



MONTANA

Department of Transportation

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MDT State Kit Updater

OPERATIONAL GUIDE

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OVERVIEW

The Montana Department of Transportation (MDT) has transitioned to Civil 3D. A Civil 3D State Kit has been developed that contains standards, resources, and customizations necessary for completing plans in Civil 3D that conform to MDT standards.

To manage State Kit installations and updates, MDT created a custom Civil 3D State Kit file directory structure and the **MDT State Kit Updater** application. Once installed, the Updater allows standard users to install and update the State Kit without the need for administrative rights to the local computer. This State Kit delivery method works equally for internal MDT users and external MDT consultants.

INSTALLATION

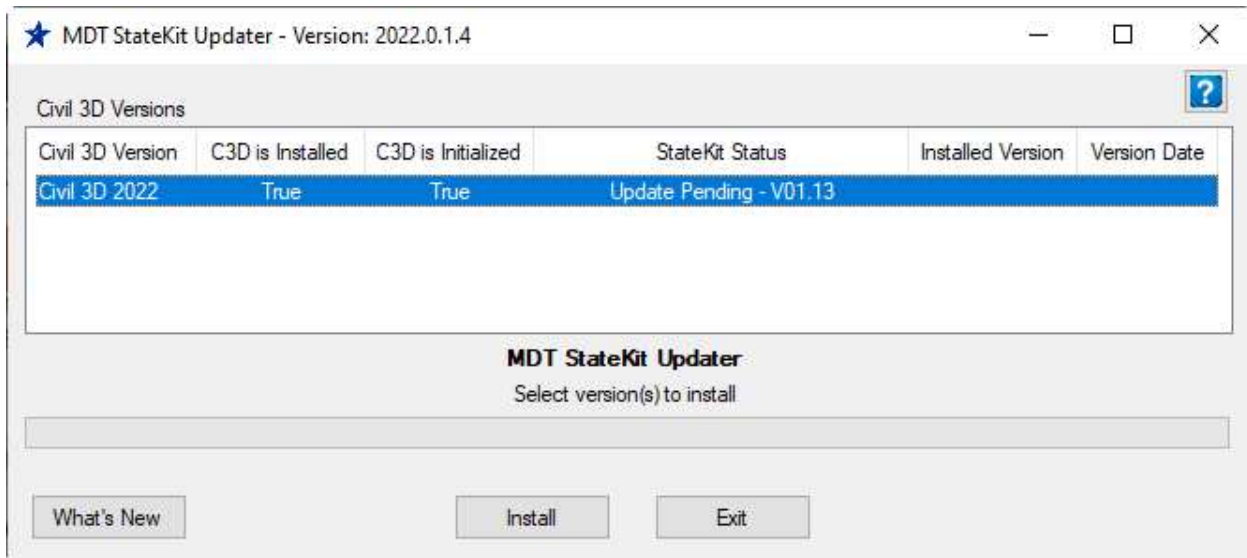
The MDT State Kit Updater application can be installed via a Windows MSI installer program. The default installation folder for the MSI install is **C:\Program Files\MDT\MDT StateKit Updater**

For flexibility or in instances where an MSI installer cannot be run, the application can also be installed in portable mode by simply copying **MDT_StateKit_Updater.exe**, **Ionic.Zip.dll**, and **StandardDesktopConfiguration.ini** file to a desired folder.

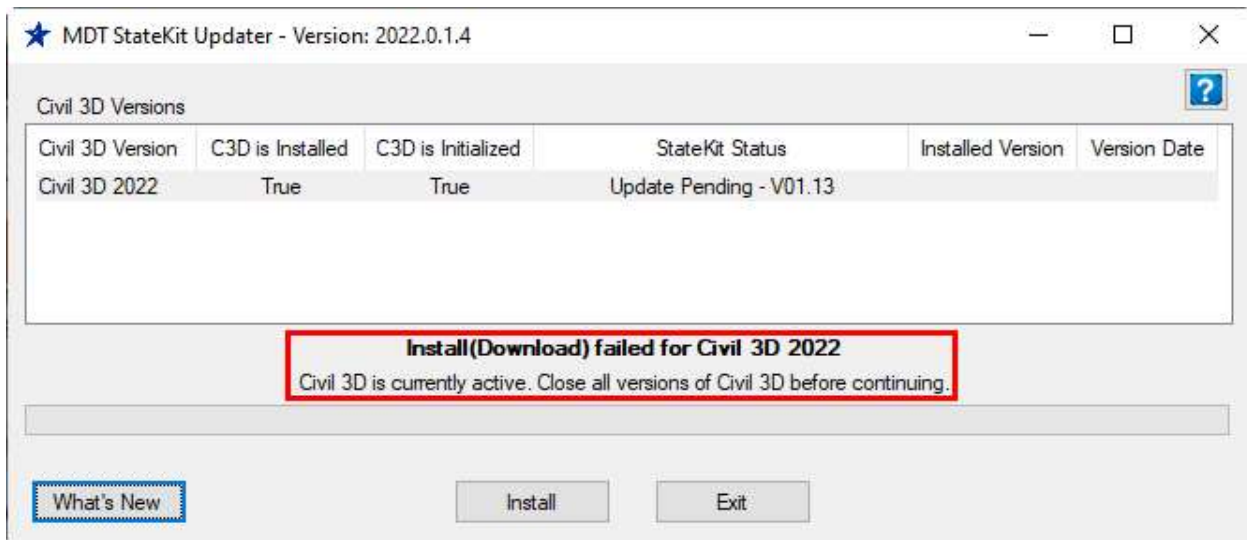
OPERATION

The MDT State Kit Updater can be launched from the Windows Start menu, the Desktop shortcut, or via a user login script. Once launched, the main dialog is displayed showing the MDT State Kit installation statuses for the supported Civil 3D versions.

Select a Civil 3D version from the list and click the **Install** button. Any version with an **Update Pending** status will be selected automatically. After the installation is complete the dialog automatically closes, and the program exits.



No versions of Civil 3D can be running on the local computer during the install/update process. The Updater will check for any open Civil 3D sessions and present a warning message if Civil 3D is open. To continue, the user must exit all open Civil 3D sessions, then select **Install** again.



LIST VIEW COLUMNS

CIVIL 3D VERSION

Lists the version(s) of Civil 3D for which there is an MDT State Kit available for installation or update. Only MDT State Kit supported Civil 3D versions will be listed. Versions of Civil 3D that exist on the machine but are not supported by MDT will not be listed.

C3D IS INSTALLED

Notifies the user if an MDT supported version of Civil 3D is installed. If the version of Civil 3D is not installed, the entry is grayed out, and is not available to be selected.

C3D IS INITIALIZED

This column is set to **False** if the current user has not yet initialized (first run) Civil 3D on the computer. When this column is **False**, both the Civil 3D and Storm and Sanitary applications are initialized prior to installing the State Kit.

STATE KIT STATUS MESSAGES

- **Up to date** – The State Kit is installed and is up to date.
- **Update Pending** – The State Kit is either not installed or is not up to date. The updated version number to be installed is listed.
- **Civil 3D Not Installed** - This version of Civil 3D is not installed on the computer.

Versions with the **Update Pending** status are automatically selected for installation when the dialog is displayed.

INSTALLED VERSION

Displays the version number of the currently installed State Kit.

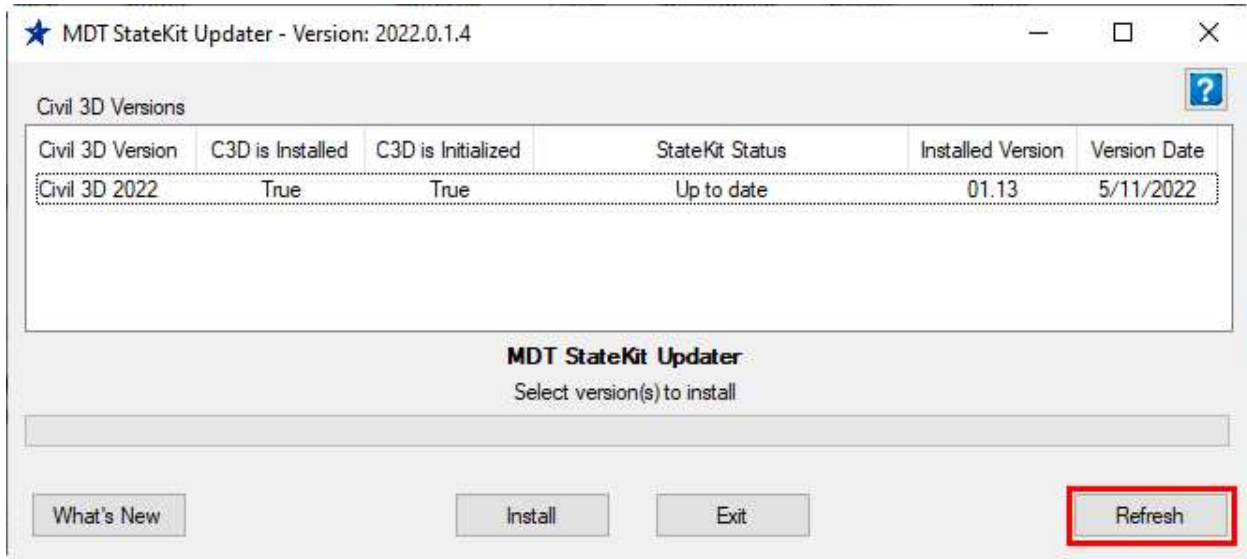
VERSION DATE

Displays the version date of the currently installed State Kit.

ADDITIONAL OPTIONS

REFRESHING AN INSTALLATION

If a previous unzipped State Kit download (local cache) is found, the **Refresh** button will be visible in the lower right corner of the main dialog.

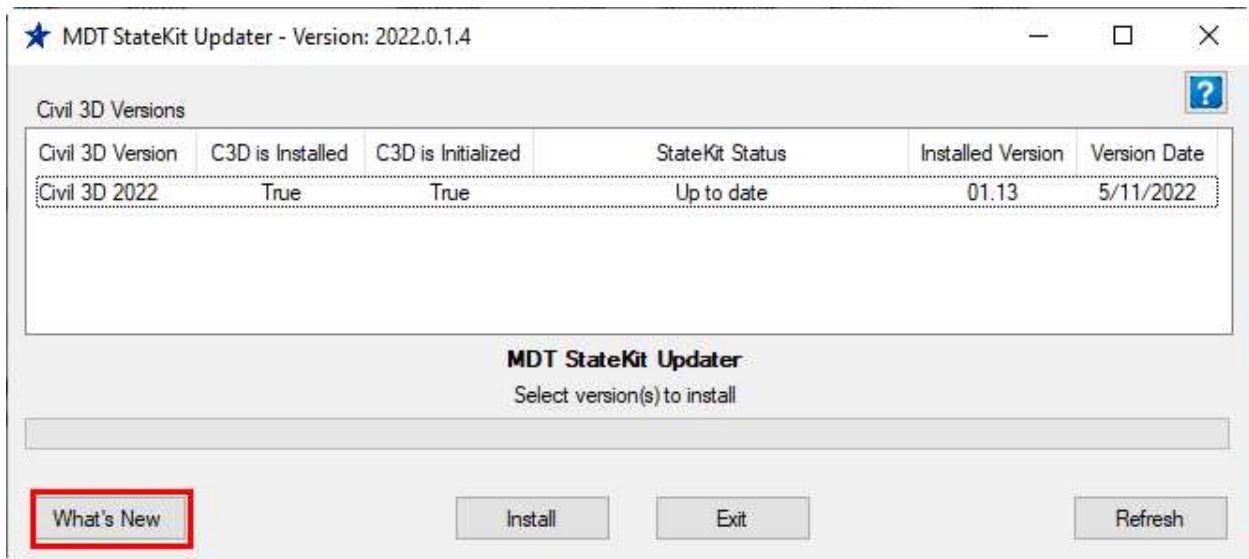


To quickly reinstall the State Kit, select **Refresh**. It will bypass the downloading and unzipping of the State Kit package from the source and reinstall the State Kit from the local cache. There are two main reasons a user may want to perform a refresh:

- An installation was interrupted after downloading and unzipping the State Kit package.
- State Kit files have been altered or become corrupt.

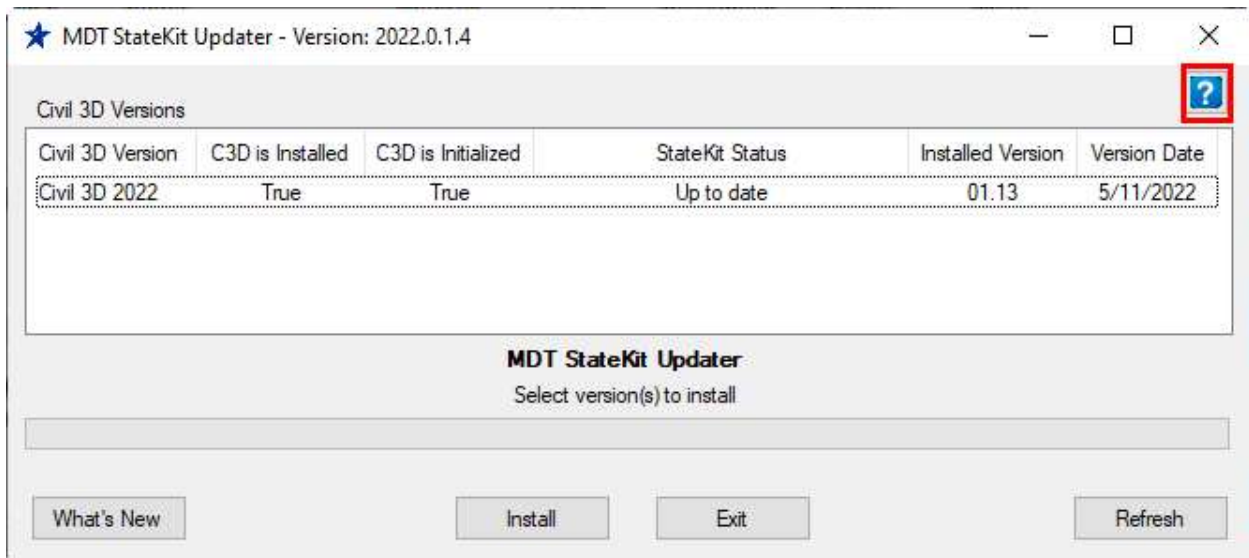
WHAT'S NEW

Click the **What's New** button for a list of changes made between State Kit versions. The What's New document will be displayed in the default web browser.



HELP

Click the Help [?] icon to display the MDT State Kit Updater User's Guide in the default PDF reader application.



PROCESSING LOG FILE

A processing log file is created detailing every action of the installer program. This file can be used to verify files were copied correctly, review error messages, or troubleshoot a failed installation. The log file is created in the Windows user **%TEMP%** folder under:

Montana Department of Transportation\MDT StateKit Updater\MDT StateKit Updater.log

Sample log file output:

Copying Updates

```
.....  
Configuration Section 1  
--> Name: Assemblies  
--> Source: C:\MDT\Downloads\MDTStateKit_2021\Source\AllUsers\Assemblies\MDT  
--> Target: C:\ProgramData\Autodesk\C3D 2021\enu\Assemblies\MDT  
--> Source is a folder  
  
Files copied: 6  
  
.....  
Configuration Section 2  
--> Name: ContentLibrary  
--> Source: C:\MDT\Downloads\MDTStateKit_2021\Source\AllUsers\ContentLibrary\Templates  
--> Target: C:\ProgramData\Autodesk\C3D 2021\enu\ContentLibrary\Templates  
--> Source is a folder  
  
Files copied: 115
```


ADVANCED CONFIGURATION

The Updater can be configured beyond what the default MSI install provides. Additional scripts can be run before or after an update. Group Policy can be set. Registry entries can be added or removed. The State Kit source location can be changed. There are two **.ini** files used to configure the MDT State Kit Updater application, a startup configuration file and a deployment configuration file.

STARTUP CONFIGURATION

The **StandardDesktopConfiguration.ini** file can be used to set the parameters for the application. After initial MSI installation, the file is set up for default use of the Updater.

```
[GLOBAL_OPTIONS]
StartUpdateAutomatically = False
AddDesktopIcon = False
SupportedVersions = 2022
DownloadsFolder = C:\MDOH\StateKit\Downloads
StateKitHomeFolder = C:\MDOH\StateKit
WhatsNewURL = https://www.mdt.mt.gov/other/webdata/external/CaddResources/StateKit/Updates_C3DStateKit.pdf

[C3D_VERSION_ID]
2020 = R23.1
2021 = R24.0
2022 = R24.1

[PROFILE_FOLDERS]
2020 = ACAD-3000:409
2021 = ACAD-4100:409
2022 = ACAD-5100:409

[C3D_2022_OPTIONS]
ForceUpdate = False
UpdateGroupPolicy = False
ScriptToRunBeforeDownload = ""
ScriptToRunAfterDownload = ""
ScriptToRunBeforeUpdate = ""
ScriptToRunAfterUpdate = ""
ProfileName = MDT
StateKit_SourceZIP=https://www.mdt.mt.gov/other/webdata/external/CaddResources/StateKit/MDStateKit_2022.zip
StateKit_DateFile=https://www.mdt.mt.gov/other/webdata/external/CaddResources/StateKit/MDStatekit_2022_Date.txt
StateKitFolder_Download = MDTStateKit_2022
StateKitIni_Download = Source\App\MDTSK2022.bundle\Content\MDTStatekit.txt
StateKitIni_Deployed = C:\ProgramData\Autodesk\ApplicationPlugins\MDTSK2022.bundle\Content\MDTStatekit.txt
RegistryTextFile_Download = MDTStateKit_Reg.txt
Civil3D_Shortcut = C:\ProgramData\Autodesk\ApplicationPlugins\MDTSK2022.bundle\Resource\Civil 3D 2022 Montana.lnk
```

The application will automatically search for the **StandardDesktopConfiguration.ini** file in the same folder as the **.exe** file. Different startup configuration files can be used by specified using a **-ini** switch on the command line or shortcut target line.

C:\Program Files\MDT\MDT StateKit Updater\MDT_StateKit_Updater.exe -ini=<full path to Startup ini file>

INI FILE SECTIONS

GLOBAL OPTIONS

- **StartUpdatesAutomatically** – when set to **TRUE**, the installs will be processed automatically for any versions with an **Update Pending** status. Adding the program command line to the users' login script and setting the StartUpdateAutomatically option to **TRUE** in the .ini file, the program will run every time the user logs in to their computer. If an update is pending it will automatically be installed.
- **SupportedVersions** – a comma separated list of Civil 3D versions for which an MDT State Kit is available. Entries can be added, but existing entries should not be removed.
- **DownloadsFolder** – full path to where the State Kit zip packages are downloaded to, and from where they are available for installing.
- **StateKitHomeFolder** – home path to where the State Kit is installed. (Changing this path will cause some State Kit features to stop functioning. Contact MDT for guidance if this location must be changed.)
- **WhatsNewURL** – path to MDT web page containing information on updates and versions.

C3D_VERSION_ID AND PROFILE_FOLDERS

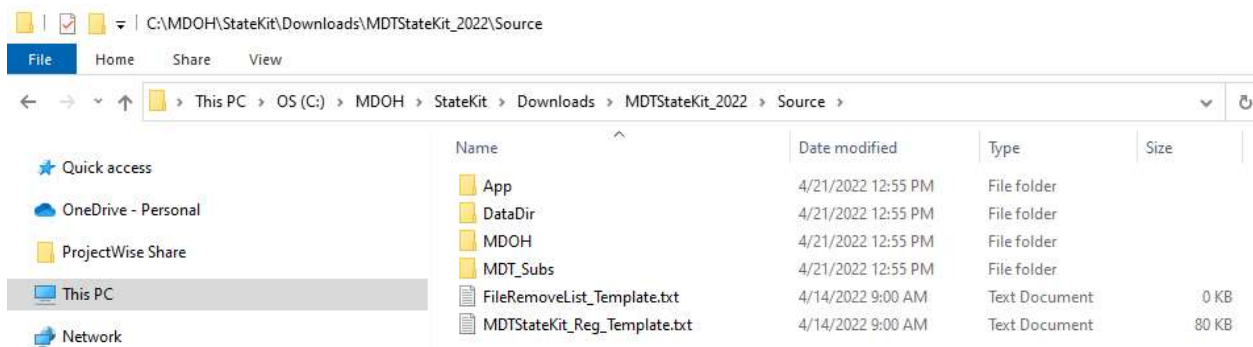
These sections are used for locating the Civil 3D Profile information in the Windows Registry. Entries can be added, but existing entries should not be removed.

C3D_YEAR_OPTIONS

- **UpdateGroupPolicy** – when set to **TRUE** the gpupdate /force process is run during the install.
- **ScriptToRunBeforeDownload** – full path to a script or .exe file to be run prior to downloading the zip package.
- **ScriptToRunAfterDownload** – full path to a script or .exe file to be run after downloading and extracting the zip package.
- **ScriptToRunBeforeUpdate** – full path to a script or .exe file to be run prior to installing the update.
- **ScriptToRunAfterUpdate** – full path to a script or .exe file to be run after installing the update.
- **ProfileName** – name of the Civil 3D profile associated with the State Kit
- **StateKit_SourceZIP** – full path to the State Kit zip file. The default is to download from the MDT website. Consultants may wish to download the zip file and place on a LAN server. The Source Zip path can then be modified to the server location.

- **StateKit_SourceDateFile** – full path to a .ini text file containing the update date of the source zip file and optional version/build number. This file is downloaded at program launch. The date in this file is compared to the date of the installed State Kit to determine if an update is needed. Like the Source Zip file, this file can be downloaded and placed on a local server and the path can then be modified to the server location.
- **StateKitFolder_Download** – the folder name [under the general **DownloadsFolder** specified in the GLOBAL_OPTIONS section] where the State Kit files are found.
 - In this example the State Kit files will be found under
 - **DownloadsFolder** – C:\MDOH\StateKit\Downloads
 - **StateKitFolder_Download** – MDTStateKit_2022
 - *Full path to StateKit files -*
C:\MDOH\StateKit\Downloads\MDTStateKit_2022
- **StateKitIni_Download** – name of the State Kit Deployment configuration .ini in the downloads folder.
- **StateKitIni_Deployed** – full path to the installed version of the State Kit ini file. During the install process the StateKitIni_Download file is copied to the StateKitIni_Deployed location. On program startup the StateKitIni_Deployed file is compared to the StateKitIni_Download file to determine if the StateKit is installed and is up to date.
- **RegistryTextFile_Download** – (optional) relative path under the download folder specifying the name of a text file that contains registry edits.
- **Civil3D_Shortcut** – full path to Windows shortcut for launching Civil 3D. This file will be copied to the user’s Windows Desktop.

Example of the Downloads folder for a specific version of Civil 3D.



DEPLOYMENT CONFIGURATION

The path to the State Kit Deployment configuration file is specified in the Startup configuration file. The purpose of this .ini/.txt file is to direct the program where to find the different State Kit components in the downloads folder, and their corresponding install locations.

```
[REGISTRY_SETTINGS]
File=MDTStateKit_Reg.txt
[FILE_REMOVE_LIST]
File=FileRemoveList.txt
[CONFIGURATION]
SECTIONS=12
1=MDOH
2=App
3=DataDir
4=Sub-CG
5=Sub-Daylight
6=Sub-PR
7=Sub-Shoulder
8=Sub-ShoulderSub
9=Sub-Sidewalk
10=Sub-NCL
11=PerUser
12=Public
***
[MDOH]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\Source\MDOH
target=C:\MDOH\StateKit\Civil 3D\2022
***
[App]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\Source\App
target=C:\ProgramData\Autodesk\ApplicationPlugins
***
```

INI FILE SECTIONS

REGISTRY_SETTINGS

Optional – defines a text file containing registry settings to add to the HKEY_CURRENT_USER section of the registry during the installation. (The Updater does not use Administrator rights, so it cannot write to HKEY_LOCAL_MACHINE.)

FILE_REMOVE_LIST

Optional – defines a text file containing a list of files, folders, and/or registry keys to be removed prior to install. The file remove list is simply a text file with one file, folder, or registry key per line.

CONFIGURATION SECTION

The CONFIGURATION section and corresponding processing sections of the deployment ini file that follow are a dynamic listing of all of the different sections to be processed.

```
[CONFIGURATION]
SECTIONS=12
1=MDOH
2=App
3=DataDir
4=Sub-CG
5=Sub-Daylight
6=Sub-PR
7=Sub-Shoulder
8=Sub-ShoulderSub
9=Sub-Sidewalk
10=Sub-NCL
11=PerUser
12=Public
***
[MDOH]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\Source\MDOH
target=C:\MDOH\StateKit\Civil 3D\2022
***
```

The SECTIONS value defines how many processing sections will follow. Each number definition will define the name for the processing section. Each of the processing sections must be named exactly as defined in the CONFIGURATION section.

PROCESSING SECTIONS

For each section defined in the Configuration section above, there must be a corresponding processing section definition.

```
[MDOH]
ClearFirst=TRUE
CreateFolder=TRUE
Overwrite=TRUE
source=\Source\MDOH
target=C:\MDOH\StateKit\Civil 3D\2022
***
```

- **ClearFirst** – when the **target** is a folder, a setting of **TRUE** will remove the files and subfolders in the **target** folder prior to copying in the new/updated files.
- **CreateFolder** – when set to **TRUE** the **target** path is created during the install if it does not already exist.
- **Overwrite** – when set to **TRUE** existing **target** files are overwritten with the new update files.
- **source** – this is the relative path under the **DownloadsFolder** + **StateKitFolder_Download** path defining a source file or folder to be copied. For folder definitions all files and subfolders under that path will be copied.
- **target** – this is the corresponding full destination path for the file/folder defined in the **source** definition.

DATE FILE

The date file is typically downloaded from the same path as the accompanying zip file. The file is a .ini formatted file, but given a .txt extension.

```
[DATE_VERSION]
DATE=05/11/2022
VERSION=01.13
```

- **Date** – this required field is the last update date of the State Kit zip file. It must be in the format: MM/DD/YYYY
- **Version** – this required field is the version number of the State Kit zip file. It can be any numeric string. The version value in the downloaded date file is compared to the version value in the date file in the installed State Kit bundle folder to determine if an update is pending.

INSTALLATION PROCESS

When the user initiates the install process the follow steps are performed:

- Checks for any active Civil 3D process – stops if found and notifies user
- Initializes Storm and Sanitary if necessary
- Initializes Civil 3D if necessary
- Executes script prior to update if found
- Removes any previous download for the selected version if found
- Downloads the State Kit zip file to the Downloads folder
- Unzips the downloaded State Kit zip package
- Updates date in the deployment .ini file with date from date file
- Deletes any files, folders, and registry keys defined in the FileRemoveList
- Installs updates as defined in the startup configuration file
- Removes any previous MDT AutoCAD Profile information from the Windows Registry
- Adds any registry entries defined in the StateKit_reg.txt file
- Executes script after update if found
- Updates Group Policy if selected