

Mobile District

Advanced Modeling (AM) Bulletin

Project Sheet Index

SAM AMB 2024-03

Based on the standards produced by the



US Army Corps of Engineers
Mobile District
Engineering Division
September 2024

Version changes:

July 2020

1. New bulletin 2020-03
2. Fire Protection Sheet naming convention changed to reflect AEC Standards.

September 2024

1. New publish order image inserted to address AEC standards for sheet numbering and new bulletin version designation.

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Overview

Creation of a complete consolidated sheet index is required for each design submittal in accordance with the A/E/C CAD Standard and local requirements.

For vertical construction projects, the sheet index is established within Autodesk Revit with special provisions defined to accommodate AutoCAD and Civil 3D sheets. This bulletin establishes the local requirements needed to facilitate the task of creating the sheet index using Revit as the primary tool.

Note that some screenshots are from the Revit 2020 templates, v20200501. Settings and schedules in other template versions may appear slightly different.

References

[ERDC/ITL TR-19-7 A/E/C CAD Standard r.6.1,](https://erdc.bimcenter.erdc.dren.mil/default.aspx?p=a&t=1&i=7)
<https://erdc.bimcenter.erdc.dren.mil/default.aspx?p=a&t=1&i=7>

[SAM AMB-2018-01 File Naming Convention](#)

Revit Sheet Properties

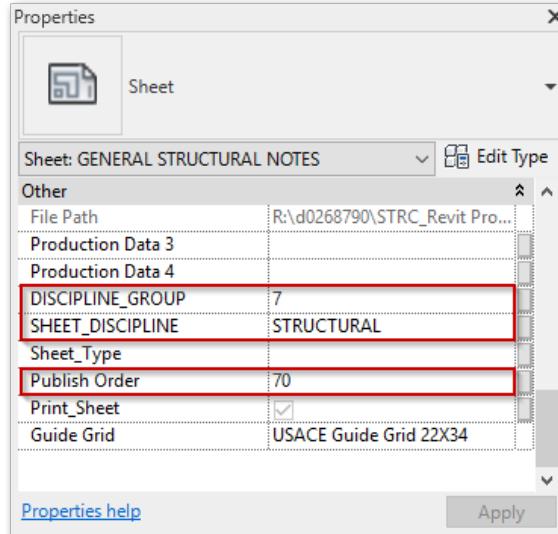
Each sheet within a Revit model has its own set of properties. Most of the Sheet Properties fields are built into Revit, such as Sheet Number, Sheet Name, Appears in Sheet List, and Revisions on Sheet. Other properties are added as Project Parameters or Shared Parameters to support USACE and local district requirements. There are three sheet properties added to support the creation of Project Sheet Indices as follows.

SHEET_DISCIPLINE – An instance shared parameter text field used to designate the descriptive discipline description (e.g. Architectural, Structural, etc.)

DISCIPLINE_GROUP – An instance project parameter text field used to designate a number corresponding to discipline of the sheet (e.g. 1, 2, 3, etc.)

Publish Order – An instance project parameter Integer field used to control the order of sheets within a discipline group. (e.g. where DISCIPLINE_GROUP = 1, Publish Order would be 10, 11, 12, etc.)

These fields are added to the Sheet's 'Other' grouping. In older templates, one or more may be found under '*Identity Data*' grouping.



Revit Sheet Lists

The Mobile District Revit templates include all the necessary schedules and project parameters to support proper sheet indexing. Each discipline model created from the templates contain three sheet list schedules: SHEET INDEX – THIS MODEL, SHEET INDEX – PROJECT, and Z-Sheet Information List.

SHEET INDEX – THIS MODEL

Designers can use the SHEET INDEX – THIS MODEL schedule to confirm that all the relevant sheets are being reported correctly, showing the correct information, and are in the correct order. Any unused sheets shall be deleted or the “Appears in Sheet List” setting for that sheet shall be turned off. The column widths can be adjusted if needed, but please **DO NOT MODIFY** the schedule.

This sheet list schedule mirrors that settings of the Project Sheet Index as presented in each submittal and consist of just two columns: SHEET NUMBER and SHEET TITLE. These are the only two columns that are displayed on the sheet index of a project.

<SHEET INDEX>	
A	B
SHEET NUMBER	SHEET TITLE
GENERAL	
G-001	COVER SHEET
G-002	SHEET INDEX

SHEET NUMBER

The convention for sheet numbering is a component of the sheet file naming standard per A/E/C CAD Standard, par. 2.4.3. Essentially, the sheet number is the sheet file name without the project code prefix and the file extension. See [SAM AMB-2018-01 File Naming Convention](#) for more information.

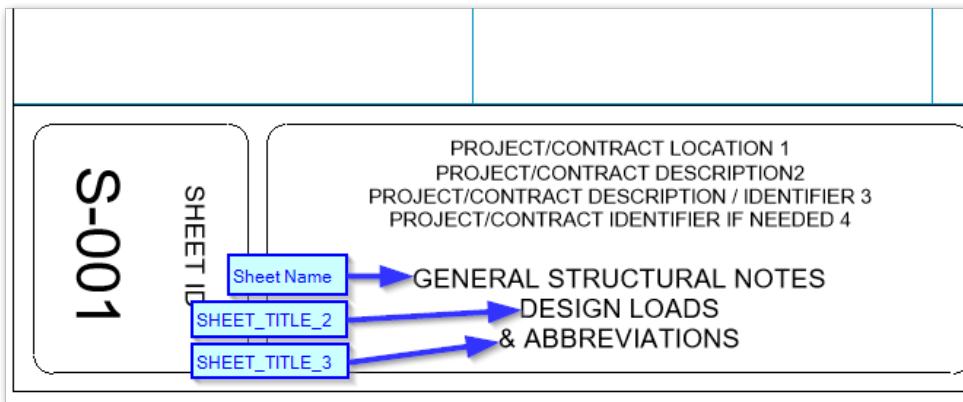
SHEET TITLE

The sheet title is a combined parameter concatenating the Sheet Name with the SHEET_TITLE_2 and SHEET_TITLE_3 project parameters.

This feature of concatenating text fields is only available in Revit 2018 and newer. In older templates, the SHEET TITLE is just the Sheet Name.

Combined Parameter Name:				
Combined Parameter:				
Name	Prefix	Sample Value	Suffix	Separator
Sheet Name		Sheet Name		
SHEET_TITLE_2		SHEET_TITLE_2		
SHEET_TITLE_3		SHEET_TITLE_3		

Note that these project parameters correspond to the 2nd and 3rd lines of the sheet title in the title block.



DISCIPLINE ORDER

The project sheet index shall conform to the discipline order as listed in Table 2-1 of the A/E/C CAD Standard. Additionally, the Fire Protection sheets, though developed by multiple disciplines shall be consolidated under Fire Protection grouping, to include Fire Protection Site and Utility, Life Safety, Fire Suppression, Fire Pump, and Fire Alarm.

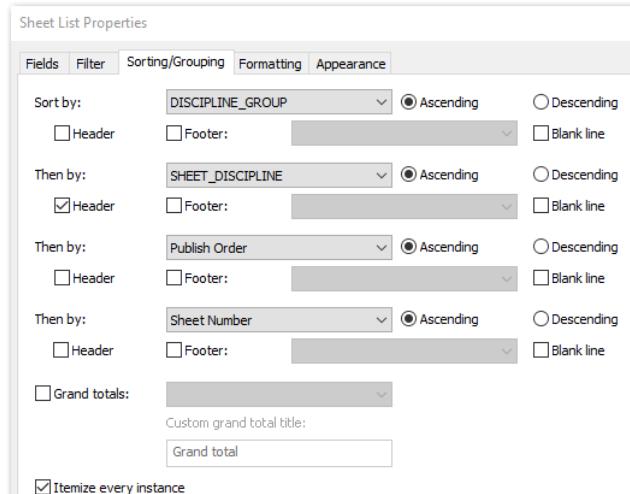
Discipline	Interiors
General	Fire protection
Hazardous materials	Plumbing
Survey/Mapping	Mechanical
Geotechnical	Electrical
Civil	Telecommunications
Landscape	Resource
Structural	Other disciplines
Architectural	Operations

Table 2-1 from the A/E/C CAD Standard

SORTING/GROUPING

The sheet order and grouping are achieved in Revit through use of the three added parameters listed in the section **Sheet Properties** as hidden fields: **SHEET_DISCIPLINE**, **DISCIPLINE_GROUP**, and **Publish Order**. This allows the sheet index to sort and group sheets under their corresponding discipline titles, i.e. GENERAL, STRUCTURAL, ARCHITECTURAL, etc.

See section **SHEET PUBLISHING ORDER** for additional information.



Sheet Index Sorting/Grouping

SHEET INDEX – PROJECT

The SHEET INDEX – PROJECT schedule is identical to the SHEET INDEX – THIS MODEL schedule except that the option ‘*Include elements in links*’ is enabled. Designers can use this schedule to see all sheets that will be reported, including sheets from linked models. This is helpful to check for errors coming from other models, e.g. a Mechanical sheet erroneously listed as an A-501.

Z-Sheet Information List

Designers can use the Z-Sheet Information List schedule to see relevant information about all sheets. Designers are encouraged to use this schedule to make corrections to sheet properties and adjust/correct parameter values. Sheet properties can also be modified via the sheet properties dialog, however, modification through the schedule is generally easier.

For more information on Revit sheet lists and schedules, refer to the appropriate Autodesk help files.

<SHEET INDEX>	
A	B
SHEET NUMBER	SHEET TITLE
GENERAL	
G-001	COVER SHEET
G-002	SHEET INDEX
G-005	GENERAL NOTES, ABBREVIATIONS
STRUCTURAL	
S-001	GENERAL STRUCTURAL NOTES DESIGN LOAD
S-100	PROJECT REFERENCE PLAN
S-101	FOUNDATION AND SLAB PLAN
S-102	BRIDGE CRANE FRAMING PLAN
S-103	ROOF FRAMING PLAN
S-201	FRAMING ELEVATIONS
S-301	FOUNDATION SECTIONS
S-302	ROOF FRAMING SECTIONS
S-500	TYPICAL STRUCTURAL DETAILS
S-501	TYPICAL STRUCTURAL DETAILS
S-502	TYPICAL STRUCTURAL DETAILS
S-510	FOUNDATION DETAILS
S-511	FLOOR FRAMING DETAILS
S-512	ROOF FRAMING DETAILS
S-601	FRAMING SCHEDULES
S-602	COLUMN SCHEDULES
S-603	FOOTING SCHEDULES
S-701	DIAGRAMS
S-801	USER DEFINED
S-901	3D REPRESENTATIONS
ARCHITECTURAL	
A-101	COMPOSITE FLOOR PLAN

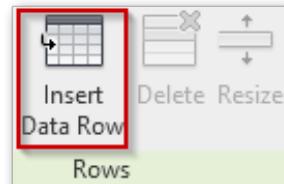
Sample of a typical Project Sheet Index

A	B	C	D	E	F	G	H	I	J
Sheet Number	SHEET_DISCIPLINE	DISCIPLINE GROUP	Publish Order	Sheet Name	SHEET_TITLE_2	SHEET_TITLE_3	Designed By	Drawn By	Responsibility Checked By
0				USACE Revit Starting View			Designer	Author	Checker
GENERAL									
G-001	GENERAL	1	10	COVER SHEET			CET. J	CET. J	EDWARDS K
G-002	GENERAL	1	10	SHEET INDEX			Designer	Author	Checker
G-005	GENERAL	1	10	GENERAL NOTES, ABBREVIATIONS			CET. J	CET. J	EDWARDS K
STRUCTURAL									
S-001	STRUCTURAL	7	70	GENERAL STRUCTURAL NOTES	DESIGN LOADS & ABBREVIATIONS		J. LEE	J. BAILEY	A. JUSTICE

Sample of a typical Z-sheet Information List

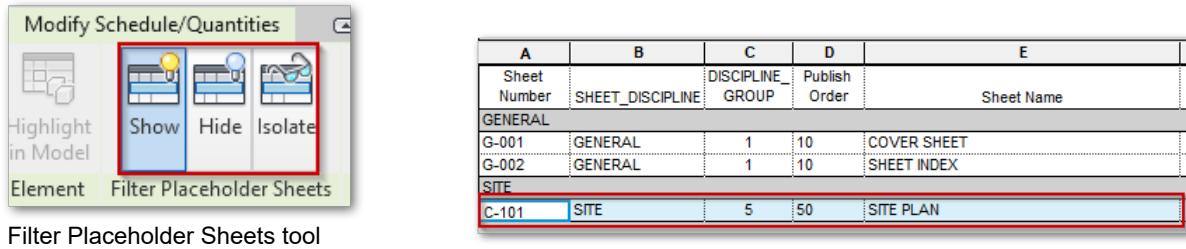
Revit Sheet Placeholders

For non-Revit (CAD) sheets produced in AutoCAD, Civil 3D, or MicroStation, placeholders must be created within the BASE Revit model file of a project so that the project Sheet Index is complete. This should be done in the ‘Z-Sheet Information List’ schedule by using the ‘*Insert Data Row*’ tool located on the ‘*Modify Schedule/Quantities*’ ribbon.



Insert Data Row tool for creating sheet placeholders

This ribbon also has some tool the filter the visibility of sheet placeholders. Filtering to display only placeholders (isolate) can greatly help facilitate the task during creation of sheet placeholders.



Example of a sheet placeholder created for a Civil Site sheet that was done in Civil 3D

ProjectWise CAD Sheet Properties

CAD files residing in ProjectWise have title block information synchronized with their ProjectWise Document properties. These ProjectWise Document properties can be displayed in a custom view within ProjectWise to show the required information in supporting the process of creating sheet placeholders for CAD sheets.



The right-click 'Copy List To' command

Name	SHEET NUMBER	SHEET TITLE LINE 1
MHY20014C-001	C-001	LOCATION / VICINITY MAP
MHY20014C-002	C-002	ABBREVIATIONS
MHY20014C-003	C-003	LEGEND
MHY20014C-004	C-004	GENERAL NOTES

Example of CAD sheet files in ProjectWise showing title block information

The CAD files within ProjectWise can be selected and the right-click option 'Copy List To' can be used to copy the list to the Windows Clipboard.

From there, it can be pasted into Microsoft Excel, or a text editor, which can then be copied and pasted into the corresponding Revit Sheet Placeholder rows.

A	B	C
1 Name	SHEET NUMBER	SHEET TITLE LINE 1
2 MHY20014C-001	C-001	LOCATION / VICINITY MAP
3 MHY20014C-002	C-002	ABBREVIATIONS
4 MHY20014C-003	C-003	LEGEND
5 MHY20014C-004	C-004	GENERAL NOTES

Example of CAD sheet file information pasted into Excel

Sheet Publishing Order

The Mobile District Revit templates have a Starting View that includes a table called 'SHEET PUBLISH ORDER'. This table depicts the values for the SHEET_DISCIPLINE, DISCIPLINE_GROUP, and Publish Order parameters necessary in supporting the AEC CAD Standard order. It also supports Mobile District requirement to group sheets by the Sheet Discipline. When in doubt, please refer to this list for the appropriate settings for the Discipline, Discipline Group, and Publish Order.

SHEET PUBLISH ORDER		
<u>Sheet Discipline</u>	<u>Discipline Group</u>	<u>Publish Order Number</u>
General	1	10-19
Hazardous Materials	2	20-29
Survey/Mapping	3	30-39
Geotechnical	4	40-49
Civil	5	50-59
Landscape	6	60-69
Structural	7	70-79
Architectural	8	80-89
Interiors	9	90-99
* (See note)	-	-
Fire Protection	12	120-129
FSxxx - Fire Protection Site and Utility Dwgs	12	122
FLxxx - Fire Protection Life Safety Dwgs	12	124
FXxxx - Fire Suppression Dwgs	12	126
FX7xx - Fire Pump Dwgs	12	127
FAxxx - Fire Alarm Dwgs	12	129
Plumbing	13	130-139
Process	14	140-149
Mechanical	15	150-159
Electrical	16	160-169
Telecommunications	17	170-179
* (See note)	-	-
Other Disciplines	19	190-199

Notice also the break-out of the Fire Protection sheets. This is the current CESAM-EN policy.

For Revit sheets, it is the responsibility of the design team member to ensure that their set of sheets is complete, have the correct settings to support the proper grouping and order, and that unused sheets are deleted or set to not display on sheet lists.

For CAD sheets (AutoCAD, Civil 3D, and MicroStation), it is the responsibility of the design team member to ensure that their set of sheets in ProjectWise is complete and that the ProjectWise Document properties are properly capturing the CAD sheet's title block information.

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