How to choose which MassDOT CAD Standards download package is right for you.

The MassDOT CAD Standards are now available in two formats, the ***MassDOT CAD State Kit for Civil 3D 2023*** and the ***MassDOT CAD Standards Package***. This read me document provides introductory information for each download option to aid in choosing the best option for your organization.

Option 1: MassDOT CAD State Kit for Autodesk Civil 3D 2023

Description and Compatibility

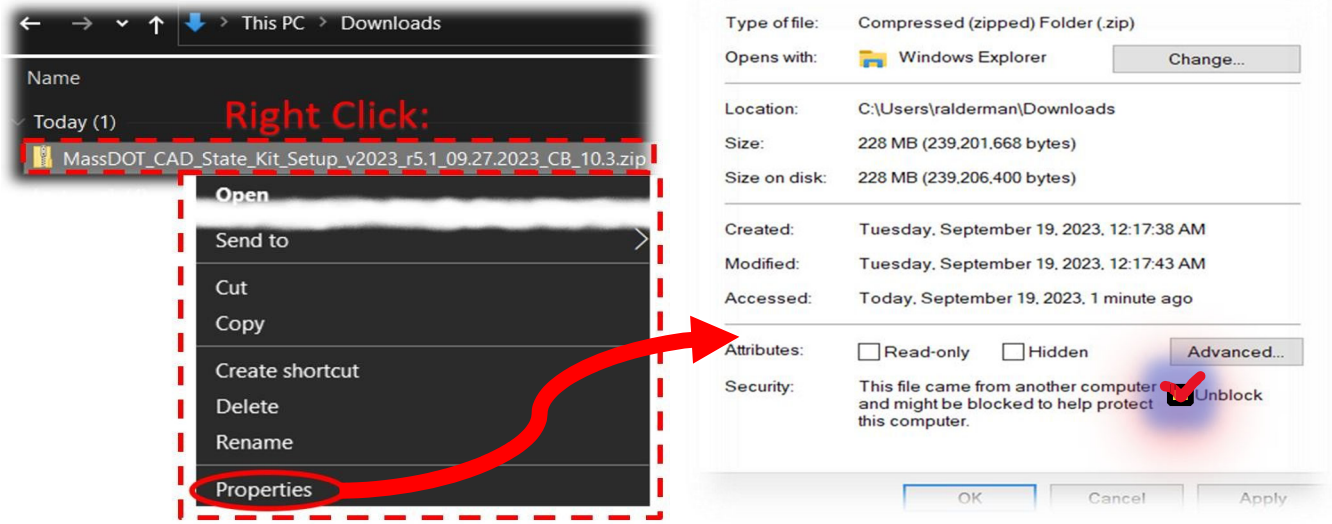
The MassDOT CAD State Kit is a custom Civil 3D environment optimized for producing MassDOT Highway projects. When Civil 3D is started using the MassDOT Civil 3D shortcut included in the download (right), all MassDOT CAD Standards content and documentation is enabled in the user interface for easy accessibility. The MassDOT CAD State Kit includes all available MassDOT CAD Standards content bundled to an integrated MassDOT Civil 3D environment.



The MassDOT CAD State Kit is compatible only with Civil 3D 2023.

Download and Installation of the MassDOT CAD State Kit

Download the *MassDOT CAD State Kit Package* by clicking on the applicable shortcut on the MassDOT CAD Standards webpage. This will bring you to the MassDOT Dropbox site for download. After download, go to the properties of the zip file and "unblock" the file by checking the Unblock checkbox as shown below:



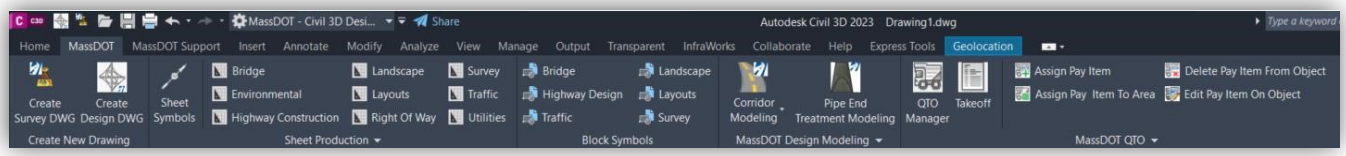
Note: Compressed file name may vary

The State Kit uses an installer-based installation process that **requires administrative privileges** on the user's workstation. After downloading and unblocking the zip file, double click on the download exe file for installation. Open Civil 3D by double clicking on the MassDOT Civil 3D 2023 shortcut (shown above, right) which will be installed on the user's desktop.

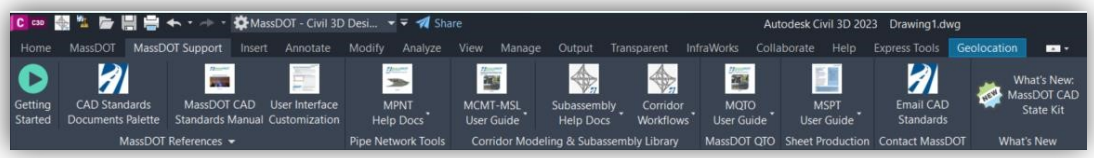
MassDOT CAD State Kit Contents

Customized User Interface

The State Kit user interface provides quick access to the MassDOT CAD Standards content using custom ribbon tabs and tool palettes. The **MassDOT ribbon tab** (below) provides access to MassDOT sheet templates, block symbols, custom subassemblies, and QTO functionality.



The **MassDOT Support ribbon tab** (below) provides access to the various support documentation for MassDOT Highway project development, including plan development guidelines, CAD Standards Manual, workflows, and data sheets describing the various MassDOT content. This ribbon tab also enables users to email MassDOT CAD Standards or find a list of the latest updates to the CAD Standards.



MassDOT tool palettes are provided to access sheet template layouts, standard block symbols, MassDOT subassemblies, and even an alternative quick access for documentation. Additionally, users can easily create their own custom palettes.

Custom MassDOT Civil 3D Content

MassDOT Design Modeling Toolset

The MassDOT CAD State Kit includes a custom pipe network catalog, custom subassemblies, and discipline-specific Civil 3D templates collectively packaged as the **MassDOT Design Modeling Toolset (MDMT)**. This custom content contrasts with the standard "stock" or "out of the box" Civil 3D content that is included with the Civil 3D installation.

See the section *MassDOT Design Modeling Toolset* of the MassDOT CAD Standards Manual for more detailed information regarding the MDMT.

The custom MDMT content requires use of coordinated Civil 3D styles that are found in the ***new*** **MassDOT Design and MassDOT Survey Civil 3D templates.**

The Civil 3D Design template dwt includes corridor modeling styles, pipe network styles based on MassDOT design references and construction standards and specifications. These styles are coordinated with QTO capabilities based on the ***MassDOT Bid Item Nomenclature list***. These MDMT features are integrated, coordinated, and updated regularly in response to changes in the Bid Item Nomenclature list.

MassDOT Subassembly Library – MSL

The **MassDOT Subassembly Library (MSL)** provides users with subassemblies that are accurate to MassDOT construction standards and specifications along with subassembly coding that provides enhanced modeling and automated drafting capabilities.

MassDOT Corridor Modeling Tools – MCMT

The **MassDOT Corridor Modeling Tools (MCMT)** are the Civil 3D styles that support custom MSL subassemblies. Included within the MCMT are code set styles, corridor styles, and supporting General styles necessary to provide automated drafting, annotation, visualization, and quantity takeoff capabilities. Settings in the State Kit facilitate workflows with other design applications such as Autodesk Infraworks.

MassDOT Pipe Network Tools – MPNT

The **MassDOT Pipe Network Tools (MPNT)** consists of a custom pipe network catalog tied to custom parts lists, object, label, and table styles, and property sets.

MassDOT QTO – MQTO

MassDOT QTO (MQTO) is the configured and coordinated content that enables users to quantify designs in real time from within the CAD environment. MQTO is based on the current MassDOT Bid Item Nomenclature List with a Civil 3D QTO pay item criteria package, documented workflows, and Civil 3D code set styles and parts lists pre-set to quantify any MassDOT project.

MassDOT Sheet Production Toolset – MSPT

The **MassDOT Sheet Production Toolset (MSPT)** leverages the ***Sheet Set Manager*** functionality for MassDOT projects including a custom sheet set manager template, coordinated sheet templates, Civil 3D plan production styles, and documented workflows. Please see the Borders and Sheets section of the CAD Standards Manual for more detailed information.

The MSPT is intended to be utilized from the outset of the project drawing development process for all MassDOT projects moving forward.

MassDOT Sheet Set Template

A sheet set template has been configured to serve any MassDOT project including sheet and sheet set data properties. All MassDOT project drawing development should be started by creating a sheet set data file from the **MassDOT sheet Set Template DST file**.

MassDOT Sheet Templates and Sheet Blocks

The sheet set data properties are read by fields applied to text and blocks in the **MSPT sheet template DWG files**. When project drawings are developed from the sheet template layouts within a sheet template DWG file and added to a sheet set, all fields containing the sheet set project data will be populated and coordinated with the sheet set database.

MSPT Help Documentation

To aid in understanding the MSPT plan production process and see where each sheet set property will appear in the sheet template layouts, the MSPT is fully supported by a User Guide and individual sheet production help documents tailored for each MassDOT section's plan deliverables.

Option 2: MassDOT CAD Standards Package

Description and Purpose

The **MassDOT CAD Standards Package** includes all files in the MassDOT CAD State Kit so the State Kit can either be installed manually or components of the State Kit can be selected for use and configured by the user. This download option is provided for organizations that either may not be able to install the State Kit using Option 1 or are not yet ready to transition to the State Kit custom content entirely.

For organizations/users who are not able to use the installer-based version of the State Kit, the MDMT and MSPT components are provided so the user can import and access the assets as needed using the standard Autodesk workflows for accessing each type of content. See the included Consultant Installation Guide for manual installation procedure.

For organizations not yet ready to transition over to use of the MDMT content, users can utilize the **MassDOT Standard Civil 3D Template** (see below). This Civil 3D template utilizes the standard as-installed "stock" subassemblies and pipe network catalog.

The MassDOT Standard Civil 3D template is made available on a temporary basis until transitioning users to the CAD State Kit can be completed. The MassDOT Standard Civil 3D Template will be released for MassDOT CAD Standards version r5.1 but will not be maintained moving forward.

All other CAD support content shall be maintained and further developed within the MassDOT CAD State Kit. Each update/release of the MassDOT CAD State Kit shall be accompanied by the MassDOT CAD Standards Package containing the updated components of the State Kit.

Compatibility

The MassDOT CAD Standards Package contains files built using Civil 3D 2023.

All essential files for creating MassDOT standard drawings are cross compatible with any version of AutoCAD or Civil 3D that supports version 2018 DWG files. AutoCAD and Civil 3D versions 2018 and later can utilize this essential content:

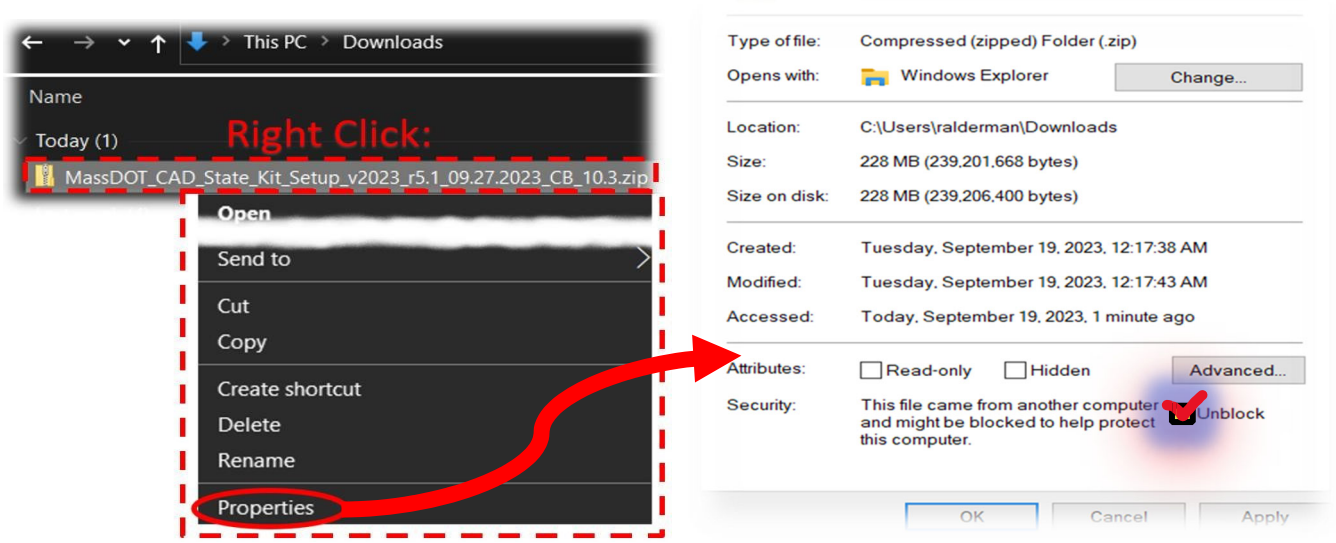
- Linetype LIN file
- Plot Style Table STB files

- Template DWT files
- Block DWG files
- Sheet Template DWG files
- CAD Standards Checker DWS file

Though older versions of Civil 3D may utilize the DWT, DWG, and DWS files, not all other support files will be compatible with previous version software, such as certain subassembly PKT files. Use of versions that are not Civil 3D 2023 will not provide full functionality of the MDMT CAD support content.

Download and Installation of the MassDOT CAD Standards Package

Download the *MassDOT CAD Standards Package – MassDOT Content* by clicking on the applicable shortcut on the MassDOT CAD Standards webpage. This will bring you to the MassDOT Dropbox site for download. After download, go to the properties of the zip file and "unblock" the file. This is the same process as shown for download Option 1:



Right-click again on the unblocked zip file and select your preferred method to unzip the contents. Place the files in the directory of your choosing. Users must map all components into a Civil 3D profile of their own creation to access linetypes, plot styles, and many other CAD support data types.

Contents

The MassDOT CAD Standards Package download includes all of the content in the State Kit unmapped for the organization to integrate within their CAD environment. The content is organized in folders that resemble the structure of the State Kit so users can easily manually install the State Kit using the included instructions in the *Download and Installation Guide*.

MassDOT Standard Civil 3D Template

The MassDOT Standard Civil 3D template provides Civil 3D users not using the MDMT content to produce MassDOT plan sets using standard Civil 3D workflows. It contains subassembly code set styles that support the standard

Autodesk subassemblies and pipe network parts lists that utilize the standard Imperial Pipes and Structures pipe network catalog that is installed with Civil 3D.

This template is being made available to consultants temporarily to provide the latest standards to those who are not ready to transition to the MassDOT CAD State Kit. Moving forward, the MassDOT CAD State Kit shall be the sole source for MassDOT CAD Standards updates and the MassDOT Standard Civil 3D Template will be phased out of use.

Option 3: MassDOT CAD State Kit Patch Files

For users who wish to replace only the updated files and folders within their local MassDOT_CAD_State_Kit folder, download the ***MassDOT_CAD_State_Kit_Patch FIles_rX.X.X.zip*** file. The updated files and folders within the Patch Files download are intended to directly replace the previous version files and folders.

Please refer to the section ***Patch Files Download and Installation Notes*** for a listing of the updated files and folders including notes for installation of the files and folders from the patch files download.

Summary: Choosing Your CAD Standard Download Package Option

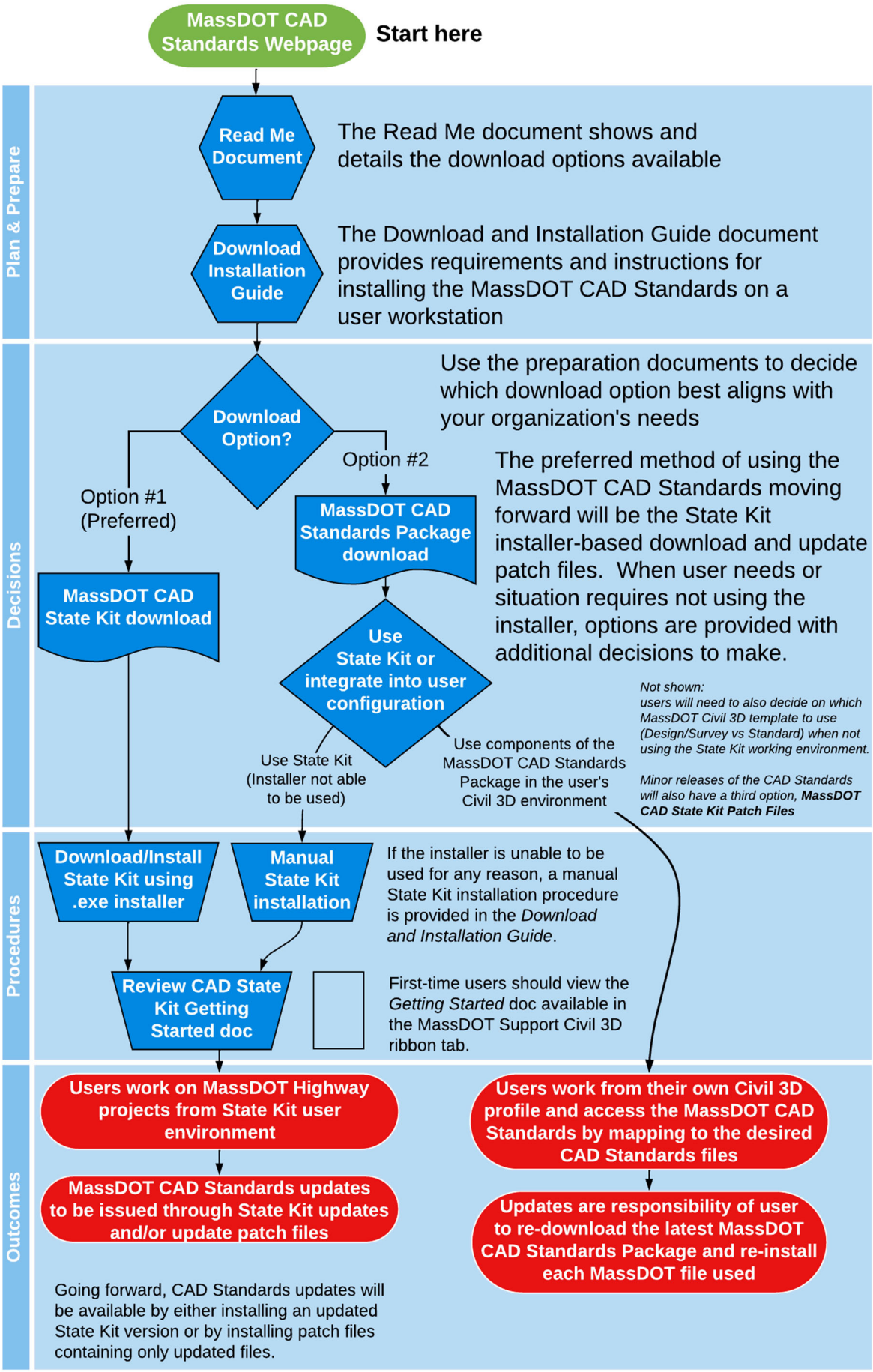
Choose **Option 1: MassDOT CAD State Kit** download to use a Civil 3D environment fully optimized for producing MassDOT Highway projects. The user interface is customizable to user needs and special workflows are documented and made available from within the MassDOT Civil 3D workspace. Several discipline-specific Civil 3D templates are provided to optimize for Survey and Design disciplines. The installation is performed via an installer and requires Administrative privileges to fully install.

Choose **Option 2: MassDOT CAD Standards Package** to either perform a manual installation of the State Kit OR use one or more components of the MassDOT CAD State Kit by integrating it into the user's existing Civil 3D profile. This enables functionality of chosen MassDOT content to be built into the user organization's CAD configuration.

Option 2 can also be utilized if an organization is not yet ready to utilize the MDMT subassemblies and pipe network catalog. The MassDOT CAD Standards Package includes the MassDOT Standard Civil 3D template which can be used with the standard Autodesk subassembly and pipe network catalog files. All CAD support source files essential for developing a MassDOT drawing set such as linetypes, plot styles, sheets, and standard blocks listed above are provided.

Option 3 MassDOT CAD State Kit Patch Files is provided for those who would feel more comfortable simply replacing the out-of-date CAD Support files with those of the latest version rather than using the installer-based executable file in Option 1.

The flow chart on the following page provides an overview of the process of planning & preparation, what decisions need to be made, required procedures, and outcomes for each download option that should be considered in deciding on a download option.


MassDOT CAD Standards Webpage
Start here
Plan & Prepare
Read Me Document
The Read Me document shows and details the download options available
Download Installation Guide
The Download and Installation Guide document provides requirements and instructions for installing the MassDOT CAD Standards on a user workstation
Decisions
Use the preparation documents to decide which download option best aligns with your organization's needs
Download Option?
Option #1 (Preferred)
Option #2
MassDOT CAD State Kit download
MassDOT CAD Standards Package download
The preferred method of using the MassDOT CAD Standards moving forward will be the State Kit installer-based download and update patch files. When user needs or situation requires not using the installer, options are provided with additional decisions to make.
Use State Kit or integrate into user configuration
Use State Kit (Installer not able to be used)
Use components of the MassDOT CAD Standards Package in the user's Civil 3D environment
Not shown:
users will need to also decide on which MassDOT Civil 3D template to use (Design/Survey vs Standard) when not using the State Kit working environment.
Minor releases of the CAD Standards will also have a third option, MassDOT CAD State Kit Patch Files
Procedures
Download/Install State Kit using .exe installer
Manual State Kit installation
If the installer is unable to be used for any reason, a manual State Kit installation procedure is provided in the Download and Installation Guide.
Review CAD State Kit Getting Started doc
First-time users should view the Getting Started doc available in the MassDOT Support Civil 3D ribbon tab.
Outcomes
Users work on MassDOT Highway projects from State Kit user environment
MassDOT CAD Standards updates to be issued through State Kit updates and/or update patch files
Users work from their own Civil 3D profile and access the MassDOT CAD Standards by mapping to the desired CAD Standards files
Updates are responsibility of user to re-download the latest MassDOT CAD Standards Package and re-install each MassDOT file used
Going forward, CAD Standards updates will be available by either installing an updated State Kit version or by installing patch files containing only updated files.

Patch Files Download and Installation Notes

The following files are changed for MassDOT CAD Standards version r5.1.2 from the previous version r5.1.1. The following table contains a list of the impacted files and notes for the installation of the updated files. Files not modified from previous standards version shall retain the previous identifying information. Updated files contain the new ***5.1.2*** CAD Standards version and release date.

File/Folder within MassDOT_CAD_State_Kit	Update Installation Notes
\MassDOT\MassDOT_CAD_State_Kit\C3D 2023	
MassDOTStateKitVersion.txt	Replace the file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023
\Template\MassDOT_Arch_Units_Bridge.dwt	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023\Template
\Template\MassDOT_Arch_Units_Design.dwt	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023\Template
\Sheets\ENVIRONMENTAL_SHEETS.dwg	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023\Sheets
\Sheets\HWY_CONST_PLAN_SHEETS.dwg	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023\Sheets
\Sheets\ROW_SHEETS.dwg	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023\Sheets
\Profile\MassDOT_C3D2023.arg	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023\Profile
\Profile\MassDOT_Survey_C3D2023.arg	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\C3D 2023\Profile
\MassDOT\MassDOT_CAD_State_Kit\Common	
\CAD Standards Checker\ MassDOT_CAD_Standards_v2023_r5.1.2.dws	Replace the previous MassDOT_CAD_Standards_v2023_r5.1.1.dws file in C:\MassDOT\MassDOT_CAD_State_Kit\Common\CAD Standards Checker
\MassDOT\MassDOT_CAD_State_Kit\Documentation	
\MassDOT_References\ MassDOT_Construction_Standard_Details.pdf	Replace file in C:\MassDOT\MassDOT_CAD_State_Kit\Documentation\References