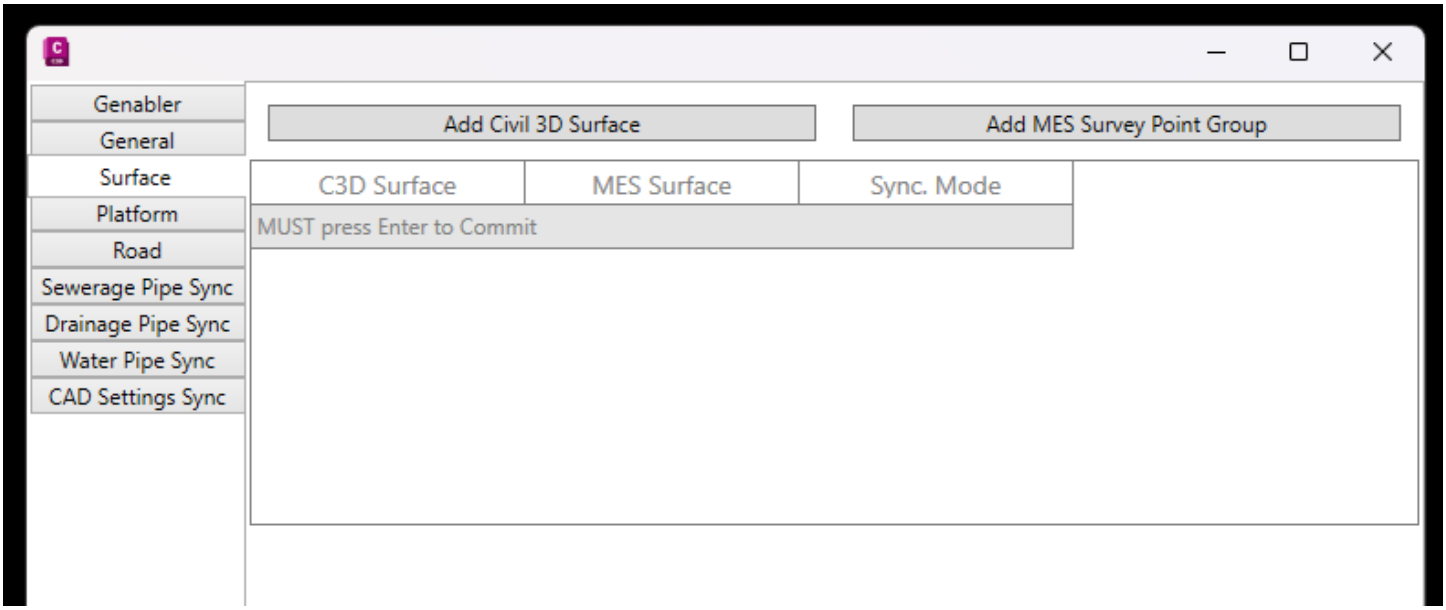
Surface & Platform Synchronization: Step-by-step Guide

Surfaces · https://mes100.com/docs/surface-platform-synchronization-step-by-step-guide/

Survey Points

Surface Mapping Definition



Parameters	Descriptions
Add Civil 3D Surface	Allow users to define a **new Civil 3D Surface**. Name input will represent the MiTS Survey Points Group Synced

Add MES Survey Point Group	Allow users to define **a new MES Point Group** that will represent the Civil 3D surfaces synced (typically the surface that represents the terrain)
C3D Surface Column	Available Civil 3D surfaces will be listed for users to select.
MES Surface Column	Available MES Point Group will be listed for users to select.
Sync. Mode Column	Users may opt for NoSync. CAD Sync or Civil Sync. Further explanation on each of the modes can be found **here**.

From MiTS to Civil 3D

Embedded media:
https://www.youtube.com/embed/L1wPBtkOpvo?version=3&rel=1&showsearch=0&showinfo=1&iv_load_policy=1&fs=1&hl=en-US&autohide=2&wmode=transparent&enablejsapi=1

Steps:

1. In the Civil 3D drawing file, go to the MES Toolbar and click on Project.

2. The drawing file will need to be bound to a MiTS file following the steps **here**.

3. Click on the Surface tab and define the parameters above.

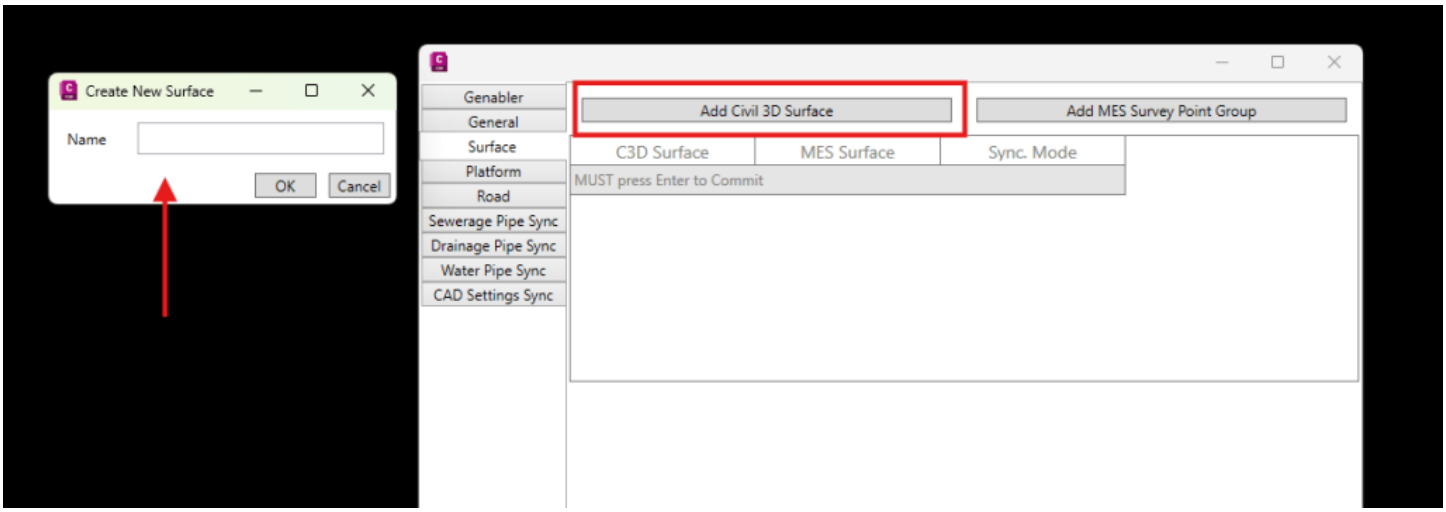
a. Since we are integrating from MiTS, we will **only have MES Survey Point Groups** listed under the MES Surface column.

b. Under the MES Surface column, click on the drop-down and select the point group involved.

c. Click the "Add C3D Surface" button and **enter the Surface Name**. Click OK.

d. Select Sync. Mode, in which should be, **Civil Sync. to create a** Civil 3D surface.

e. Press Enter to ensure data is committed.



4. If you **only need to sync Survey Point Groups in MiTS**, you may proceed to set the Sync. Mode for other entities to NoSync.

5. If you wish to sync other entities as well, you may proceed to follow the steps from the link here.

6. Click OK to close the Project dialog. Then, click on **Load from MiTS** and click OK to sync the entity.

Civil 3D to MiTS

Embedded media:
https://www.youtube.com/embed/1eaE6tgw3vY?version=3&rel=1&showsearch=0&showinfo=1&iv_load_policy=1&fs=1&hl=en-US&autohide=2&wmode=transparent&enablejsapi=1

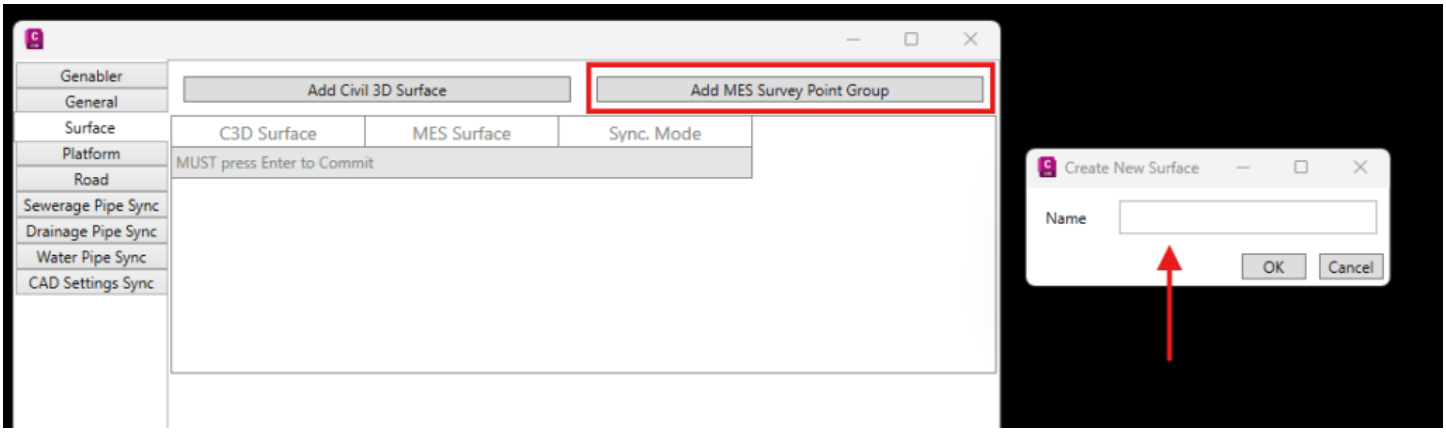
Steps:

1. In the Civil 3D drawing file, go to the MES Toolbar and click on Project.

2. The drawing file will need to be bound to a MiTS file following the steps **here**.

3. Click on the Surface tab and define the parameters above.

a. Since we are integrating from Civil 3D, we will **only have Civil 3D Surfaces** listed under the C3D Surface column.
b. Under the C3D Surface column, click on the drop-down and select the surface involved.
c. Click the **Add MES Survey Point Group** button and **enter the Group Name**. Click OK.
d. Select Sync. Mode. By default, it **should only be set to Civil Sync when integrating from Civil 3D to a new MiTS file**. If it is synced to an existing file, the current survey point groups will be replaced.
e. Press Enter to ensure the data is committed.



4. If you **only need to sync C3D Surface**, you may proceed to set the Sync. Mode for other entities to NoSync.

5. If you wish to sync other entities as well, you may proceed to follow the steps from the link here.

6. Click OK to close the Project dialog. Then, click on **Sync to MiTS** and click OK to sync the entity.

Note: Before proceeding to sync to MiTS, please note the MiTS file state **here**.

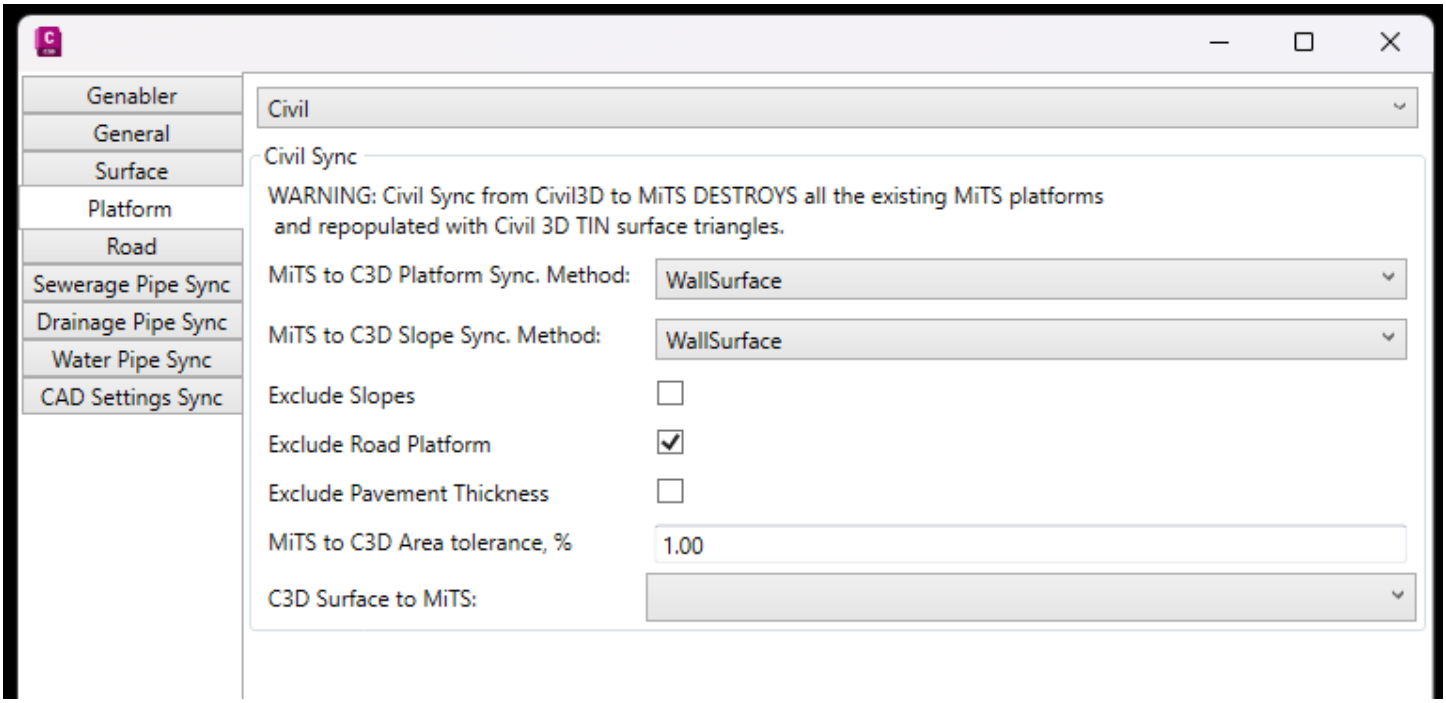
Platform

MiTS to Civil 3D

Embedded media:

https://www.youtube.com/embed/zdNiYSuleHQ?version=3&rel=1&showsearch=0&showinfo=1&iv_load_policy=1&fs=1&hl=en-US&autohide=2&wmode=transparent&enablejsapi=1

Required Mapping Definition



Parameters	Descriptions
Sync. Mode	Users may opt for NoSync. CAD Sync, or Civil Sync. Further explanation on each of the modes can be found **here**.

MiTS to C3D **Platform**/ **Slope** Sync. Method	Users can opt for: • WallSurface • StandardBreaklline • AllSurface • IndividualSurface A detailed explanation of the above methods can be found **here**. **Note:** Please follow this hierarchy when selecting the method. The primary methods are **WallSurface**, followed by **StandardBreakline**. *The remaining options (**AllSurface** and **IndividualSurface**) should only be used as a backup if the primary methods fail due to a known Civil 3D bug.*
Exclude Slopes	**Should remain unchecked**, to ensure the slopes generated in MiTS will be synced as surfaces together with the platforms. If checked, slopes will be excluded, and only platforms will be synced into Civil 3D.
Exclude Road Platform	The Road Platform refers to platforms generated from the road module following the vertical alignment design. **Should remain checked** to prevent clashing between the normal platform surfaces and the road corridors for Road Module Design. Note: This parameter will not affect the internal road platforms from the Earthworks Module.

Exclude Pavement Thickness	**Pavement thickness is included by default** to ensure the earthworks volume consistency between Civil 3D and MiTS. If the feature is enabled (checked), users must set the corresponding pavement thickness value of the road platforms in MiTS to 0 to avoid discrepancies in the volume computations.
MiTS to C3D Area Tolerance, %	The tolerance can be input by users in percentage for **checking between the MiTS platform area and the Civil 3D surface area**. If the differences in the area are more than the tolerance, users will be warned of the possible large discrepancy in the CutFill volumes. Detailed explanation can be referred to **here**.

Steps:

1. In the Civil 3D drawing file, go to the MES Toolbar and click on Project.

2. The drawing file will need to be bound to a MiTS file following the steps **here**.

3. Click on the Platform tab and define the parameters above.

a. Set Sync. mode to Civil.

b. MiTS to C3D Surface Sync. Method should be set to BreaklineSurface. This is to **ensure no mismatch between the surface created in Civil 3D and platforms designed in MiTS**, especially involving vertical drops.

c. Maintain *Exclude Slope* and *Exclude Road Platform* with the default settings.

d. Maintain the area tolerance to be the default value. Only change the value if required, based on your engineering knowledge.

4. If you **only need to Platform in MiTS**, you may proceed to set the Sync. Mode for other entities to NoSync.

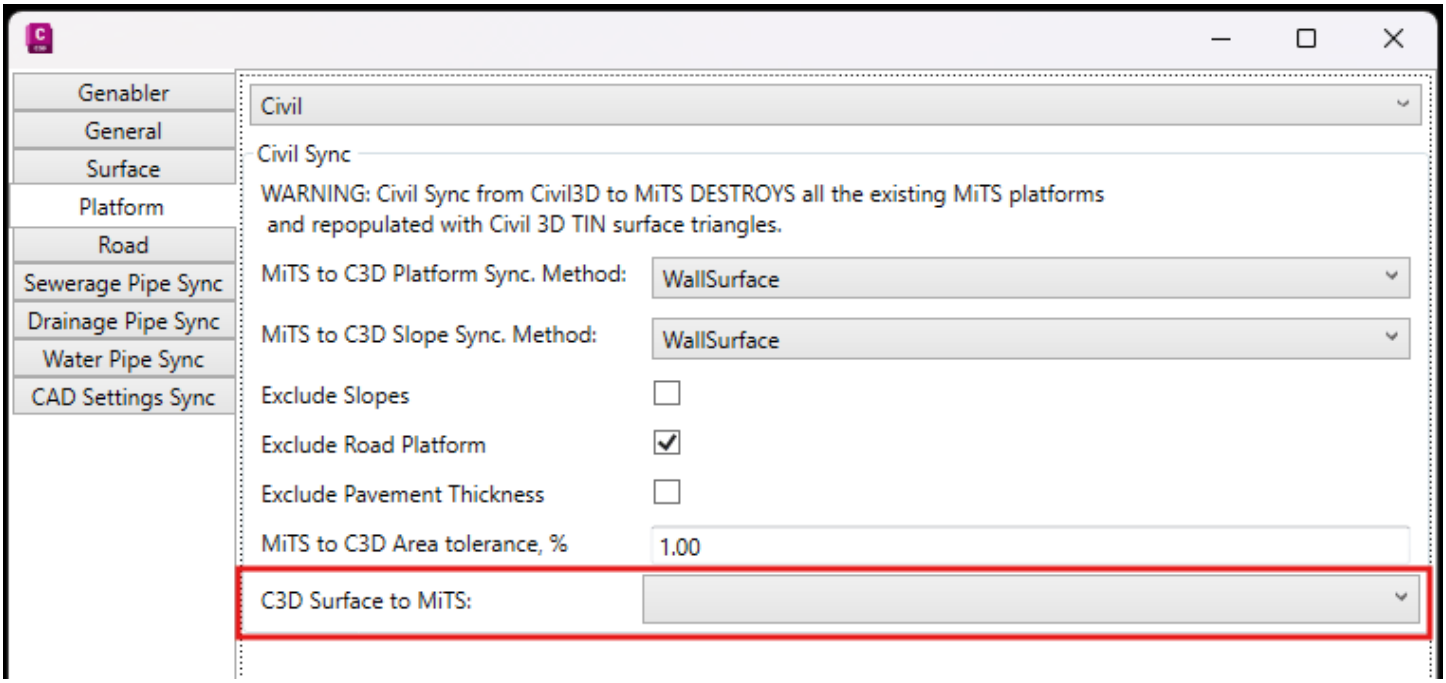
5. If you wish to sync other entities as well, you may proceed to follow the steps from the link here.

6. Click OK to close the Project dialog. Then, click on **Load from MiTS** and click OK to sync the entity.

Civil 3D to MiTS

Embedded media:
https://www.youtube.com/embed/SU4Q9K4xaac?version=3&rel=1&showsearch=0&showinfo=1&iv_load_policy=1&fs=1&hl=en-US&autohide=2&wmode=transparent&enablejsapi=1

Required Mapping Definition



Parameters	Descriptions

C3D Surface to MiTS	Users **need to only select the surface that represents the platforms** to be synced into MiTS. If you have more than one surface, it will need to be combined as the selection is limited to one at the moment. Note: The sync **will destroy whatever existing platforms in MiTS**, hence it is highly recommended **only for synchronization to a newly created MiTS project file**.

Steps:

1. In the Civil 3D drawing file, go to the MES Toolbar and click on Project.

2. The drawing file will need to be bound to a MiTS file following the steps **here**.

3. Click on the Platform tab and define the parameters above.

a. Set Sync. mode to Civil.
b. Select the surface involved under *C3D Surface to MiTS*.

4. If you **only need to sync C3D Surface as platforms**, you may proceed to set the Sync. Mode for other entities to NoSync.

5. If you wish to sync other entities as well, you may proceed to follow the steps from the link here.

6. Click OK to close the Project dialog. Then, click on **Sync to MiTS** and click OK to sync the entity.

Note: Before proceeding to sync to MiTS, please note the MiTS file state **here**.

Related Articles:

- **How to Modify Synced Surfaces Styles?**

- **How to Check The Levels of the Survey, Platform, or Surface Synced?**

Related



Ngu Soon Hui

I’m the Benevolent Dictator for Life for MiTS Software cum Editor of this website. Read more here.

You can also contact me at soonhui@mes100.com