superelevated 2-Lane

Revised the following plan phase stamp cells:

SPTITL	For Title Search Only
SPINCO	For Incidentals Only
SPPFR	Preliminary Field Review
SPCPP	Caution preliminary plans Subject to Change
SPRFR	ROW Field Review
SPROW	ROW plans
SPCFR	Construction Field Review

Deleted the following obsolete cell which is now handled by the new Draw Handicap Ramp tool:

HCR	Proposed Handicap Ramp
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10. Added the latest manual revision notes. Deleted revision notes from July of 2008

June 2009

1. Updated table of contents.

2. Under Design DGN project Filenames:

In sub-section **Design project File Types** added sentence at top to clarify their use in project plans development, revised description for file type **proposed** and renamed file type Erosion Control as **ESPC**, Erosion prevention and Sediment Control data.

Renamed sub-section **GEOPAK** pattern File Types as **GEOPAK File Types** and grouped all file types that are used exclusively for GEOPAK design work.

3. Under **Standard MicroStation Seed File parameters**, removed references to

TDOTxsection.dgnlib for cross section levels, level filters and text styles which now all come from TDOTmain.dgnlib.

4. Under **Standard plot Control Files**, sub-section **Iplot**, added the following new design script files and their associated settings files for creating plots with light aerial survey photography in which all non-color or white objects are plotted as black.

transBlkCOLORE.FUL	TransEnglish*BlkColorFul.set
transBlkCOLORE.HAF	TransEnglish*BlkColorHaf.set
transBlkPHCOLORE.FUL	TransEnglish*BlkPHful.set
transBlkPHCOLORE.HAF	TransEnglish*BlkPHhaf.set

Revised the descriptions for current **Trans*** files (that do not include **Blk** in their name) to reflect that all non-color or white objects are plotted as off white for creating plots with dark aerial survey photography.

5. Under **Standard MicroStation Libraries**, removed reference to TDOTxsection.dgnlib for cross section levels, level filters and text styles which now all come from TDOTmain.dgnlib.

6. Under **Standard Text Styles – TDOTmain.dgnlib**, removed references to TDOTxsection.dgnlib, renamed cross section text styles to include **XS** in their name to indicate they are set up for cross section use and incorporated cross section text styles in list for TDOTmain.dgnlib.

7. Under **Standard MicroStation Macros**, the following changes have been made:

Visual Basic Applications

Added the following new program:

ViewON1thru4.mvba This program turns on views 1 to 4 and makes sure that views 5 to 8 are off. Finally it tiles views 1 to 4. This is set up to help set views in Aerial Surveys files while they are inside photogrammetry software doing photo review and clean up.

Revised description of **V8_Import.mvba** to reflect its current primary use in V8 DGN files to delete old level filters, import new V8 levels, level filters and text styles or to re-attach the standard color table when it is revised.

8. Under **Standard MicroStation Level Mapping Files**, revised descriptions for TDOTV8main.csv and **TDOTV8xsections.csv** to reflect that the main file can now be used to re-map levels in any V8 DGN file and that the cross section file is only used during V7 cross section file conversion to V8.

9. Added new section **Standard AutoTrack Design Vehicle Library**, with file **US_Tennessee.ATL** for use with AutoTrack software that contains design vehicles for use in Tennessee.

10. Under **Standard GEOPAK Files**, the following changes have been made:

Added new sub-section Horizontal Alignment Turning path Design Tables

Includes the following files that contain design vehicles for use in Tennessee for use with the Horizontal Alignment Generator tool to develop vehicle turning paths for intersection design:

HA_Turning_path_TN_2001english.tbl	English 2001 design vehicles
HA_Turning_path_TN_2004english.tbl	English 2004 design vehicles
HA_Turning_path_TN_2001metric.tbl	Metric 2001 design vehicles
HA_Turning_path_TN_2004metric.tbl	Metric 2004 design vehicles

Under Non-Roadway Typical Sections:

Added the following new typical sections:

BERMIND	Independent Earth Berm
PATHIND	Independent Shared Use path

Under Criteria Files not used directly by the typical sections:

Revised descriptions for RampSideSlopeToWall.x and **SideSlopeToWall.x** to reflect new options for earth or concrete swale ditches at the wall intersection.

Revised description for RetainingWall.x to reflect new option for swale concrete ditch behind the wall.

Deleted obsolete criteria file **RetainingWallSwale.x** which is no longer needed since its' functionality is covered by RetainingWall.x.

11. Under Standard Level Filters - TDOTmain.dgnlib:

Removed reference to TDOTxsection.dgnlib since all level filters are now found in TDOTmain.dgnlib.

Added new sentence to opening paragraph to reflect that all filters are now defined by level names and not numbers even though they are listed by number in this document.

Added cross section level filters into main list and revised the level numbers listed to reflect numbers of level names as they are now found in TDOTmain.dgnlib.

Deleted cross section level filters **Design - proposed with Sheets** and **Survey - existing** which were covered by other level filters already in TDOTmain.dgnlib.

12. Under **Sheet Level Structure Summary & Cross Reference TDOTmain.dgnlib**, added cross section information including new levels 340-370 (names listed in next note) and plan sheets: **pvt. Dr. profiles, Culvert XS & Roadway XS.**

13. Under Standard Levels and Element parameters - TDOTmain.dgnlib:

Combined cross section levels with listing for TDOTmain.dgnlib as follows ...

Added the following cross section levels with item descriptions which have been revised as needed to clearly identify them as cross section based:

340	SURVEY - GROUND - Top of Ground
341	SURVEY - GROUND - Top of Rock Layer
342	SURVEY - GROUND - Bottom of Unsuitable Material Layer
343	SURVEY - GROUND - Bottom of Topsoil Layer
344	SURVEY - GROUND - Bottom of Rock Layer
345	SURVEY - GROUND - Existing pavement Layer
346	SURVEY - GROUND - Existing pavement Text
347	DESIGN - EARTHWORK - Shapes
348	DESIGN - TYPICAL - Finished Grade and Subgrade
349	DESIGN - TYPICAL - Text
350	DESIGN - PROFILE - private Drive Vertical Curve Text
351	DESIGN - TYPICAL - Finished Grade Slopes Text
352	DESIGN - TYPICAL - Bench Elevation Text
353	DESIGN - TYPICAL - Bench Width Text
354	DESIGN - TYPICAL - Bench Slope Text
355	DESIGN - TYPICAL - Side Slope to Bench Text
356	DESIGN - TYPICAL - Subgrade Cross Slope Text
357	DESIGN - TYPICAL - Subgrade Tie Text
358	DESIGN - TYPICAL - Guardrail
359	DESIGN - TYPICAL - Bridge Deck Median Barriers
360	DESIGN - SURFACE - Bridge Surface Construction Lines
361	DESIGN - TYPICAL - Slope Tie Text
362	DESIGN - TYPICAL - Slope Tie point
363	DESIGN - TYPICAL - Retaining Wall Text
364	DESIGN - DRAINAGE - Structures Linework
365	DESIGN - DRAINAGE - Ditch Bottom point
366	DESIGN - DRAINAGE - Special Ditch Width Text
367	DESIGN - LINE OF SIGHT - Location Graphics
368	DESIGN - EARTHWORK - Special Tie to Ground
369	DESIGN - EARTHWORK - Excavation Limit Lines

370 DESIGN - TYPICAL - Warning Text

Deleted the following obsolete cross section levels not needed or covered by other levels already in TDOTmain.dgnlib:

- 6 level 6
- 9 level 9
- 10 level 10
- 11 level 11
- 12 level 12
- 13 level 13
- 14 level 14
- 15 SURVEY - ROW - Linework
- 16 SURVEY - ROW - Text
- 17 level 17
- 18 level 18
- 19 SURVEY - DRAINAGE - Structures Linework
- 20 SURVEY - DRAINAGE - Structures Text
- 21 level 21
- 22 level 22
- 23 level 23
- 24 level 24
- 25 level 25
- 26 level 26
- 27 level 27
- 28 DESIGN - SHEET - plot Shape
- 30 DESIGN - SCRATCH - User 1
- 45 DESIGN - ROW - Linework
- 46 DESIGN - ROW - Text
- 50 DESIGN - DRAINAGE - Text
- 53 level 53
- 54 level 54
- 55 level 55
- 56 level 56
- 61 DESIGN - SHEET - Linework
- 62 DESIGN - SHEET - Corner Text
- 63 DESIGN - SHEET - Light Grid

Revised item descriptions in the following levels to reflect the addition of cross section items and/or to clarify current items already listed there:

- 260 DESIGN - DRAINAGE - Special Ditches
- 52 DESIGN - DRAINAGE - Text
- 58 DESIGN - EROSION CONTROL - Devices
- 268 DESIGN - PROFILE - proposed Curve Text
- 269 DESIGN - PROFILE - proposed Text
- 46 DESIGN - ROW - Right-of-Way and Easement Labels

45	DESIGN - ROW - Right-of-Way Linework
62	DESIGN - SHEET - Corner Text
63	DESIGN - SHEET - Light Grid
61	DESIGN - SHEET - Linework
280	DESIGN - SHEET - plot Shape
60	DESIGN - TRANSPORTATION - proposed Layout patterning
40	SURVEY - DRAINAGE - Bridge Hydraulic Data with Text
311	SURVEY - DRAINAGE - Natural Features Text
320	SURVEY - PROFILE - Drainage - Bridge Hydraulic Data with Text
140	SURVEY - PROFILE - Existing Roads with Text
15	SURVEY - PROPERTY - ROW Lines
16	SURVEY - PROPERTY - ROW Lines Text

Corrected the color listed for rip rap patterning to be 47 in the following levels:

257	DESIGN - DRAINAGE - Cross Drains
259	DESIGN - DRAINAGE - Side Drains - 42 Inches and greater
258	DESIGN - DRAINAGE - Side Drains - less than 42 Inches

14. Added the latest manual revision notes and deleted revision notes from March 2008.