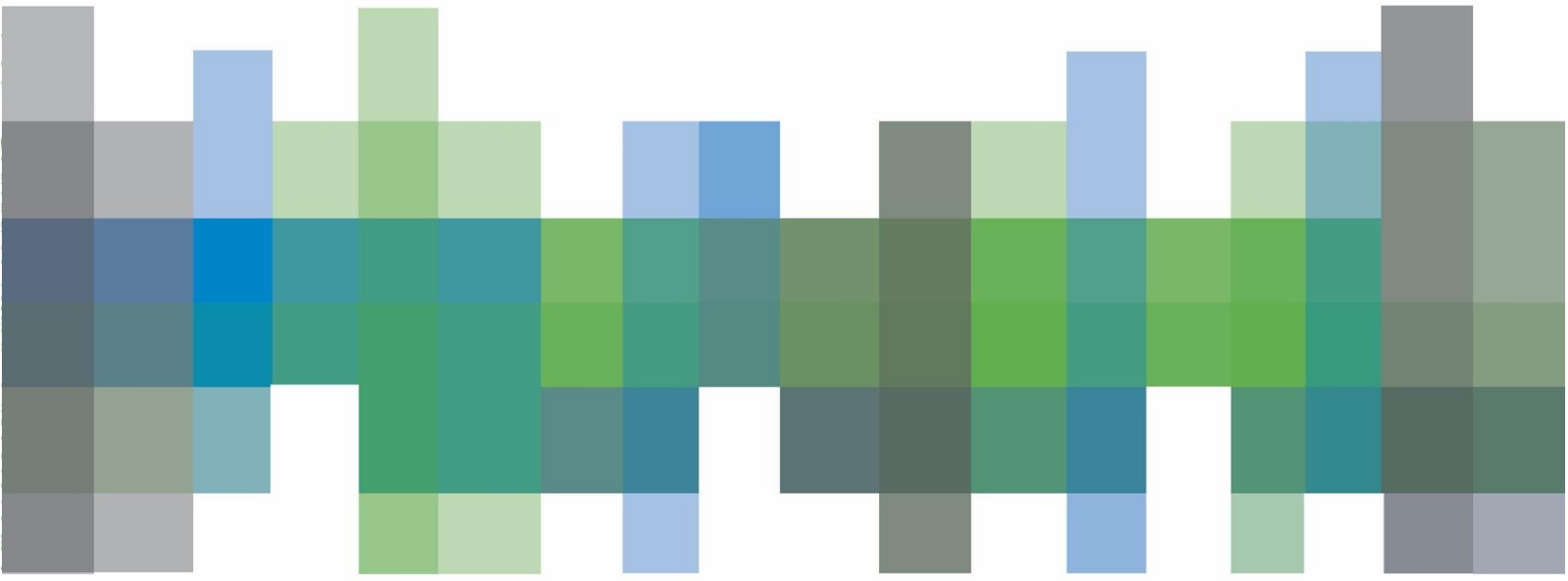
June 2024

Computer Aided Design and Drafting (CADD) Standards Manual

ILLINOIS STATE TOLL HIGHWAY AUTHORITY



Illinois Tollway

INTRODUCTION

CADD

The Computer Aided Design and Drafting (CADD) Standards Manual provides guidance on the common set of CADD standards for the Illinois Tollway. The manual is a guidance document for visually communicating designs and to streamline the exchange of design and construction data between industries. The intent of the manual is to establish reliable classifications of data to promote consistent file formats.

The Computer Aided Design and Drafting (CADD) Standards Manual, dated June 2024, replaces the previous version dated March 2023.

Major Revision Highlights

Section 2.0: Maintenance of Standards	
Article 2.0	Updated link to IDOT CADD Standards Website.
Section 3.0: Installation	
Article 3.1.2	Updated Version number
Article 3.2	Updated text to convey Illinois Tollway and IDOT Collaboration
Article 3.2.1	Updated image to show new webpage.
Article 3.3	Added verbiage to align with IDOT's installation procedure
Article 3.3.1	Changed installation to align with IDOT's procedure.
Article 3.4.4	Updated image to show new workspace name
Section 4.0: Computer Aided Design and Drafting Standards	
Article 4.2	Updated Software versions.
Article 4.3	Changed number 3 to reference the revised name of the IDOT setup pdf. IDOT *Consultant Setup IDOTCAD.pdf*
Article 4.5.3	Updated Path
Article 4.5.5	NEW – Added Signature Sheet information
Article 4.10.10	Revised Milestones, removed addendum and construction revision rows. Changed Advertisement border entry to N/A
Article 4.13	Revised to better explain revision guidelines
Appendices	
Appendix A	Added File Name Prefixes and prefix table. Adjusted the File Name Examples table – prefix headers are now Capitalized.
Appendix C	Moved Cover Sheet to Appendix G
Appendix G	NEW – Added How to use Cover Sheet
Appendix H	NEW – Added How to use Signature Sheet

TABLE OF CONTENTS

APPENDICES

SECTION 1.0 INTRODUCTION

The mission of the Illinois Tollway is to provide and promote a safe and efficient system of highways while ensuring the highest possible level of service to its customers. It is of the utmost importance that plan sets developed by consultants are accurate, uniform, and easy to follow. Many Illinois Tollway consultants also perform work for the Illinois Department of Transportation (IDOT), and therefore have knowledge of IDOT CADD standards. For these reasons, it has been decided to utilize IDOT's Connected CADD environment as the base for the Illinois Tollway's CADD configuration.

However, the Illinois Tollway has requirements which are outside of the IDOT's Connected CADD Environment. Therefore, the Illinois Tollway shall supplement the IDOT's Connected CADD Environment.

The purpose of this manual is to provide general guidance for the preparation of Illinois Tollway drawings. This manual is intended to supplement the IDOT's Computer Aided Design, Drafting, Modeling & Deliverables Manual and Connected CADD Environment. The information provided in this manual is the supplemental additions specifically needed for Illinois Tollway projects. All information provided within this manual will supersede the IDOT's Computer Aided Design, Drafting, Modeling & Deliverables Manual. It is the responsibility of the CADD user to obtain the IDOT's Connected CADD Environment referenced in this manual.

The Illinois DOT's Connected CADD Environment shall be referenced for bridge design. In cases where building designs include architectural, mechanical, and interior electrical design, the NCS CAD Standard may be followed for drafting. The Illinois Tollway CADD Environment was designed as a guide mainly for civil engineering consultants. The Illinois Tollway encourages ingenuity; therefore, all suggestions and requests are encouraged to be sent to the Illinois Tollway Project Manager and CADD@GETIPASS.com. As of the publication date of this manual, all projects shall be required to comply with the standards and guidelines established herein.

This "CADD Standards Manual" is prepared and distributed by the Illinois Tollway. This manual is compliant with all Illinois Tollway Manuals, Processes and Guidelines. This manual assumes the CADD user is familiar with the software and makes no attempt to instruct the user on specific commands.

SECTION 2.0 MAINTENANCE OF STANDARDS

The information and data described in the CADD Standards Manual is not intended to be a static document and is subject to change. Organizations exchanging Illinois Tollway data are responsible for ensuring that they are using the current version of these standards. This manual may be updated from time to time based on the following factors:

1. The Illinois Tollway deems it necessary to change or append their current standards due to:
    a. Consultant recommendations
    b. Illinois Tollway needs and requirements.
    c. Contractor recommendations
2. IDOT releases a new Computer Aided Design, Drafting, Modeling and Deliverables Manual.
3. There are significant advances in technology or modifications to software that change the way drawings are produced.

Any questions or concerns regarding this manual should be directed to the Illinois Tollway's CADD department (CADD@GETIPASS.com) and the Illinois Tollway Project Manager. More information may be found on the following web sites:

- Illinois State Toll Highway Authority
    - http://www.illinoistollway.com
- Illinois Tollway CADD Standards
    - https://www.illinoistollway.com/doing-business/construction-engineering/manuals-processes-guidelines
- Illinois Tollway Web-Based Program Management (WBPM)
    - https://www.e-builder.net/
- Illinois Department of Transportation (IDOT)
    - http://www.idot.illinois.gov/
- Illinois Department of Transportation CADD Standards
    CADD Support
- Bentley Systems, Inc.
    - http://www.bentley.com

SECTION 3.0 INSTALLATION

The Illinois Tollway and the General Engineering Consultant has created CADD Standards to be utilized in the production of all construction documents. These standards are based on Illinois Department of Transportation (IDOT) CADD Standards, and the Illinois Tollway has supplemented these standards as needed.

Questions and comments should be sent to CADD@getipass.com.

3.1 Minimum System Requirements

3.1.1 MicroStation Connect

Operating System	Windows 11 (64-bit) Windows 10 (64-bit)
Processor	Intel® or AMD® processor 1.0 GHz or greater. OpenRoads Designer is not supported on a CPU that does not support SSE2. MicroStation is not supported on a CPU which does not have AVX instructions.
Memory	4 GB minimum 16 GB recommended. More memory almost always improves performance, particularly when working with larger models.
Hard Disk	9 GB free disk space (which includes the 5.6 GB install footprint for a complete installation)
Video	See the graphics card manufacturer for latest information on DirectX drivers. 512 MB of video RAM or higher is recommended. If insufficient video RAM or no graphics card supported by DirectX can be found, OpenRoads Designer attempts to use software emulation. For optimal performance, graphics display color depth should be set to 24-bit or higher. When using a color depth setting of 16-bit, some inconsistencies will be noted.
Screen Resolution	1024 x 768 or higher
MS Access 64-bit engine	To connect to an Access database, you must download and install the Microsoft Access Database Engine 2010 Redistributable. Use the following link to download and install the MS Access Database Engine 2010 Redistributable. This is required for access to gINT projects and for the ability to Import InRoads drainage files.

3.1.2 OpenRoads Designer CE (Version 10.12.03.02)

Operating System	Windows 11 (64-bit) Windows 10 (64-bit)
Processor	Intel® or AMD® processor 1.0 GHz or greater. OpenRoads Designer is not supported on a CPU that does not support SSE2.
Memory	8 GB minimum 16 GB recommended. More memory almost always improves performance, particularly when working with larger models.
Hard Disk	9 GB free disk space (which includes the 5.6 GB install footprint for a complete installation)
Video	See the graphics card manufacturer for latest information on DirectX drivers. 1024 MB of video RAM or higher is recommended. If insufficient video RAM or no graphics card supported by DirectX can be found, OpenRoads Designer attempts to use software emulation. For optimal performance, graphics display color depth should be set to 24-bit or higher. When using a color depth setting of 16-bit, some inconsistencies will be noted.
Screen Resolution	1600 x 1200 or higher
MS Access 64-bit engine	To connect to an Access database, you must download and install the Microsoft Access Database Engine 2010 Redistributable. Use the following link to download and install the MS Access Database Engine 2010 Redistributable. This is required for access to gINT projects and for the ability to Import InRoads drainage files.

3.2 Illinois Tollway and IDOT Environment Installation – OpenRoads Designer

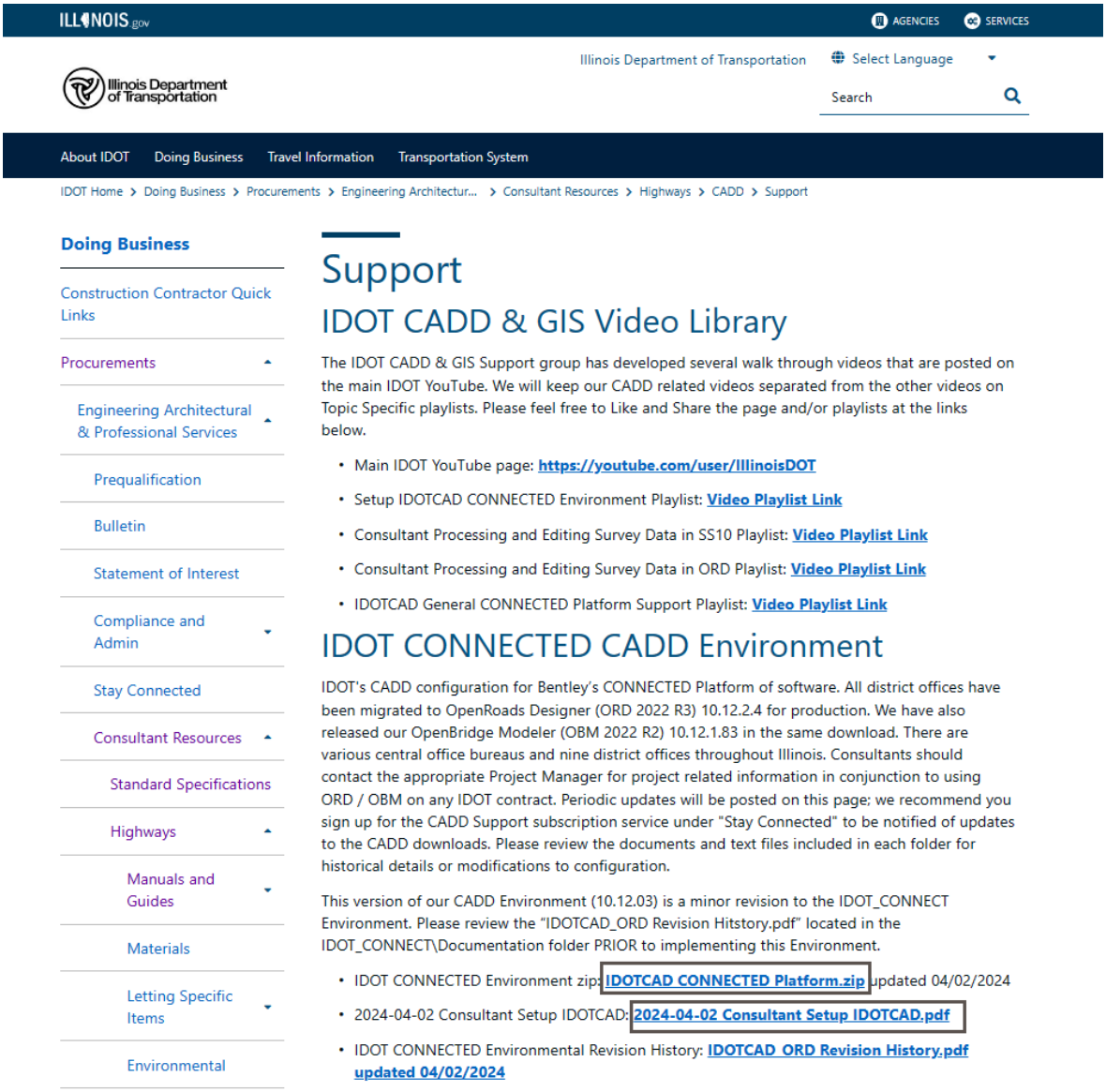
There are numerous methods for utilizing configuration files. The CADD Standards have been set up to be as flexible as possible. This document will go through a method of installing the standards, however, all procedures and directives may not apply. Please discuss this with your resident CADD Manager to confirm consistency and legitimacy.

Illinois Tollway and IDOT have collaborated to create a single download to obtain both agencies' CADD Environment.

3.2.1 Download IDOT Environment

At the time of this manual, the IDOT CADD environment is in the following shortcut:

IDOT CADD Support (illinois.gov)



The executable is available for download in the area named IDOT Connected CADD Environment. The *Consultant Setup IDOTCAD.pdf* contains the installation procedures.

Illinois Tollway CADD is based on the Illinois Department of Transportation CADD Connected CADD Environment. The size of the download executable is approx. 1 Gig.

3.3 Illinois Tollway Standards – OpenRoads Designer

The Illinois Tollway has adopted the same installation procedure as IDOT.

At the time of this document's creation, the Illinois Tollway CADD Environment was available on the IDOT website and the Web-Based Program Management System (WBPMS) folder 016. At the time of this manual's publication, the WBPMS was https://app.e-builder.net/. The Illinois Tollway WBPMS requires users to log in. Please contact the project manager to obtain login information.

3.3.1 Installation

Refer to the *Consultant Setup IDOTCAD.pdf* for installation procedures.

3.4 Implementing

Bentley Connect edition software loads multiple configuration files that define the location and files that are to be leveraged during use. These files include the seed file, levels, cells, etc. The Illinois Tollway and IDOT have standardized the use of three configuration files, as described below.

3.4.1 Organization

The organization files are loaded first. This area will contain the IDOT Standards.

3.4.2 Workspace

The workspace files are loaded second and contain the Illinois Tollway standards. These files supplement the IDOT files.

3.4.3 Workset

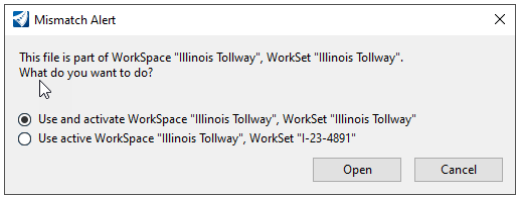
Worksets can be used to hold specific project information. Illinois Tollway recommends the use of a workset for each project. Contents of the workset will vary per project. An example would be setting the Template Library to default to the Project library instead of the Illinois Tollway default library. Another would be setting the default directory to the project directory to increase productivity and reduce repetitive navigation. Worksets are NOT controlled by the Illinois Tollway standards, however if custom files are utilized, these files shall be submitted with the other project deliverables and considered part of the project.

3.4.4 Set Workspace and Workset

Shown below is the WorkSpace setting to use for Illinois Tollway projects.

3.5 Additional Information

Connect edition software stores the workspace and workset as part of the file. Therefore, if a project has multiple designers collaborating on the same files, it is beneficial to have all computers set up with the same workspace and workset name. The following dialog will continuously appear if workspace and workset names vary when the files are opened.



SECTION 4.0 COMPUTER AIDED DESIGN AND DRAFTING STANDARDS

4.1 General Settings

The standards and guidelines detailed in this document will be used during CADD document production for the Illinois Tollway. Each Design Section Engineer (DSE), Construction Manager (CM) and Permit Applicant shall ensure that the standards and guidelines are followed on their project. CADD files obtained from other sources shall be converted to meet the guidelines established herein at no cost to the Illinois Tollway.

4.2 Program Software

The Illinois Tollway utilizes Bentley MicroStation Connect version 10.17 and OpenRoads Designer version 10.12.03.02 as its CAD platform.

4.3 Project Initiation

To begin an Illinois Tollway project, the following steps should be taken:

1. Reference the latest version of the:
    a. Illinois Tollway CADD Standards Manual.
    b. Corresponding IDOT CADD Manuals.
    c. United States National CAD Standards (NCS) CAD Standards Manual.
2. Collect any existing electronic files that may exist. The Illinois Tollway may have electronic files of the project area.
3. Reference the IDOT *Consultant Setup IDOTCAD.pdf* .
    a. Download and install the corresponding Connected IDOT Environment.
    b. Download and install the latest version of the Illinois Tollway Environment.
4. Use the appropriate Illinois Tollway seed file to create new design files as needed.

4.4 Annotation Scale

The annotation scale allows users to place Elements in a drawing that automatically scales based on settings in the active model. Annotation scale does not change from Bentley version SS4/SS10. Illinois Tollway encourages the use of Annotation scale.

All resource files have been built for use with Annotation scale.

4.5 Resource Files

All resource files needed are included in the IDOT and the Illinois Tollway workspace.

TrueType font is an outline font standard developed by Apple Corporation. This font is widely used in Windows and Mac operating systems. IDOT has implemented using TrueType Fonts, and the Illinois Tollway workspace is following suit. In addition to the IDOT Fonts, the Illinois Tollway is incorporating a Custom font ILTollway A and Verdana to align with the Illinois Tollway Style Guide. The TrueType Font Calibri is also included and is used for the border replacement variables due to its clarity when the text height is small.

Illinois Tollway Workspace file location:

WBPM Folder: 0016 WBPM e-Builder Program Wide\Consultant Information\CADD

4.5.1 Seed Files

Seed files form the base for most newly created MicroStation design files. Seed files act as a template for a new design or sheet files containing information such as working units, global origin, etc. The Illinois Tollway seed file shall be used when creating new design files.

CADD Files using IDOT standards prior to November of 2021. The working units have been changed from 1000 to 10,000, while the global origin remains unchanged. The working unit alteration greatly affects OpenRoads. Therefore, it is imperative that all files in a project utilize the same seed file. All files shall be confirmed prior to incorporation into a project. Leveraging previous project information may require a conversion.

4.5.2 Cell Libraries

All IDOT cells are available but are submissive to the Illinois Tollway supplied cells. Illinois Tollway cells are located in <Workspaces Dir>\Workspaces\Illinois Tollway\Standards\Cell.

See Appendix D

4.5.3 Cover Sheet

Due to the complexity of the Illinois Tollway cover sheet, this has been maintained as a stand-alone file. This file shall be copied and edited for each volume in the contract.

Illinois Tollway borders are available in:

<Workspaces Dir>\Illinois Tollway\Standards\Sheet Borders\ILTollway-Cover.dgn.

Appendix G contains a suggested how-to procedure.

4.5.4 Borders

Illinois Tollway borders are available in the <Workspaces Dir>\Illinois Tollway\Standards\Sheet Borders\ILTollway-Borders.dgn. This file shall be copied and edited for each project.

The borders shall be referenced into all sheets, cells are discouraged.

4.5.5 Signature Sheet

Traditional submittals require one signature sheet, and 3D submittals require an additional signature sheet. Refer to BIM Manual for 3D signature sheet.

Traditional signature sheet is available in:

<Workspaces Dir>\Illinois Tollway\Standards\Sheet Borders\ILTollway-SignatureSheet.dgn

Appendix H contains a suggested how-to procedure.

4.5.6 Text Styles

Text styles are pre-defined attributes controlling the text appearance. The use of text styles will greatly increase consistency within the plan documents. Illinois Tollway and IDOT Text styles are built at a 1:1 scale and are aligned with the use of annotation scale.

4.5.7 Dimension Styles

Dimension styles are pre-defined attributes controlling the dimension appearance. Like text styles, dimension styles are built at a scale of 1:1 and are aligned with the use of annotation scale. Illinois Tollway Dimension styles leverage text styles.

4.6 File Naming Convention

Naming conventions for electronic drawing files allow users to determine the contents of the file. The name also provides information on the type of design file, i.e. – “printable sheet” versus “overall strip files”.

See Appendix A for file naming conventions.

4.7 CAD File Concepts

OpenRoads Designer is built on top of MicroStation. Therefore, MicroStation concepts and commands are available in OpenRoads, but the converse is NOT true. Therefore, a MicroStation user will not be able to edit OpenRoads Elements. Therefore, care must be taken if both programs are in use on a project.

In the following, MicroStation will be used for simplicity, but the concepts apply to OpenRoads Designer.

4.7.1 Models

A Model in a MicroStation drawing is like a worksheet in Excel. Excel must have at least one worksheet, similarly, a MicroStation drawing must have at least one model. There are three model types that will be used in Illinois Tollway Plans Production.

4.7.2 Design

Contains the administrative drawing file information. For example, the title block information, revision information. Referenced in at a 1:1 scale.

4.7.3 Drawing

Contains graphic and annotation objects. For example, plan views, sections, elevations, or details. The graphics can be self-contained in the current file or referenced from a separate file. The drawing models shall contain dimensions and notes.

4.7.4 Sheet

Contains all the drawing and design models and is the finished product. Drawing models are referenced into Sheet Model at the annotation scale of the Drawing Model (1/4” = 1’-0”, 1” = 10’, etc.). The Sheet Model is what is printed to make a Construction Document.

4.8 Drawings

In general, the Illinois Tollway utilizes four types of drawings that make up the construction documents – Base, Master, Control/Container, and Sheet.

4.8.1 Base/Strip Maps

a. Collection of similar elements for entire project.

b. Elements drawn true scale (1:1).

c. One drawing for each group for the entire project.

d. Grouping is up to the designer. At a minimum, files shall be unique per discipline.

e. Exceptions do occur, with one example being the roadway alignment files. One strip file shall contain only one alignment, resulting in numerous alignment files. See OpenRoads Files for more information.

4.8.2 Master

a. Master files contain only references of similar discipline.

b. Files are used to show the entire project information.

c. An example would be Drainage. In a project there may be multiple drainage base files.

d. The Drainage Master file would simply have all the Drainage base files referenced, nothing else.

4.8.3 Control/Container

a. These files shall be void of drafted elements. They group model files together and create a nested reference scheme.

b. This file is referenced into corresponding sheet files to produce a standard appearance. It is suggested to restrict the nesting depth to one (1)

4.8.4 Sheet

a. Each sheet file will produce one drawing for plotting and will contain references to the project border file and all necessary design files.

b. Sheet files may contain design file references, north arrow, match lines, graphic scales, notes specific to the drawing, revision clouds, title block information and file name (locate in the lower left margin).

c. Corresponding Control/Container file shall be referenced in utilizing live nesting.

4.9 Drafting Settings

All text shall be vertical UPPERCASE lettering. Standard symbols such as section, detail elevation callouts, and revision bubbles should be placed using the MicroStation “Detailing Symbols” menu.

4.10 Submittal Requirements

See the Illinois Tollway DSE Manual for submittal requirements.

To preserve the integrity of the CADD files, additional direction is being provided to consultants on how to submit a project’s CADD files. Regardless of the method used to transfer the files, directions to access the files shall be placed on the Illinois Tollway’s Web Based Project

Management (WBPM) System, and all files shall be able to be opened by the Illinois Tollway without having to re-attach any reference files.

4.10.1 Consultants Utilizing ProjectWise

Consultants utilizing ProjectWise shall provide a folder, named with the project's milestone, for each submittal. The project's folders and any associated files shall be placed in this folder. A Word or PDF file shall be placed on the Illinois Tollway's WBPM system containing directions and all information needed to access the project files hosted on ProjectWise. This includes ProjectWise Network Configuration Settings, a username, a password, and proper permissions to access and download the project's files.

4.10.2 Utilizing the Illinois Tollway's WBPM System

A Word or PDF file shall be placed on the Illinois Tollway's WBPM system to detail the folder structure used on the project. The project folder structure, containing empty folders, and all files shall be compressed considering size limitations, and uploaded to the WBPM system.

All CADD files within those folders shall be in accordance with the naming convention set forth in this manual, while the compressed files shall be in accordance with Illinois Tollway e-Builder file naming convention.

4.10.3 Drainage and Utilities

A Drainage and utility product named Storm CAD is included in OpenRoads Designer. Storm CAD is a program for modelling underground utilities and is used for design of gravity flow systems.

4.10.4 OpenRoads Files

Developing a project using Bentley OpenRoads Technology requires unique file structure to maximize the software. Separation of design information is recommended and encouraged. This will accomplish a few things. The first is allowing multiple employees to work on parts of the design concurrently. Secondly, by dividing the files into smaller portions, the files remain more manageable. Another benefit is that files can be used solely for use with OpenRoads, and thereby allowing the implementation of denying non-OpenRoads users' access.

When creating OpenRoads corridors, the associated files shall also reside in separate design files. Therefore, for each OpenRoads corridor, there shall be separate and unique design files for corresponding alignment, corridor, superelevation, cross-section, and terrain file.

4.10.5 Alignment

The Illinois Tollway suggests that each OpenRoads horizontal alignment reside in a unique design file (DDDC##-rdyalign_(Horizontal Align Name).dgn. Refer to Appendix A for further information on file naming convention. This file shall contain only one horizontal alignment with the associated profiles.

The alignment file shall be created using the IDOT 2D seed file. OpenRoads will automatically create a 3D associated model when profiles are created.

4.10.6 Corridor

If cross-sections and/or modeling is required, there shall be a corresponding corridor drawing file for each alignment drawing. The design file name shall be DDDC##-rdycor_*(Horizontal Align Name)*.dgn. Refer to Appendix A for further information on file naming convention.

The alignment file shall be created using the IDOT 2D seed file. OpenRoads will automatically create a 3D associated model when profiles are created.

4.10.7 Superelevation

If superelevation is necessary in the corridor, then the superelevation design file shall be created. A unique superelevation drawing shall be created for each alignment. The design file name shall be DDDC##-rdysuper_*(Horizontal Align Name)*.dgn. Refer to Appendix A for further information on file naming convention.

The superelevation file shall be created using the IDOT 2D seed file.

4.10.8 Cross-Section

The cross-section design file shall contain references in the master model. When sheeting, OpenRoads will automatically create models displaying the sections. Numerous models can be created with the repeated use of this tool. It is the designer's responsibility to remove unnecessary cross-section models and include only the models required for the contract documents. The design file name shall be DDDC##-rdyxsc_*(Horizontal Align Name)(Description)-SSS*.sht. Refer to Appendix A for further information on file naming convention.

The cross-section design file shall be created using the IDOT 2D seed file. OpenRoads will automatically create a 3D associated model when the OpenRoads create cross-sections tool is initialized.

4.10.9 Terrain

Each corridor design file shall have an associated Terrain file. The Terrain file is the 3D triangulation based only on the corridor graphical elements. The design file name shall be DDDC##-rdyterrain_*(Horizontal Align Name).dgn*. Refer to Appendix A for further information on file naming convention.

4.10.10 Milestones

All submitted files shall also have the appropriate Milestone. The Milestone names are as follows:

Phase	ProjectWise Version Name	Border
Master Plan	MASTER PLAN	MSTR
Concept	30% CONCEPT	30%
Preliminary	60% PRELIM	60%
Pre-Final	95% PRE-FINAL	95%
Final	100% FINAL	FNL
Advertisement	Advertisement	N/A

For advertisement submittal, milestone is to be blank.

4.11 Template Library

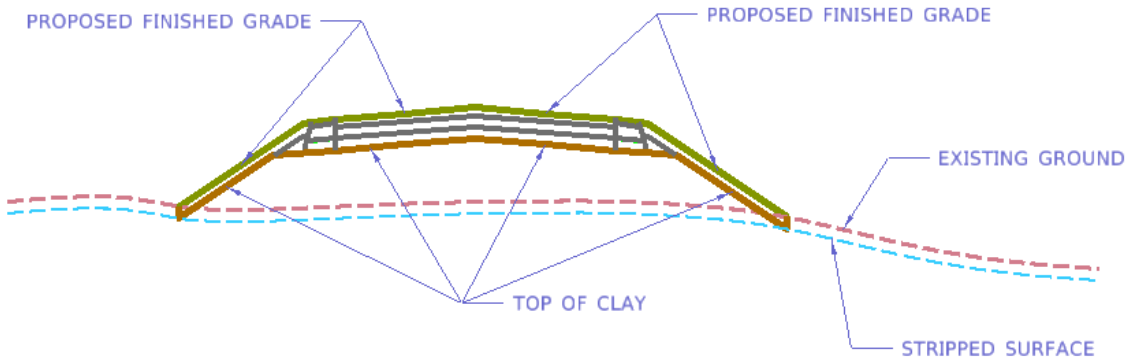
The Illinois Tollway has developed a standard template library covering general roadway components for use by designers to develop a proposed model. The template library is in:

<Workspaces Dir>\Illinois Tollway\Standards\Template Library\ILTollway.itl.

4.12 3-D Engineered Models Definitions

See Design Section Engineer's Manual Section 5.2.6.

At the time of this manual, there are four surfaces that are recommended to be included at advertisement. Two relate to the existing surfaces, Existing ground, and Stripped Surface. While the other two are proposed surfaces, finished grade and top of clay. Below is an image depicting these surfaces.



4.13 Sheet Revisions

After contract plans have been posted for bidding, revisions or changes to the plan sheets may be required in the form of an "Addendum" or "Construction Revision".

4.13.1 Drafting Standards

Below are several guidelines that should be followed from a CAD standpoint when creating Construction Plan revisions:

a. Revisions are numbered consecutively starting with the number 1.

b. The revision number is to be shown inside of a triangular shape (△1 △2).

c. Revisions shall only “bubble” the change.

d. Erasures are not permitted on Construction Plan revisions. Any items that are to be deleted should have “X’s” or be “crossed out”. When erasures are abundant, for clarity purposes the entire sheet can be crossed out and a new sheet generated. This new sheet should be the same sheet number only with a suffix of “***A***”. For example, if sheet CP-09 is to be erased, sheet CP-09**A** should be inserted into the plan set and be preceded by the crossed-out sheet CP-09.

e. A triangular shape (△1) with the associated addendum number must be placed next to each change or “cross out” in the plans.

f. The “REVISIONS” block of each sheet that is changed by a revision must be completed to document the plan changes. The “REVISIONS” block should contain the addendum number inside of a triangular shape in the lower center of the block followed by the date and a brief description of the change. As the revision block fills, the oldest entry is removed from the border and placed below and outside of the printable area.

REVISIONS		
NO.	DATE	DESCRIPTION
△3	2024-03-03	THIRD REVISION
△2	2024-03-02	SECOND REVISION
△1	2024-03-01	FIRST REVISION

APPENDIX A File Naming Convention

File Naming Convention

File naming will follow the convention described below. Recognizing that using this naming convention may not cover all circumstances, if additional or unique file names are required, contact the Illinois Tollway at CADD@GETIPASS.com to discuss.

General Definitions

DDDD = Illinois Tollway Design Contract Number (for Contract I-23-4674 use 4674)
C## = *Optional* Contract Number. Normally the Contract Numbers are provided well after Notice to Proceed. The contract number is preferred, but not required if not working on ProjectWise.
FileName = Brief word to describe the file – See FileName Examples table.
Description = Identifies the specific focus of the file. The description for an alignment should be the OpenRoads alignment name. The description for a drainage file would be the outlet or reach name.
SSS = Sequence Number. Sequential number of equivalent sheets.

Base/Strip Maps:

DDDDC##.FileName_*Description*.dgn

Example: 4674-rdyalign_I294.dgn (Alignment Design file for Project I-23-4674)

Master Files:

DDDDC##.FileName_Master.dgn

Master = Exact text to be used.

Example: **4674C02-rdyalign_Master.dgn** (Alignment Master Example for Project I-23-4674 Contract 2)

Control/Container Files:

DDDDC##.FileName_*Description.ctrl*

ctrl = extension to be used for all container/control files

Example: **4674C02-rdyplnprf_I294.ctrl** (Roadway Plan and Profile Control Example for Project I-23-4674 Contract 2)

Sheet Files:

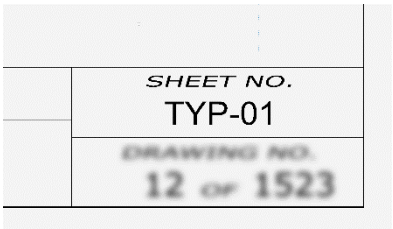
DDDDC##.FileName_*Description*.*SSS*.sht

sht = Designates a printable sheet file

Example: **4674C02-rdyalign_I294-001.sht** (I-294 Alignment Example for Project I-23-4674 Contract 2)

File Name Prefixes

File name prefixes are used to separate types of sheets contained in construction documents.



The Illinois Tollway uses prefixes in the sheet no. section at the bottom right of the border. The sheet no entry consists of two parts, the prefix and the sequence, separated by a “-".

The prefixes are defined in the table below. The sequence is a sequential number. The image to the left depicts the first sheet of the typical sections sheets.

Prefix Table

Sheet Description	Sheet No. Prefix	Notes
Title	COV	
Signature Sheet	SS	
Index of Drawings	IND	
List of Standards	STD	
General Notes	GEN	
Suggested Progress Schedule	SPS	
Summary of Quantities	SOQ	
Earthwork Schedule of Quantities	SCH	
Schedule(s) of Quantities	SCH	
Alignment & Ties & Benchmarks	ATB	
Typical Sections	TYP	
Maintenance of Traffic	MOT#	# = MOT Stage
Detour Plans	DET	
Existing Roadway & Removal Plans	REM	
Proposed Roadway Plans	RDY	
Roadway Profiles	RDY	
Roadway Details	RDY	
Utility Matrix	UTM	
Utility Plans	UTL	
Existing Drainage & Removals	DRE	
Proposed Drainage Plans	DRN	

Sheet Description	Sheet No. Prefix	Notes
Drainage Profiles	DRN	
Drainage Details	DRN	
Pavement Jointing and Elevation Plans	JEP	
Grading Plans	GR	
Environmental Soil Classification Plans	EV	
Landscape and Fencing Plans	LND	
Erosion Control Plans	ECP	
Pavement Marking Plans	PMK	
Signing Plans & Details	SGN	
ITS removal and installation plans	ITS	
ITS communication plan	ITS	
ITS calculations required by the Code and Illinois Tollway ITS requirements	ITS	
Roadway Lighting Plans	LGT	
Structure Plans	ST*	*=Project Structure Reference character. At the discretion of the Structural engineer. Usually based on location along the alignment, IE first retaining wall along the alignment will be RWA.
Structural Details	ST*	
Retaining Wall Plans	RW*	
Retaining Wall Details	RW*	
Noise Wall Plans	NW*	
Noise Wall Details	NW*	
Boring Logs Sheets	BOR	
Architectural Plans	A@#	@=Project Building designation. Usually A, B, C, etc. Used when a project contains multiple buildings. #=Sheet Type designation 0=General, 1=Plans, 2=Elevations, 3=Sections, 4=Large-Scale Views, 5=Details, 6=Schedules, 7=User Defined, 8=User Defined, 9=3D Representations.
Facility Electrical Plans	E@#	
Mechanical Plans	M@#	
Cross Sections	XS	

File Name Examples:

File names are comprised of two parts: subject and sheet description. The subject is the prefix and is the table headers below. The sheet description is in the body of the tables below and are the suffix of the file name. IE – The cover sheet for a project will be - *4674C02-***gencover***_vol1.sht.*

DRN (Drainage)

drnBndyex	Existing Drainage Boundaries
drnBndypr	Proposed Drainage Boundaries
drnDetail	Drainage Details
drnLabel	Drainage Labeling
drnLgnd	Drainage Legend
drnLgndundrn	Pipe Underdrain Legend
drnNote	Drainage General Notes
drnPln	Drainage Plan
drnPlnprf	Drainage Plan and Profile
drnPrf	Drainage Profile
drnRem	Existing Drainage and Removals
drnRemlabel	Drainage Removal Labeling
drnSch	Drainage Schedule
drnUndrn	Pipe Underdrain Plan
drnUndrnlabel	Pipe Underdrain Labeling
drnUndrnsch	Pipe Underdrain Schedule

ECP (Erosion Control)

ecp#	Erosion Control Plan – Stage #
ecp#label	Erosion Control Plan – Stage #
ecpLabel	Initial Erosion Control Plan
ecpLgnd	Erosion and Sediment Control Legend

ecpNote	Erosion and Sediment Control Notes
ecpPlan	Erosion and Sediment Control Plan
ecpSch	Erosion Control Schedule of Quantities

GEN (General)

genBorder	Border Sheet
genCover	Cover Sheet
genIndex	Index of Sheets
genJuris	Jurisdictional Limits
genKey	Key Map
genLgnd	Legend Symbol Legend & Abbreviations
genNote	General Notes
genProg	Suggested Progress Schedule
genSchedule	Schedule of Quantities
genSeals	Professional Seals and Signatures
genSoq	Summary of Quantities
genStds	List of Standards
genTypical	Typical Sections

ITS (Intelligent Transportation System)

itsDetail	ITS Details
itsFo	Fiber Optic Plan
itsFodetail	Fiber Optic Details
itsFolabel	Fiber Optic Labeling
itsLabel	ITS Labeling
itsLgnd	ITS Legend
itsLgndtoll	Toll Collection Legend
itsNote	ITS General Notes
itsSch	ITS Schedule of Quantities
itsToll	Toll Collection Plaza Plans

itsTolldetail	Toll Collection Plaza Details
itsTollsch	Toll Collection Schedule of Quantities
LGT (Roadway Lighting)	
lgtDetail	Lighting Details
lgtLabel	Lighting Labeling
lgtLgnd	Lighting Legend
lgtLgndtmp	Temporary Lighting Legend
lgtNote	Lighting General Notes
lgtPln	Roadway Lighting Plan
lgtSch	Lighting Schedule of Quantities
lgtTmp	Temporary Roadway Lighting Plan
lgtTmpdetail	Temporary Lighting Details
lgtTmplabel	Temporary Lighting Labeling
lgtTmpsch	Temporary Lighting Schedule of Quantities
LND (Landscape)	
lndDetail	Landscape Details
lndLabel	Landscape Labeling
lndLgnd	Landscape Legend
lndNote	Landscape Notes
lndPln	Landscape Sheets
lndSch	Landscape Schedule of Quantities
lndWetland	WOUS & Wetland Delineation File
PMK (Pavement Marking)	
pmkLabel	Pavement Marking Labeling
pmkLgnd	Pavement Marking Legend
pmkNote	Pavement Marking Notes
pmkPln	Pavement Marking Plan

JET (Pavement Jointing/Elevations & Grading)	
jet3Dfg	3D Proposed Finish Grade
jet3Dsg	3D Proposed Sub-grade
jetElev	Elevation Plan
jetGrading	Grading Plan
jetJoint	Pavement Jointing Plan
jetLgnd	Pavement Jointing Legend
RDY (Roadway)	
rdyAlign	Alignment (Open Roads Alignment File)
rdyAligndata	Alignment Data File
rdyAlignGPK	Alignment Drafted from GPK
rdyAsphalt	Asphalt Selection Chart
rdyDetail	Roadway Details
rdyDowel	Dowel Bar Layout Sheet
rdyLabel	Roadway Labeling
rdyLgnd	Roadway Legend
rdyNote	Roadway General Notes
rdyPln	Roadway Plan
rdyPlnprf	Roadway Plan and Profile
rdyPrf	Roadway Profile
rdySuper	Super Elevation
REM (Removal)	
remLabel	Removal Labeling
remLgnd	Removal Legend
remPln	Removal Plan
SGN (Signing)	
sgnLabel	Signing Labels

sgnLgnd	Signing Legend
sgnNote	Signing Notes
sgnPln	Signing Plan
BOR (Soil Boring Logs)	
borBlog	Boring Log Sheets
borPln	Soil Report Plan Sheets
MOT (Staging / Maintenance of Traffic)	
motDetour	Maintenance of Traffic Detour Plan
motNote	Maintenance of Traffic General Notes & Sequence of Construction
motS##	Maintenance of Traffic Plan - Stage #
motS##label	Maintenance of Traffic Label Plan - Stage #
motSign	Maintenance of Traffic Signing Details
Structural	
See Illinois DOT CADD Modeling and Deliverables Manual Section 2-5.04(d) Structures Sheet File Naming Multiple Models	
SUR (Surveying)	
surAerial	Aerial Survey and Mapping Plan
surAtb	Alignment Ties and Benchmarks
surCon	Existing Contours Plan
surLgnd	Survey Legend
surPoh	Plat of Highways Plan
surRow	Land Acquisition work file
surTopo	Topography plan conditions of project area
TS (Traffic Signals)	
tsDetails	Traffic Signal Details
tsInt	Intersection Detail Sheets
tsLabels	Traffic Signal Labels
tsPln	Traffic Signal Plans

tsSch	Traffic Signal Schedule of Quantities
TTS (Temporary Traffic Signals)	
ttsDetails	Temporary Traffic Signal Details
ttsLabels	Temporary Traffic Signal Labels
ttsPln	Temporary Traffic Signal Plans
UTL (Utilities)	
utlDetail	Utility Details
utlLabel	Utility Labeling
utlLgnd	Utility Legend
utlMatrix	Utility Matrix
utlNote	Utility General Notes
utlPln	Utility Plan (Water, Sanitary Sewer, Storm Sewer, Power, Fiber Optic, Telephone, Cable TV, Natural Gas, Communications, ITS & Toll Collection)
utlPrf	Utility Profile
utlRem	Utility Removals
utlSue	Sub-surface Utility Engineering
XS (Cross Sections)	
xs***(AlignName)***	Open Roads Cross-Section sheets. Include alignment name.

Buildings

ARCH (Architectural)

archDemo	Demolition
archDtl	Details
archElev	Elevation
archEnlrg	Enlarged
archEqpt	Equipment

archEx	Existing
archFloor	Floor Plan
archLgnd	Legend
archRoof	Roof Plan
archSchdl	Schedule
archSctn	Sections

ELEC (Electrical)

elecAuxpwr	Auxiliary Power
elecDemo	Demolition
elecDgrm	Diagram
elecDtl	Detail
elecEx	Existing
elecLght	Lighting
elecLgnd	Legend
elecPower	Power Plan
elecSchdl	Schedule
elecSpclsystm	Special Systems Plan
elecUtl	Utilities

MECH (Mechanical)

mechDemo	Demolition
mechDgrm	Diagram
mechDtl	Detail
mechElev	Elevation
mechEnlrg	Enlarged
mechEqpmnt	Equipment
mechEx	Existing
mechHvac	HVAC
mechLgnd	Legend

mechSchdl	Schedule
mechSctn	Section

PLUM (Plumbing)

plumDemo	Demolition
plumDgrm	Diagram
plumDtl	Detail
plumElev	Elevation
plumEnlrg	Enlarged
plumEqpmnt	Equipment
plumEx	Existing
plumLgnd	Legend
plumPiping	Special Piping
plumSchdl	Schedule
plumSctn	Section

APPENDIX B Seed File

Seed File

Illinois Tollway seed file matches the IDOT seed's master, sub units, global origin, and resolution. These seed files have Survey Feet and Survey Inches for the Master and Sub Units. The Illinois Tollway seed has a few alterations.

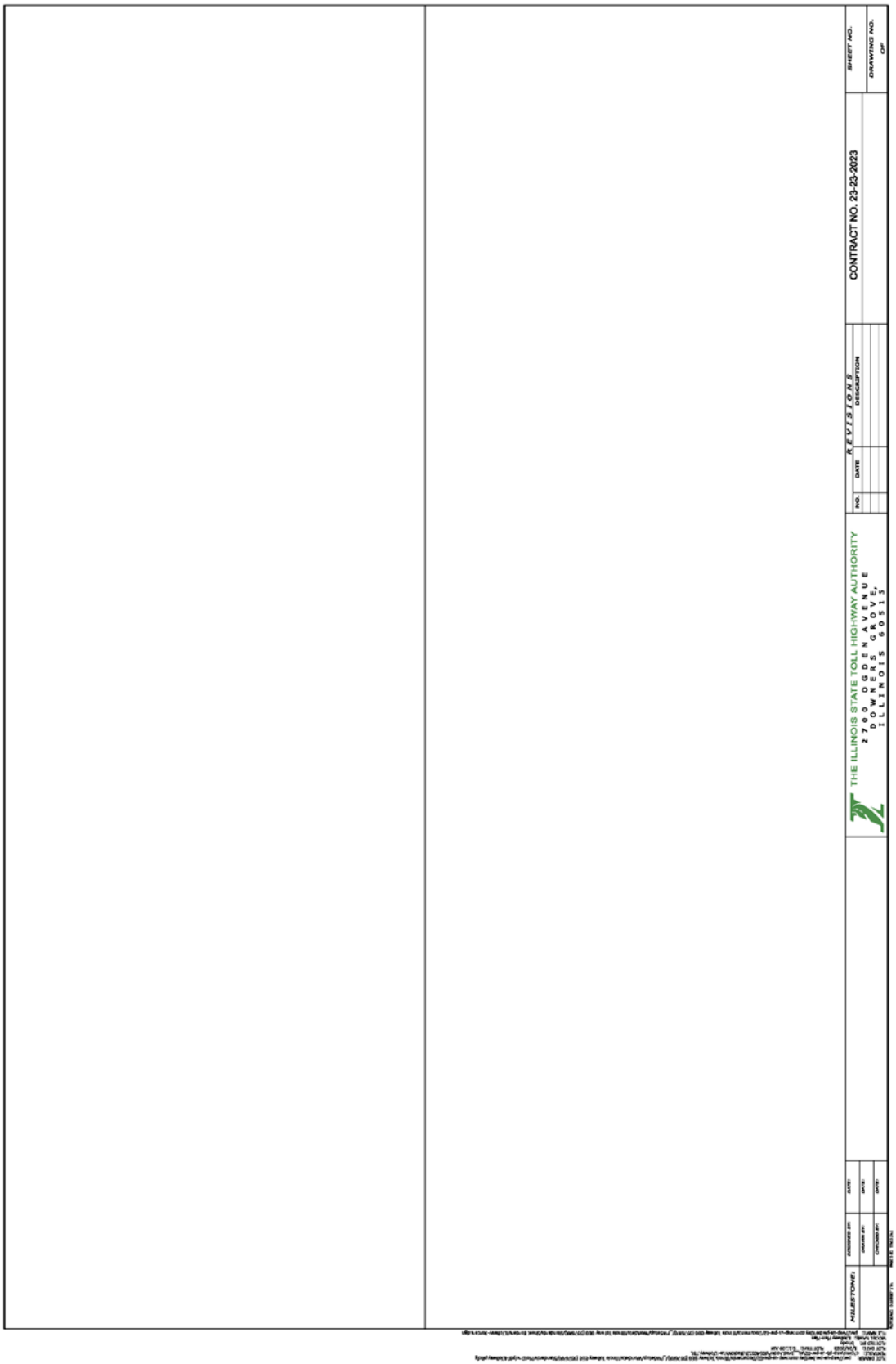
1) Illinois Tollway color table attached.
2) View Preferences.
3) Removed Civil Model

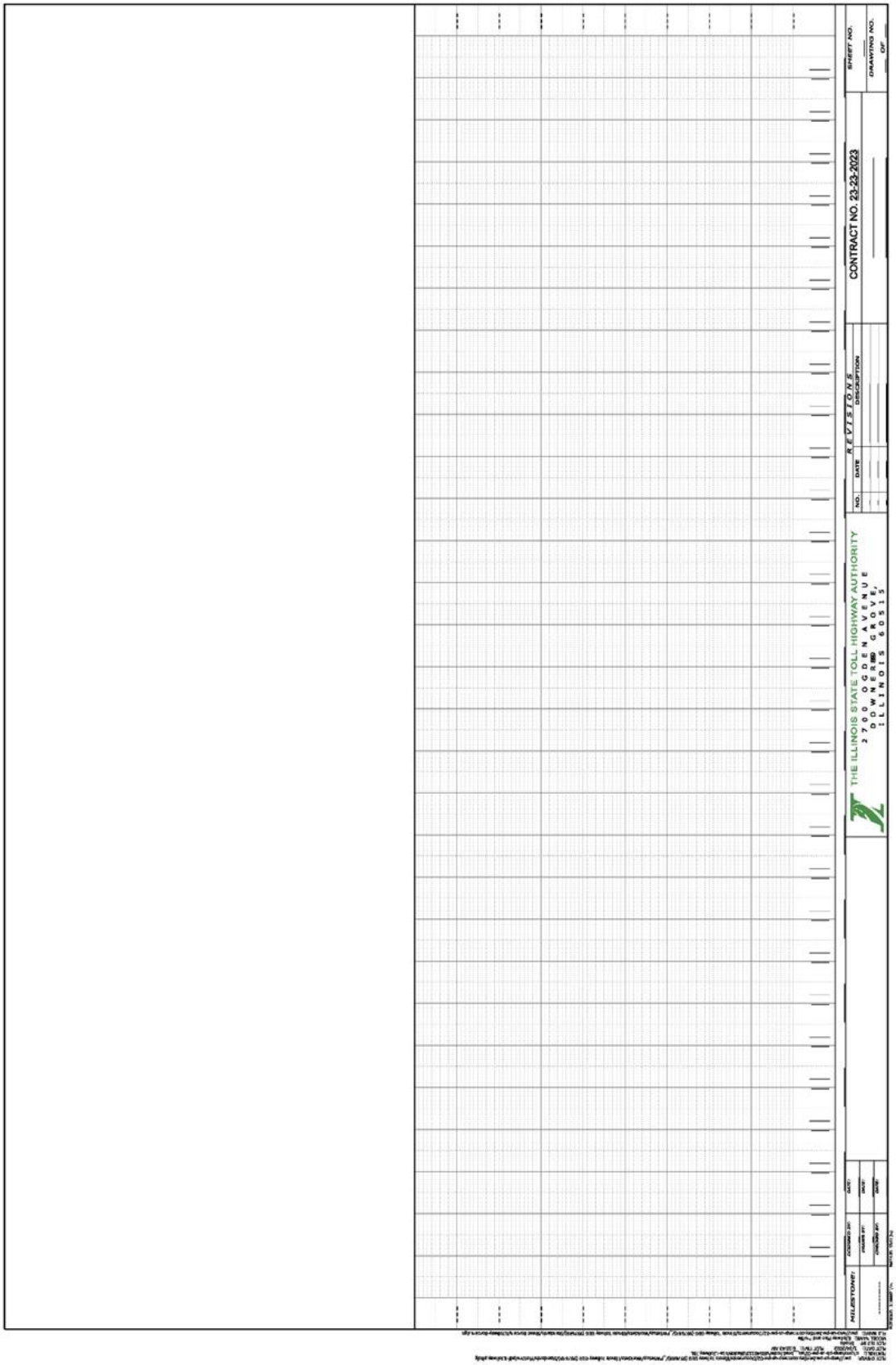
File Names

ILTollway.dgn	Illinois Tollway 2D seed file.
ILTollway-3D.dgn	Illinois Tollway 3D seed file.

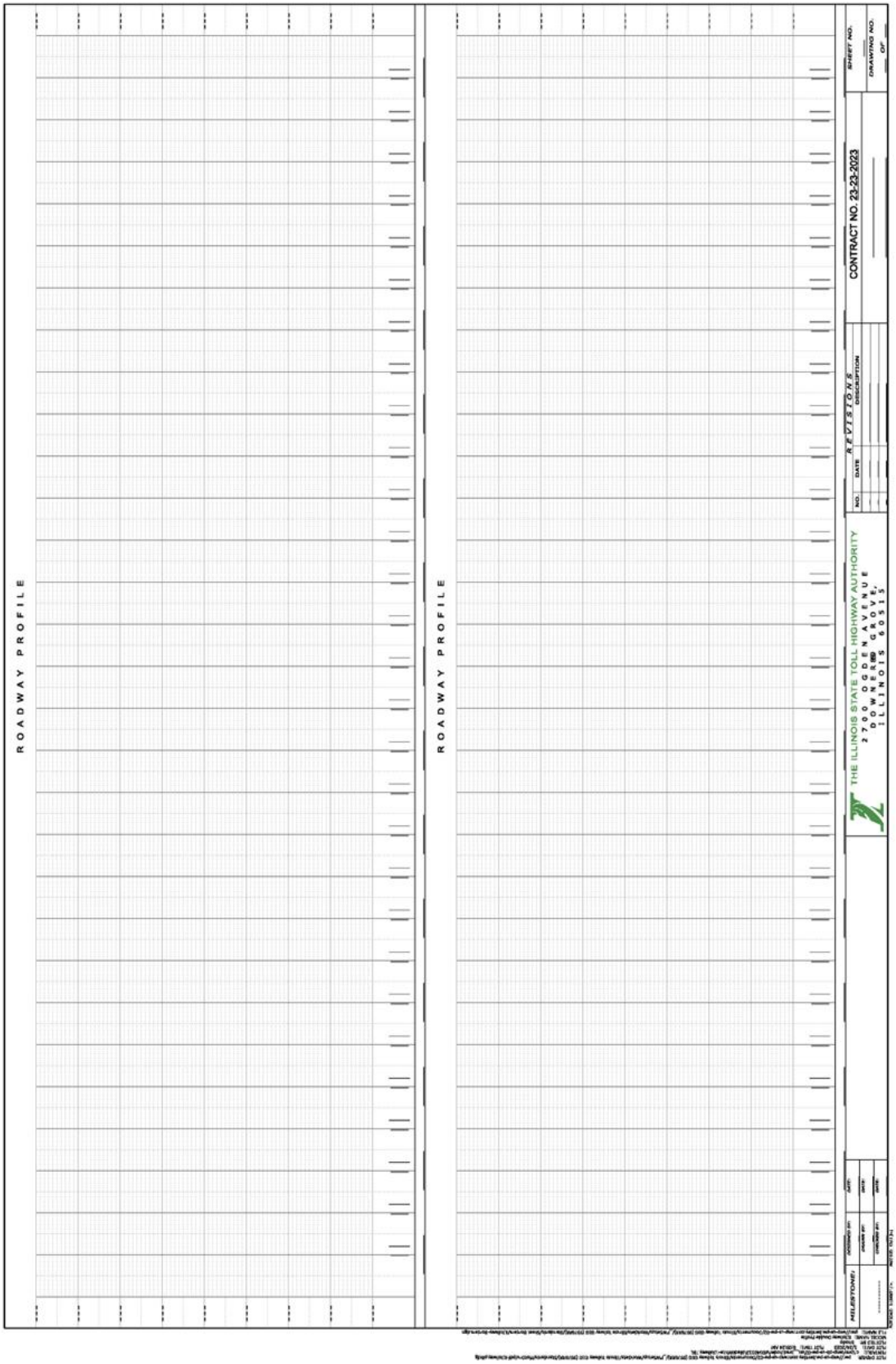
APPENDIX C Borders

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515,
REVISIONS
NO.
DATE
DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF
MILESTONE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DATE:


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
NO.
DATE
DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF
MILESTONE:


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
NO.
DATE
DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF
MILESTONE:


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
NO.
DATE
DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF


ROADWAY PROFILE
ROADWAY PROFILE
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
NO.
DATE
DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF


SUPER ELEVATION DIAGRAM
4%
2%
0%
-2%
-4%
ROADWAY PROFILE
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515.
REVISIONS
NO. DATE DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF
MILESTONE
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
DATE:


SUPER ELEVATION DIAGRAM
6%
4%
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0%
-2%
-4%
-6%
ROADWAY PROFILE
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
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SHEET NO.
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MILESTONE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DATE:


SUPER ELEVATION DIAGRAM
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-6%
-8%
ROADWAY PROFILE
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
NO.
DATE
DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF
MILESTONE
DESIGNED BY
DRAWN BY
CHECKED BY
DATE:


SUPER ELEVATION DIAGRAM
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-6%
-8%
ROADWAY PROFILE
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
NO.
DATE
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MILESTONE:
DESIGNED BY:
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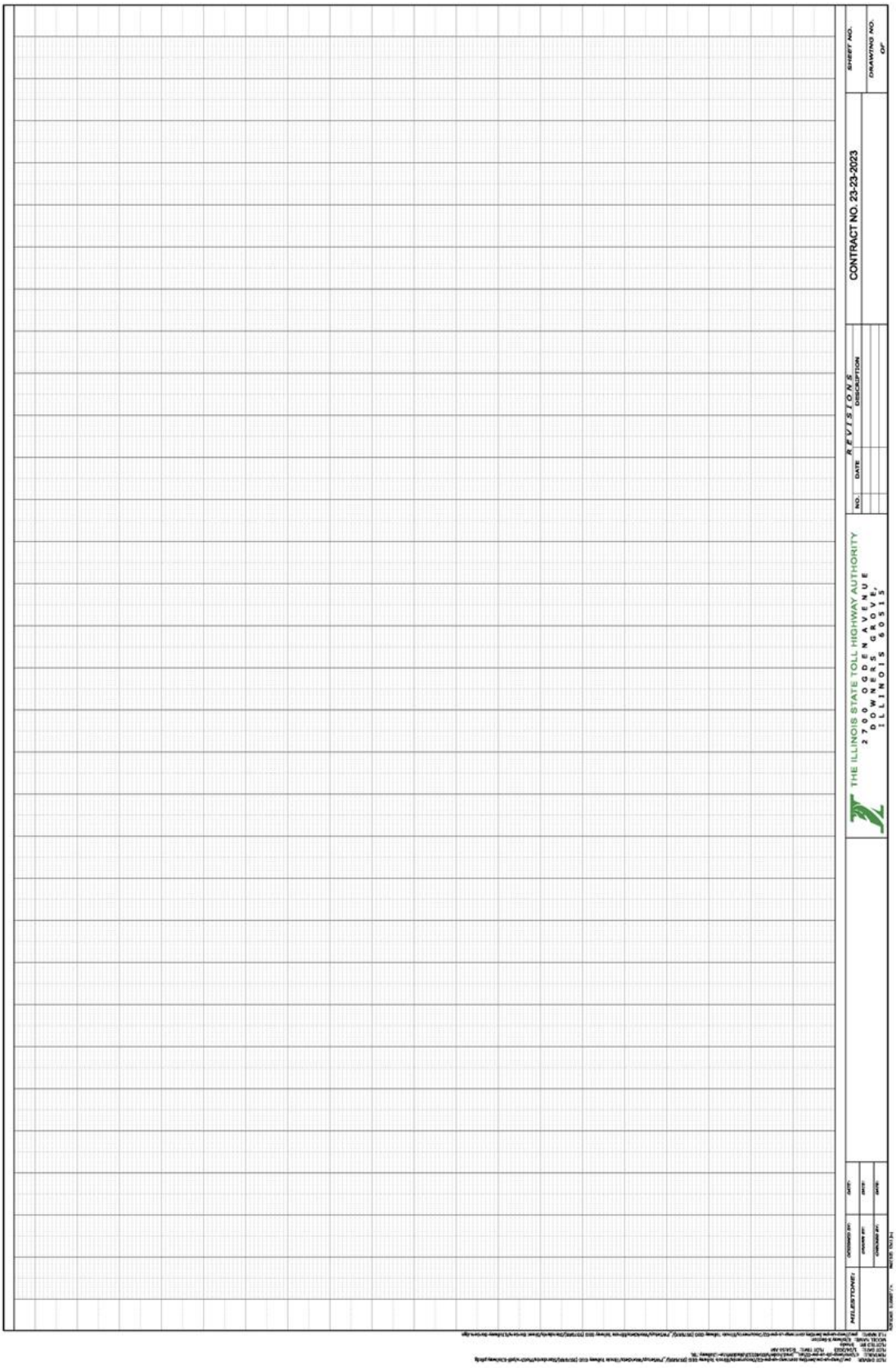

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515
REVISIONS
NO.
DATE
DESCRIPTION
CONTRACT NO. 23-23-2023
SHEET NO.
DRAWING NO.
OF

APPENDIX D Cell Libraries

Cell Libraries

Cell Library: ILTollwayroad.cel

Cell Name: DRAIN_EX BIOSWALE Scale: 77.7778 Descrip: EXISTING BIOSWALE	Cell Name: DRAIN_EX OUTLET Scale: 107.6923 Descrip: EXISTING OUTLET
Cell Name: DRAIN_EX OVERFLOW Scale: 116.6667 Descrip: EXISTING OVERFLOW ARROW	Cell Name: DRAIN_EX SHEETFLOW Scale: 107.6923 Descrip: EXISTING SHEET FLOW ARROW
Cell Name: DRAIN_PR BIOSWALE Scale: 77.7778 Descrip: PORPOSED BIOSWALE	Cell Name: DRAIN_PR OUTLET Scale: 107.6923 Descrip: PORPOSED OUTLET ARROW
Cell Name: DRAIN_PR OVERFLOW Scale: 116.6667 Descrip: PORPOSED OVERFLOW ARROW	Cell Name: DRAIN_PR SHEETFLOW Scale: 107.6923 Descrip: PORPOSED SHEET FLOW ARROW

Page 1

Cell Library: ILTollwayroad.cel

Cell Name: NORTH ARROW IL Tollway Scale: 10.2339
Descrip: Illinois Tollway North Arrow

Cell Name: SHT_AREA Scale: 9.1146
Descrip: Sheet Area Terminator

Cell Name: SHT_ARROW_DBL Scale: 100.0000
Descrip: Sheet Double Arrow

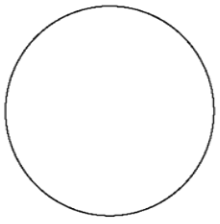
Cell Name: SHT_BAR SCALE 100 IL Tollway Scale: 0.0089
Descrip: SHEET 100 SCALE BAR ILLINOIS TOLLWAY

Cell Name: SHT_BAR SCALE 20 IL Tollway Scale: 0.0447
Descrip: SHEET 20 SCALE BAR ILLINOIS TOLLWAY

Cell Name: SHT_BAR SCALE 40 IL Tollway Scale: 0.0221
Descrip: SHEET 40 SCALE BAR ILLINOIS TOLLWAY

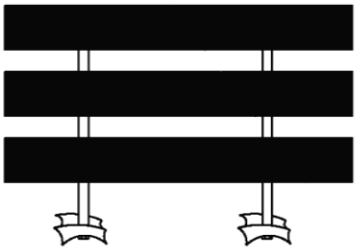
Cell Name: SHT_BAR SCALE 50 IL Tollway Scale: 0.0174
Descrip: SHEET 50 SCALE BAR ILLINOIS TOLLWAY

Cell Name: SHT_POINT Scale: 175.0000
Descrip: Sheet Point - Circle



Page 2

Cell Library: ILTollwayroad.cel

Cell Name: SHT_SLOPE_L Descrip: Sheet Slope Arrow Left Scale: 62.5000 	Cell Name: SHT_SLOPE_R Descrip: Sheet Slope Arrow Right Scale: 62.5000 
Cell Name: SIGN_TY-III_FRONT Descrip: Type III Barricade - Front Face View Scale: 58.3333 	Cell Name: SIGN_TY-III_PLAN Descrip: Type III Barricade - Plan View Scale: 62.5000 
Cell Name: UTIL_EX PUMPSTATION Descrip: EXISTING PUMPSTATION Scale: 145.8333 	Cell Name: UTIL_PR PUMPSTATION Descrip: PROPOSED PUMPSTATION Scale: 145.8333 

Page 3

Cell Library: ILTollway-MUTCD.cel

Cell Name: D13-3 Scale: 8.3333 Descrip: Freeway Entrance-ILT 	Cell Name: D13-3-Toll Scale: 8.3333 Descrip: Tollway Entrance-ILT 
Cell Name: M1-1.2 (BLANK) Scale: 11.3636 Descrip: INTERSTATE SHEILD ONLY-ILT 	Cell Name: M1-1.2 (I-39) Scale: 11.3636 Descrip: INTERSTATE 39 
Cell Name: M1-1.2 (I-55) Scale: 11.3636 Descrip: INTERSTATE 55 	Cell Name: M1-1.2 (I-57) Scale: 11.3636 Descrip: INTERSTATE 57 
Cell Name: M1-1.2 (I-80) Scale: 11.3636 Descrip: INTERSTATE 80 	Cell Name: M1-1.2 (I-88) Scale: 11.3636 Descrip: INTERSTATE 88 

Page 1

Cell Library: ILTollway-MUTCD.cel

Cell Name: M1-1.2 (I-90) Scale: 11.3636 Descrip: INTERSTATE 90 	Cell Name: M1-1.2 (I-94) Scale: 11.3636 Descrip: INTERSTATE 94 
Cell Name: M1-1.3 (BLANK) Scale: 11.3636 Descrip: INTERSTATE SHIELD ONLY 	Cell Name: M1-1.3 (I-190) Scale: 11.3636 Descrip: INTERSTATE 190 
Cell Name: M1-1.3 (I-290) Scale: 11.3636 Descrip: INTERSTATE 290 	Cell Name: M1-1.3 (I-294) Scale: 11.3636 Descrip: INTERSTATE 294 
Cell Name: M1-1.3 (I-355) Scale: 11.3636 Descrip: INTERSTATE 355-ILT 	Cell Name: M1-5.3 Modified (BLANK) Scale: 0.2571 Descrip: Illinois State Route Sheild ONLY, 3 digits-ILT

Page 2

Cell Library: ILTollway-MUTCD.cel

Cell Name: M1-5.3 Modified (ILLINOIS 390) Scale: 10.4167 Descrip: Illinois State Route 390, 3-ILT 	Cell Name: M4-15 Scale: 18.1818 Descrip: TOLL-ILT 
Cell Name: R3-1 Scale: 11.4379 Descrip: No right turn-ILT 	Cell Name: R3-18 Scale: 11.5132 Descrip: Combination U-turn and left turn prohibited - ILT 
Cell Name: R3-2 Scale: 11.4379 Descrip: No left turn-ILT 	Cell Name: R3-3 Scale: 11.4379 Descrip: NO TURNS-ILT 
Cell Name: R4-7 Scale: 9.1146 Descrip: Keep right-ILT 	Cell Name: R4-7a Scale: 9.2593 Descrip: KEEP RIGHT w/symbol-ILT 

Page 3

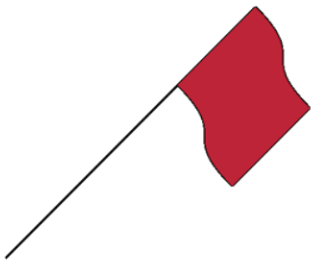
Cell Library: ILTollway-MUTCD.cel

Cell Name: R4-7b Descrip: KEEP RIGHT w/symbol-ILT Scale: 9.2593 	Cell Name: R4-8 Descrip: Keep left-ILT Scale: 9.1146 
Cell Name: R5-1 Descrip: DO NOT ENTER-ILT Scale: 11.5132 	Cell Name: R5-1a Descrip: WRONG WAY-ILT Scale: 11.4379 
Cell Name: R6-1L Descrip: ONE WAY (left)-ILT Scale: 12.1739 	Cell Name: R6-1R Descrip: ONE WAY (right)-ILT Scale: 12.1739 
Cell Name: R6-2L Descrip: ONE WAY (Left)-ILT Scale: 9.2593 	Cell Name: R6-2R Descrip: ONE WAY (Right)-ILT Scale: 9.3085 

Page 4

Cell Library: ILTollway-MUTCD.cel

Cell Name: _FLAG Scale: 18.2292
Descrip: Flag



Page 5

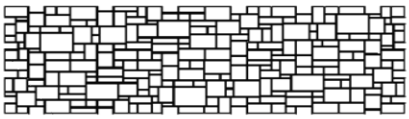
Cell Library: ILTollway.CEL

Cell Name: Engineer Seal-IL Tollway Descrip: Professional Engineer Seal Scale: 13.8889 	Cell Name: I PASS Logo Descrip: I PASS Logo Scale: 36.4583 
Cell Name: I PASS Logo-W Text Descrip: I PASS Logo with Text Scale: 26.1194 	Cell Name: IL Tollway Logo Descrip: Illinois Tollway Logo Scale: 35.7143 
Cell Name: IL Tollway Logo-W Text Descrip: Illinois Tollway Logo with Text Scale: 30.1075 	

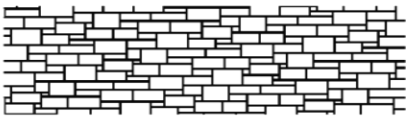
Page 1

Cell Library: ILTollway - Patterns.CEL

Cell Name: Ashlar-12019 Scale: 0.0933
Descrip: Custom Rock Pattern 12019



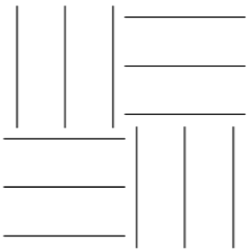
Cell Name: Ashlar-12020 Scale: 0.0933
Descrip: Custom Rock Pattern 12020



Cell Name: CONCRT Scale: 58.3333
Descrip: CONCRETE AREA PATTERN

Cell Name: CONCRT-DOTS Scale: 116.6667
Descrip: CONCRETE PATTERN USING DOTS

Cell Name: EARTH Scale: 97.2222
Descrip: Earth Area Pattern



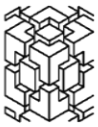
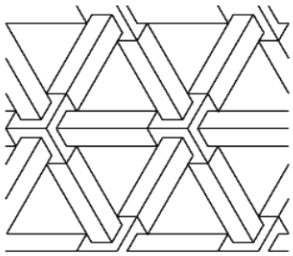
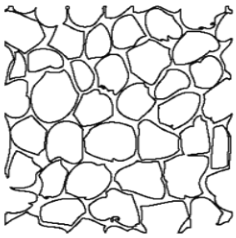
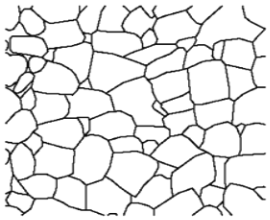
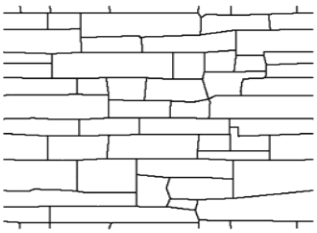
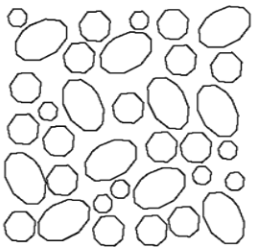
Cell Name: INOUT1 Scale: 41.6667
Descrip: OPART PATTERN 1

Cell Name: INOUT2 Scale: 67.3077
Descrip: OPART PATTERN 2

Cell Name: INOUT3 Scale: 43.7500
Descrip: OPART PATTERN 3

Page 1

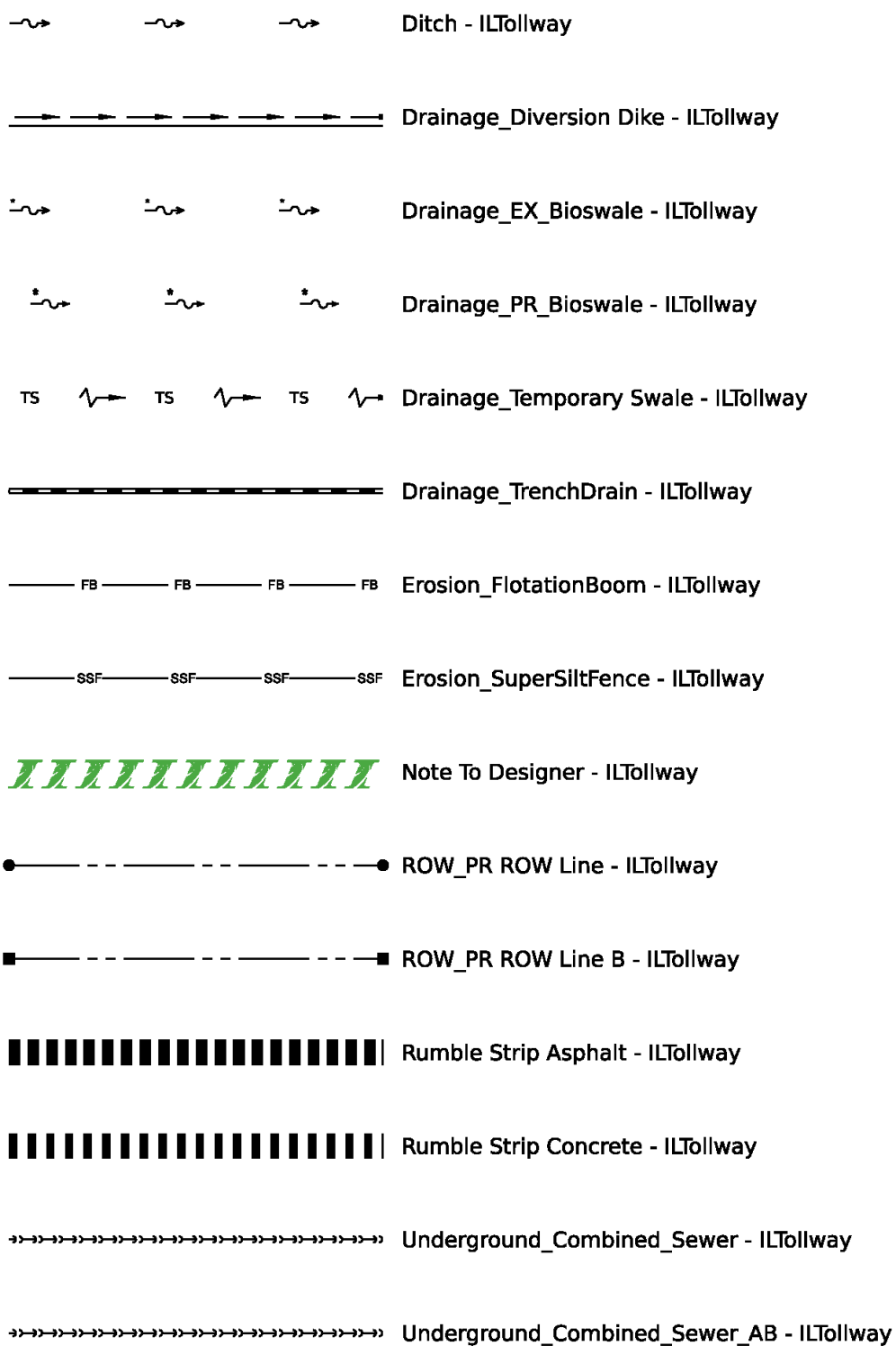
Cell Library: ILTollway - Patterns.CEL

Cell Name: INOUT4 Scale: 54.6875 Descrip: ISO SECTION BLOCK PATRN 	Cell Name: SPGRID Scale: 125.0000 Descrip: SPACE GRID 
Cell Name: Stone1 Scale: 125.0000 Descrip: Stone - Round 	Cell Name: Stone2 Scale: 175.0000 Descrip: Stone - Angular 
Cell Name: Stone3 Scale: 194.4444 Descrip: Stone - Mixed 	Cell Name: Stone4 Scale: 218.7500 Descrip: Stone - Flat 
Cell Name: Stone5 Scale: 125.0000 Descrip: Stone - Round Spaced 	

Page 2

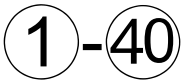
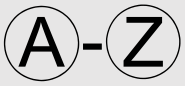
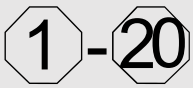
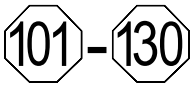
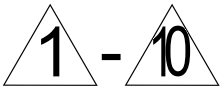
APPENDIX E Custom Linestyles

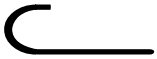
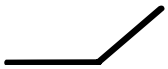
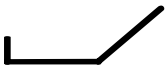
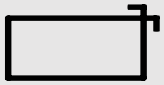
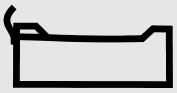
Illinois Tollway Custom Linestyles

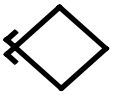


APPENDIX F Custom Font

Custom Fonts

ILTollway A.ttf – Special Characters		
 \0161	 \0162	 \0163
 \0167	 \0200	 \0201
 \0202	 \0203	 \441XX
 \442XX	 \444XX	 \445XX
 \447XX	 \448XX	 \450XX
 \451XX	 \453XX	 \454XX
 \455XX	 \456XX	 \457XX
 \459XX	 \460XX	

ILTollway A.ttf – Reinforcement Special Characters		
 \55000	 \55001	 \55002
 \55003	 \55004	 \55005
 \55006	 \55007	 \55008
 \55009	 \55010	 \55011
 \55012	 \55013	 \55014
 \55015	 \55016	 \55017
 \55018	 \55019	 \55020
 \55021	 \55022	 \55023

 \55024	 \55025	 \55026
 \55027	 \55028	 \55029
 \55030		

To request additional special characters, please click on the following e-mail address and add image and explanation.

CADD@GETIPASS.com

APPENDIX G Cover Sheet

	TITLE	NUMBER
VOLUME 1	GENERAL	1-2
	ALIGNMENT PLANS	3-4
	PLAT OF HIGHWAYS	5-12
	TYPICAL SECTIONS	13-20
	MAINTENANCE OF TRAFFIC	21-53
	REMOVAL PLANS	54-68
	ROADWAY PLANS	69-84
	ROADWAY PROFILES	85-101
	ROADWAY DETAILS	102-118
	EXISTING UTILITY PLANS	118-133
	DRAINAGE PLANS	134-141
VOLUME 2	DRAINAGE DETAILS	142-148
	DRAINAGE PROFILES	149-154
	DRAINAGE REMOVAL PLANS	155-187
	SUBSURFACE DRAINAGE PLANS	188-199
	PAVEMENT ELEVATION PLANS	200-232
	LANDSCAPE & FENCING PLANS	233-254
	EROSION AND SEDIMENT CONTROL	255-264
	PAVEMENT MARKING PLANS	265-289
	SIGNING PLANS	290-301
	TEMPORARY TRAFFIC SIGNAL PLANS	302-316
	LIGHTING PLANS	317-333
	ITS PLANS	334-356
VOLUME 3	CULVERT PLANS	357-362
	BRIDGE PLANS	363-482
	RETAINING WALL PLANS	483-503
	CROSS SECTIONS	504-895
	ADDING A SHEET	696-699

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

2700 OGDEN AVENUE • DOWNERS GROVE • ILLINOIS • 60515

CONTRACT I-24-2024

ELGIN O'HARE WESTERN ACCESS (I-490)
ROADWAY CONSTRUCTION
AT TOUHY AVENUE
MILE POST 5.75

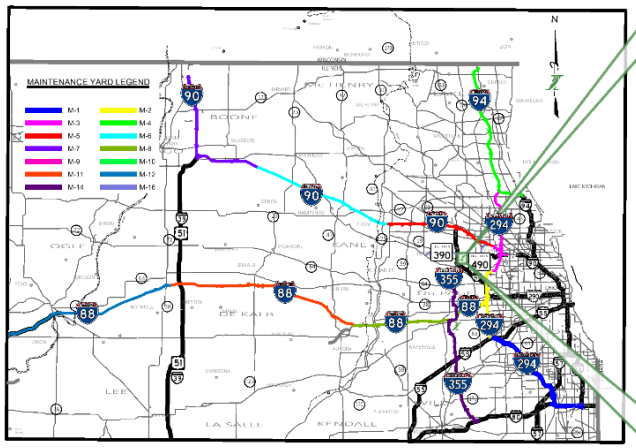
DESIGN SECTION ENGINEER

WSP ILLINOIS TOLLWAY CEC
2200 WESTERN COURT
SUITE 120
LISLE, IL 60532

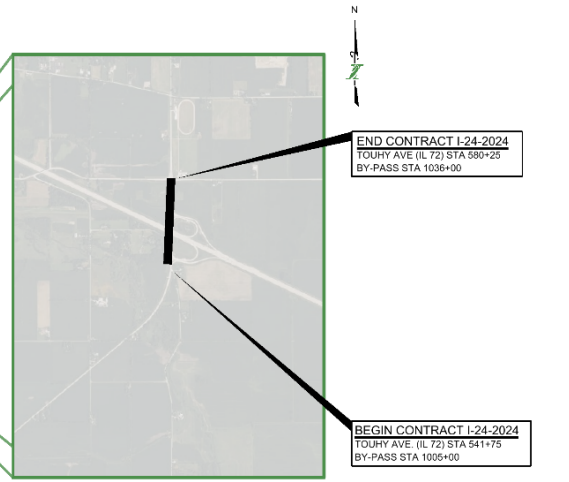
SUB-CONSULTANTS

AMERICAN SURVEYING & ENGINEERING PC

VOLUME 1



JURISDICTIONAL MAP



CONSTRUCTION AREA MAP

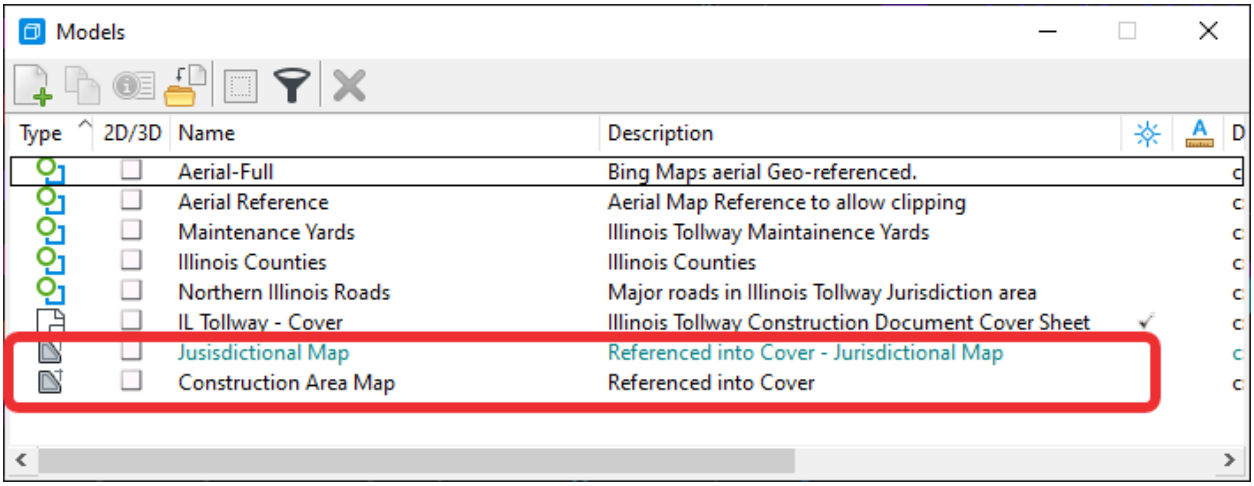
TOUHY AVE: 3850 FT = 0.73 MI
MT PROSPECT RD: 1600 FT = 0.30 MI

MILESTONE

Overview

The Illinois Tollway Cover Sheet consists of eight models. Five design models, two drawing models, and one sheet model. The design models are Base models which shall not be modified. These models are coordinately related and are referenced into the drawing models.

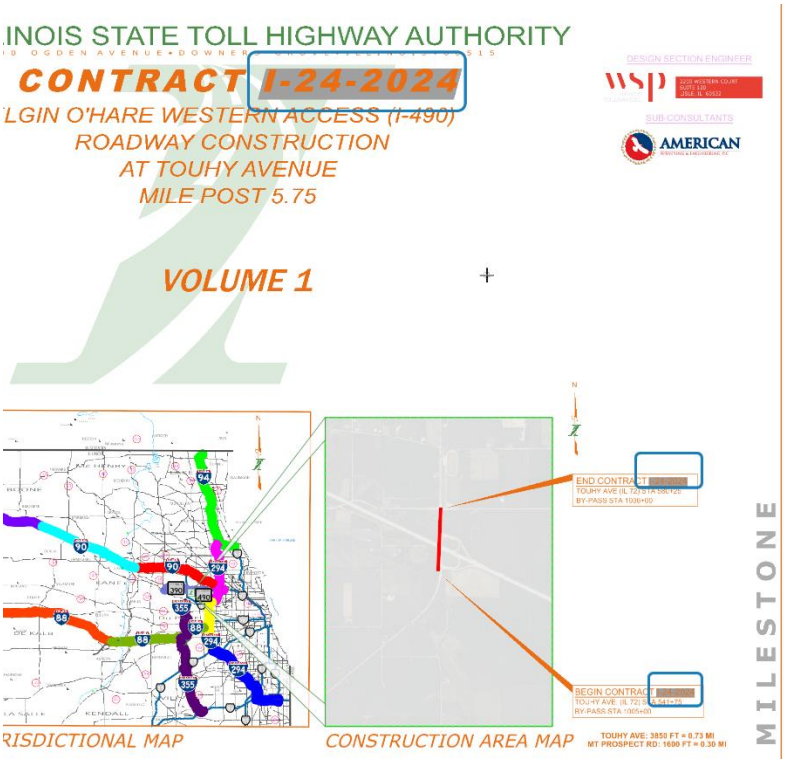
The two Drawing models are named Jurisdictional Map and Construction Area Map.



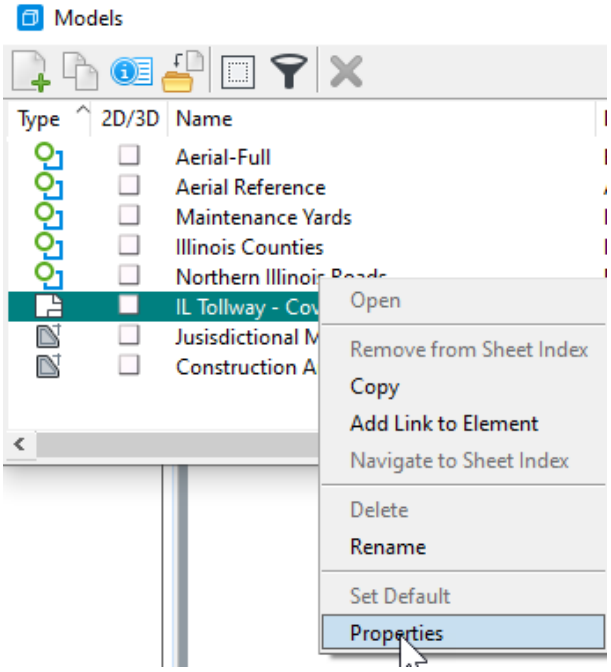
These two models are referenced into the sheet model, IL Tollway – Cover.

Fields

The cover sheet utilizes fields.

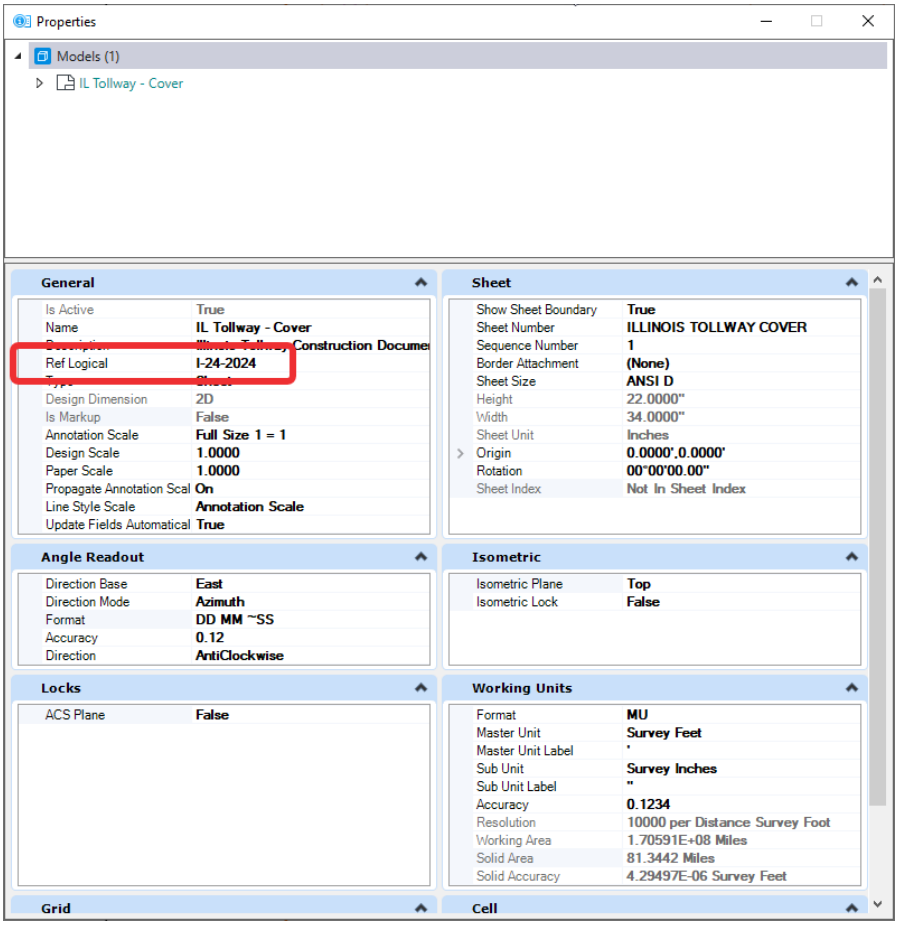


The text shown in the blue boxes are the fields. These fields are NOT to be edited directly.



The field being used is found in the properties of the IL Tollway – Cover Model.

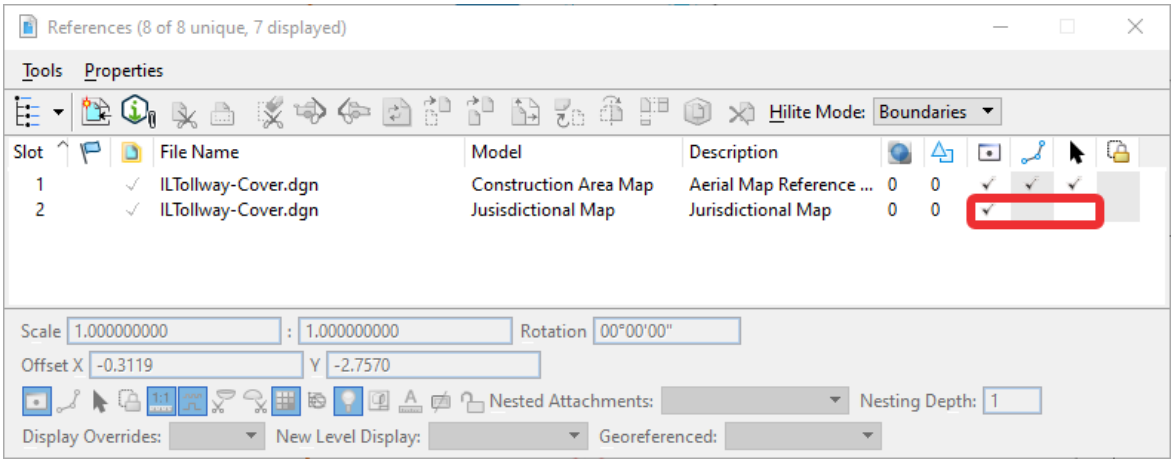
Changing the contract number is done by changing the RefLogical entry in the Properties.



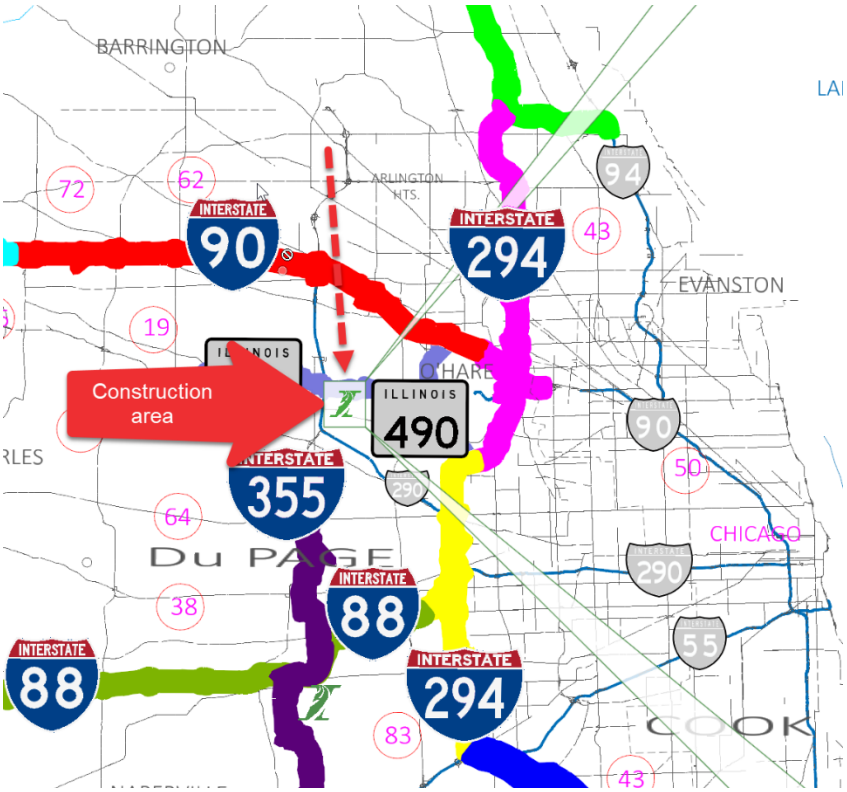
Jurisdictional Map

The Jurisdictional Map Model is a geo-coordinated model, meaning the project dgn's can be referenced and appear in the correct location on the map. Use this location to orientate the construction area.

The Jurisdictional Map is referenced into the IL Tollway – Cover Sheet Model and should not be moved or edited. This reference has the snap and locate off.



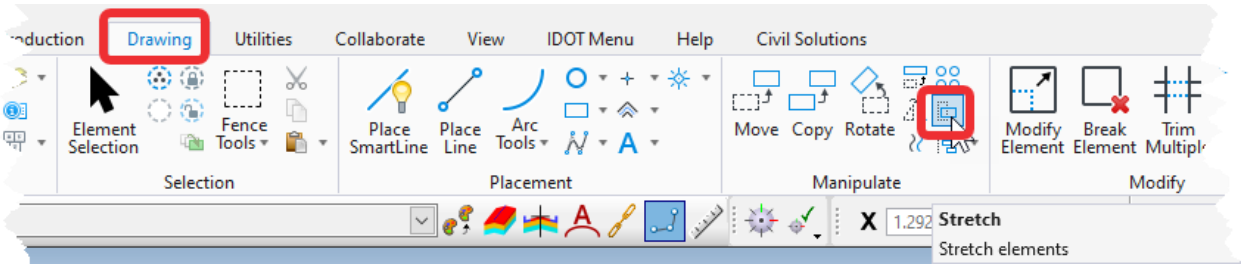
Setting the snap and locate off simplifies modifying the construction area, which is depicted as a shape on the map.

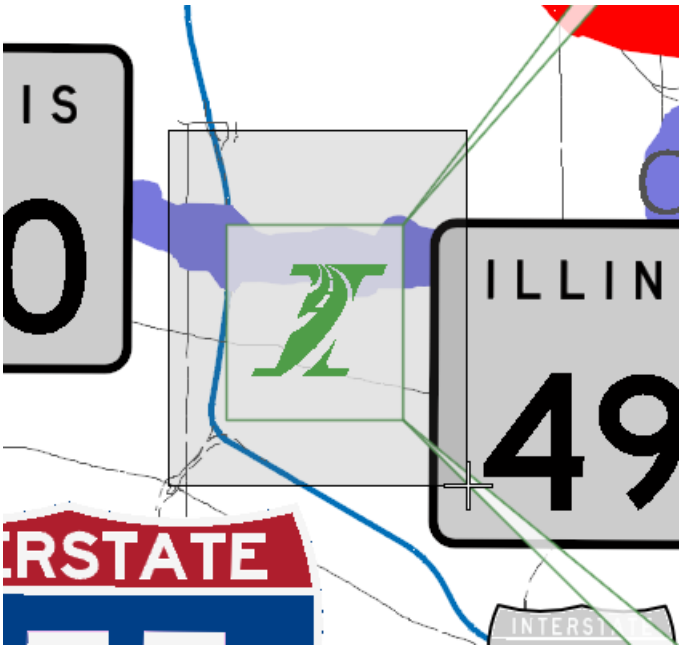


The red arrow is pointing to the construction area.

This shape is to be moved and modified to fit the contract construction zone.

The construction area is part of a shape, and therefore the stretch tool is recommended.





When using the stretch tool, the area should encompass the construction area as shown to the left.

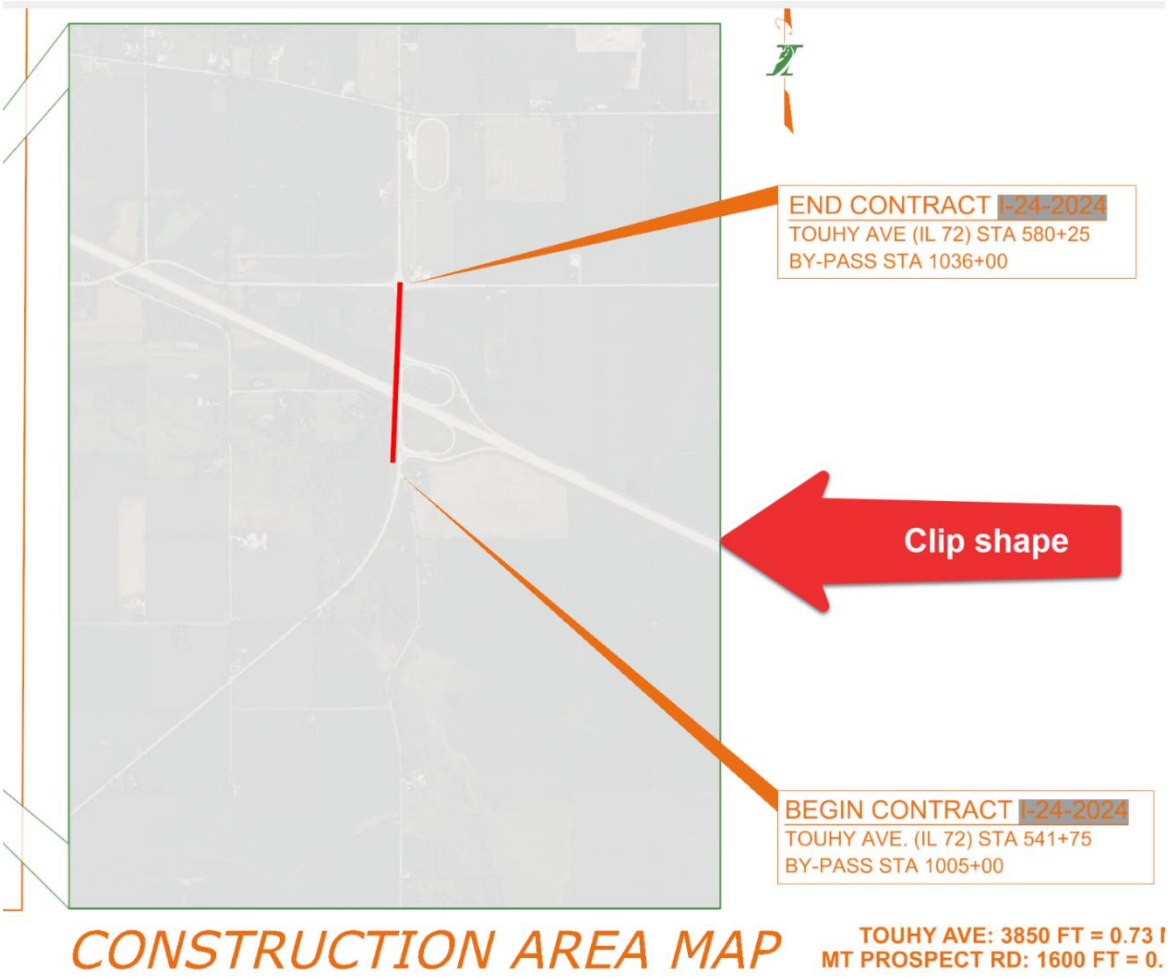
The construction area shape and size can also be adjusted by using the stretch too.

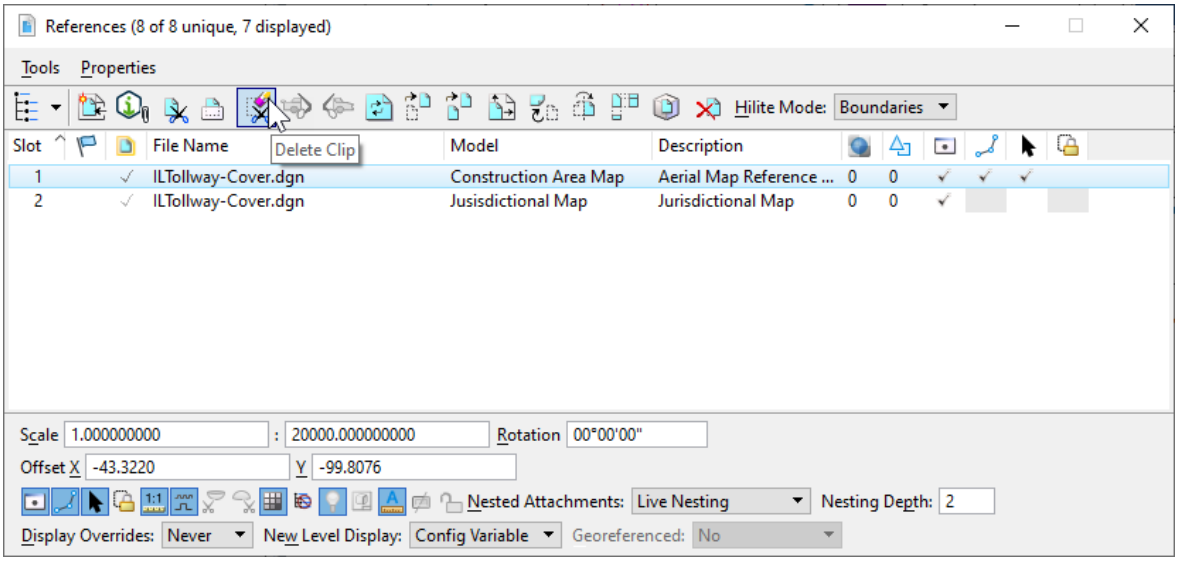
Construction Area Map

The construction area map Model is also geo-coordinated. Therefore, project dgn's can be referenced in this model too, which simplifies the adjustment of the construction area map.

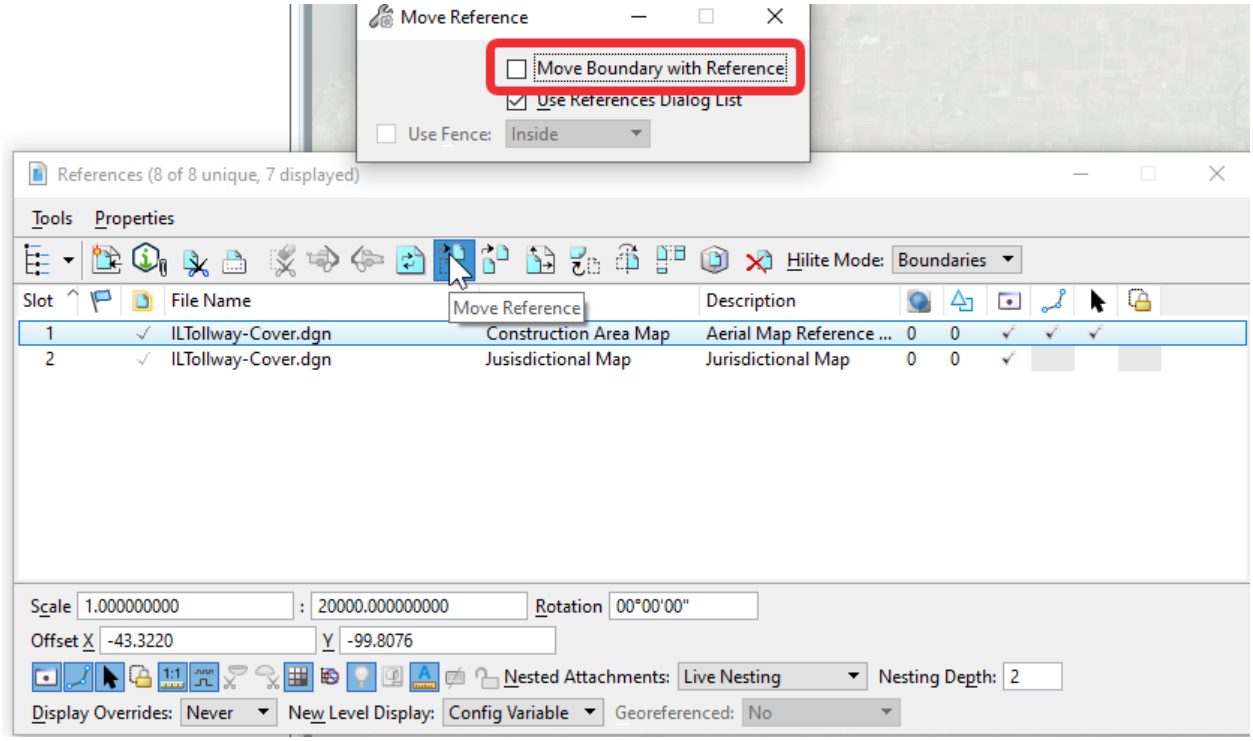
The IL Tollway – Cover sheet model has the Construction Area Map model referenced and is clipped by a shape drafted in the sheet model. This shape shall not be edited or modified. The construction area map reference shall be moved so that the construction area is within the clip shape.

First delete the clip area of the Construction Area Map reference.

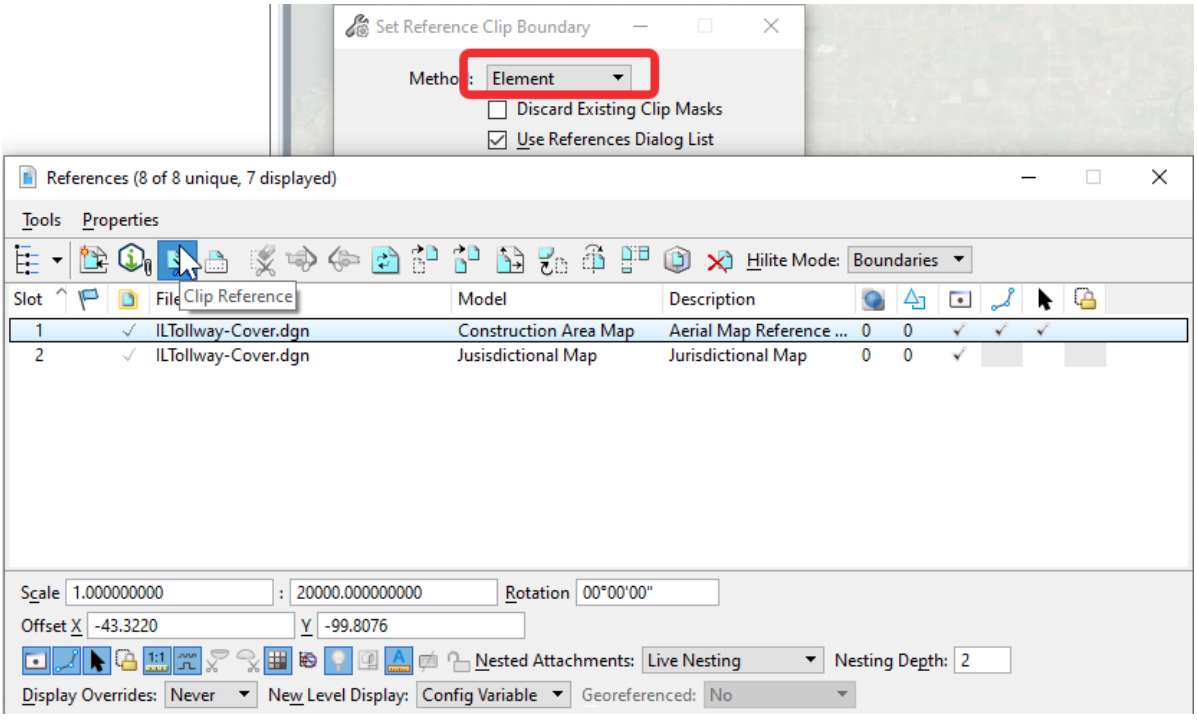




After deleting the clip area, the entire area map will be visible. Move the Construction Area Map so that the project area is within the clip area. Uncheck the Move Boundary with Reference option.



After moving the reference, then re-clip the Construction Area Map reference using the clip area shape. This is accomplished by setting the method to Element:

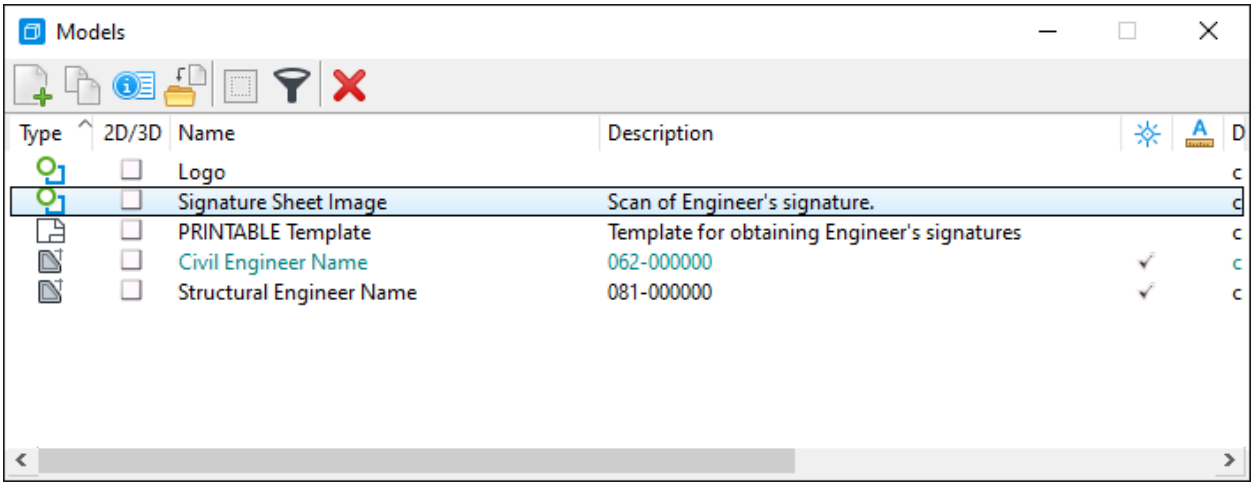


APPENDIX H Signature Sheet

Overview

The signature page is an essential part of the construction documents. This sheet consists of multiple files. The first file is Signature – Company Name.dgn. This file is to be duplicated for each Engineering firm with page responsibility and replace the “Company Name” with the engineering firm’s name.

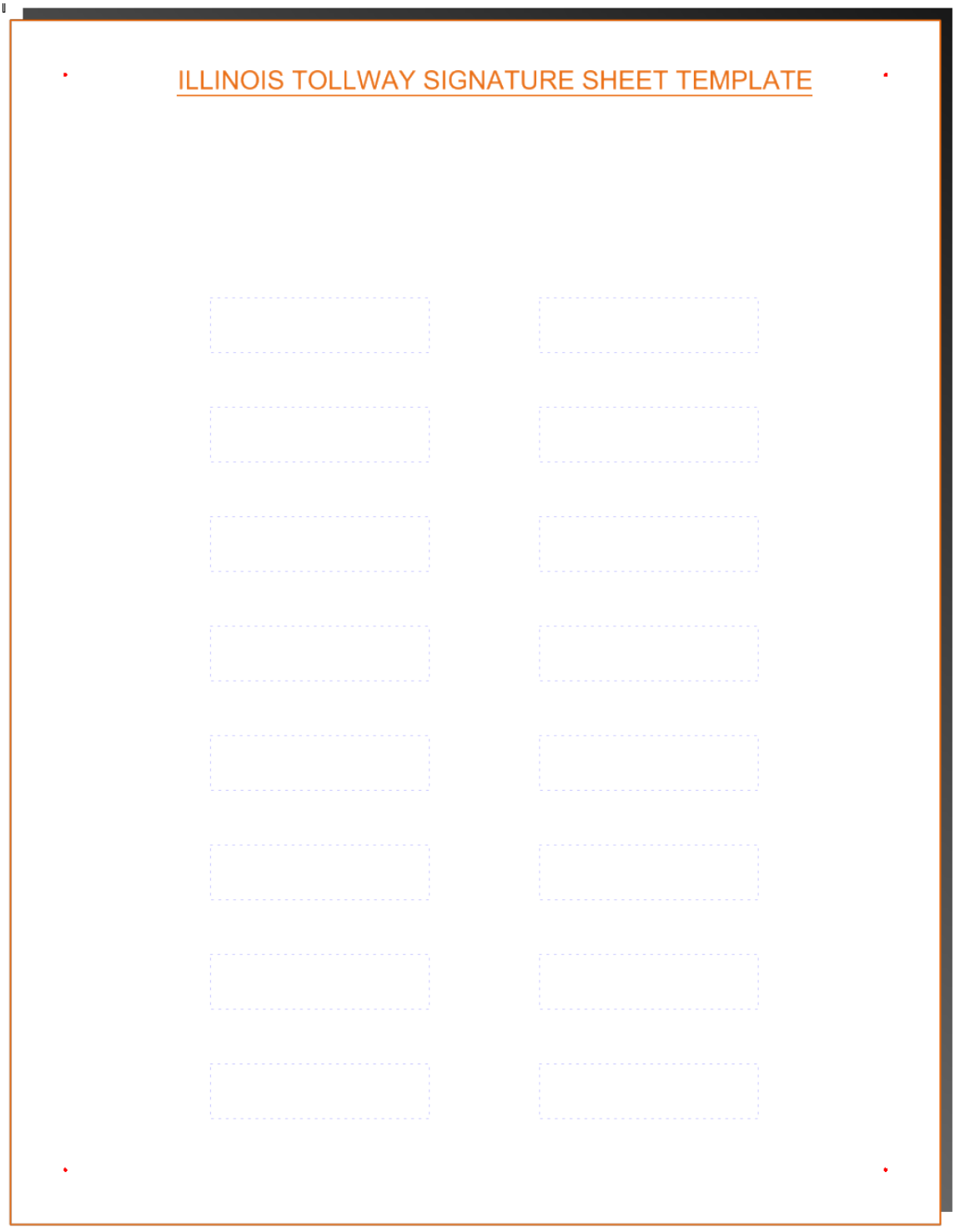
There are five models in this drawing. The two design models are referenced into the Drawing Models. The drawing models will be referenced into the sheet drawing.



Copy the Civil Engineer Name model for each person signing. This is also done for the Structural Engineer Name model for each Structural Engineer signing the plans.

Signatures

There is a sheet model named PRINTABLE Template. Each Engineering firm shall print this model and have all responsible individuals sign within a box.



After the page is signed, scan and import the scan into the Signature Sheet Image Model. There are four dots in the corners to aid in the placement of the image. This sheet is referenced into the signature.

LOGO

The Logo model shall contain the Engineering Firm's logo. This logo will be referenced by all of the Civil and Structural Signatures. The Place Logo Here image shall be deleted.

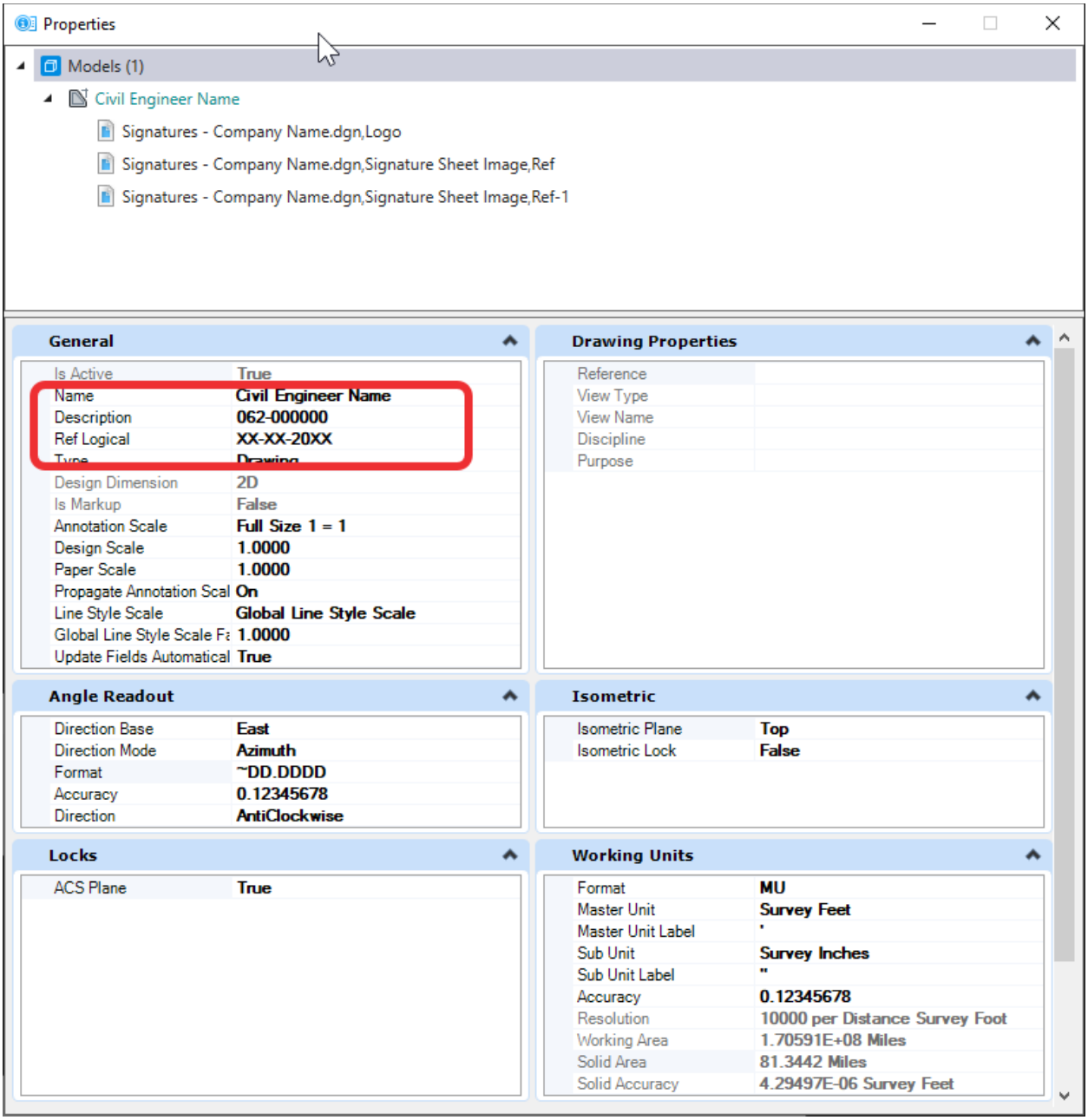
Signature Models

The Civil Engineer Name and Structural Engineer Name models shall be duplicated for each signing engineer.

The signature models have the signature sheet image and logo models referenced.

Fields

The signature models utilize fields. The fields are accessed through the model properties.



The three properties circled above are utilized in the signature model.

Name – Name of the signing engineer

Description – License number

Ref Logical – License Expiration

Changing the above properties will change the signature model. Do NOT edit the text in the model directly.

ILTollway-SignatureSheet.dgn

After the Signature drawings are completed, they are referenced into this drawing. This is the drawing included in the construction documents.