MODEL PERFORMANCE ANALYTICS

This template is designed to check your Revit model against common industry best practices. As with any best practices, these are based on industry trends and can be modified to fit specific project requirements or firm standards.

This template is built from the revit 2019 API. While it is usable with older versions of Revit, not all of the metrics will be available.

To use this template you will need to download the BIM Interoperability Tools either from the website (link) or via the Autodesk Desktop app. Once installed, open Revit, choose the BIM Interoperability Tools tab. Select Setup from the Model Checker panel (1). This will open a dialog box for you to load your check configuration.

Download the config and this dashboard here (link).

Once the check has run, you'll have the option to export the check to an excel file (2). Make sure to check the Export list elements check box before exporting.

Once you have the excel file, you're ready to review the report. Open Power BI (download BI here). Once you have Power BI running, open the dashboard. Finally, we just need to populate it with your project data. To do that, choose the Home tab and the Edit Queries fly out. Select the Data Source Settings button (3).

In the Data Source Settings, choose Change Source at bottom left of the dialog box (4), which will open a new window. Here, you can browse out to the excel file you saved from BIM Interoperability Tools (5). Click OK to close the dialog boxes. Your data will automatically load and you can Publish the dashboard to share it with others.

Revit's published best practices can be found here (link).
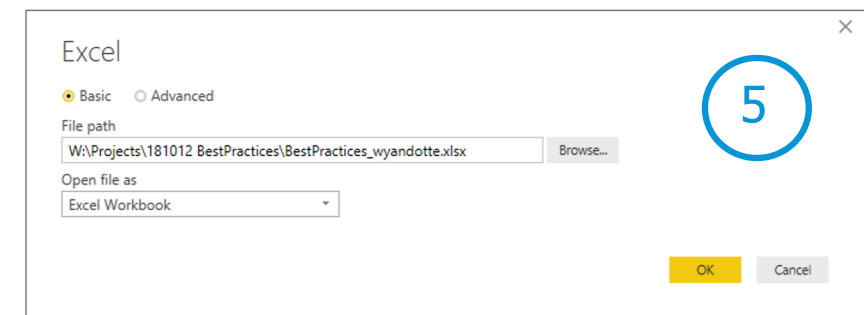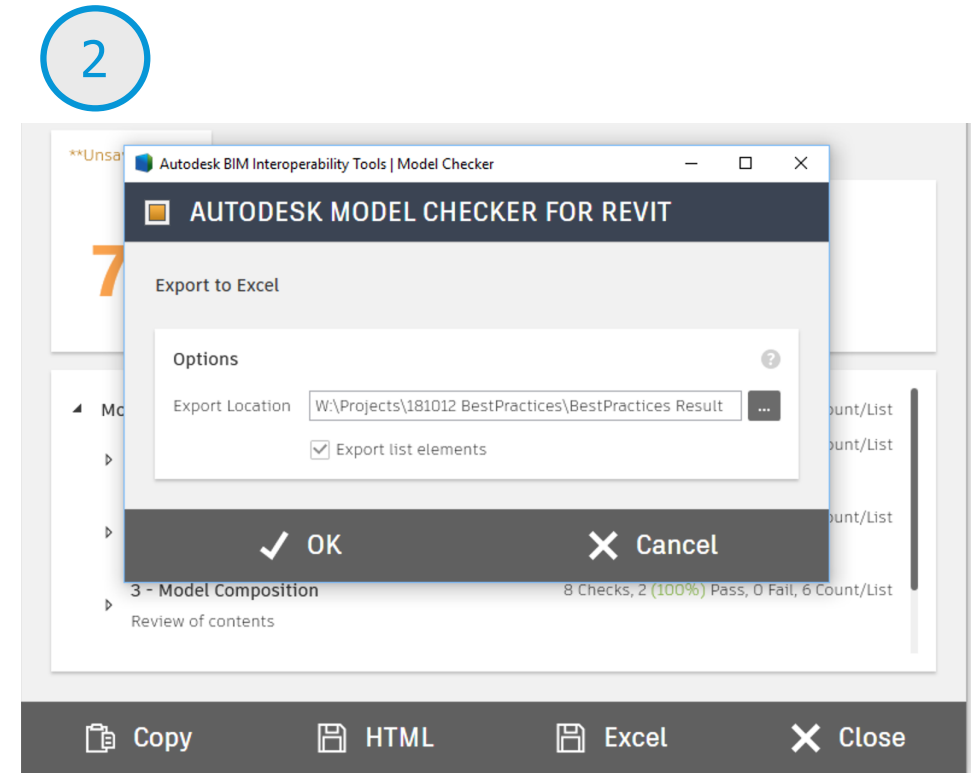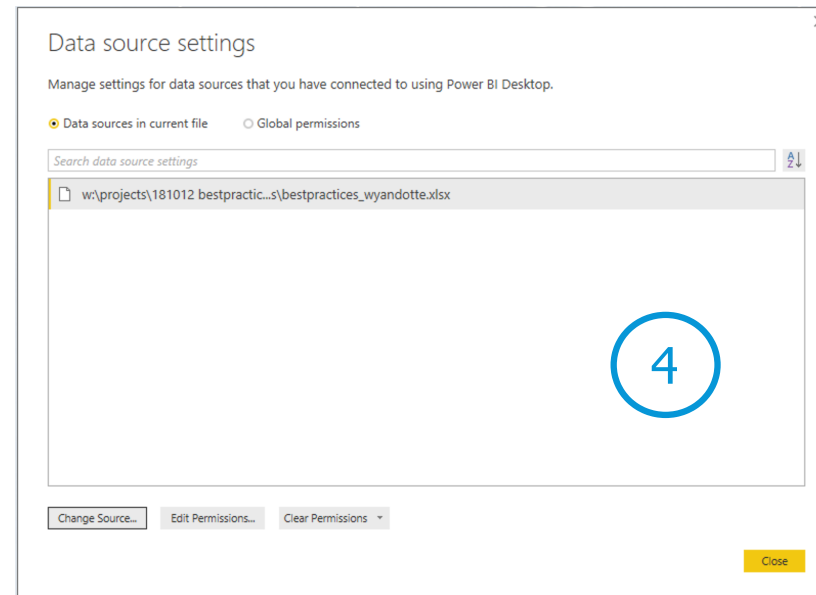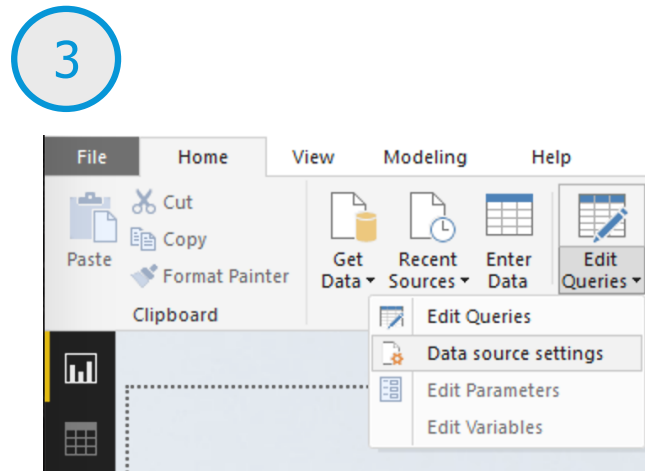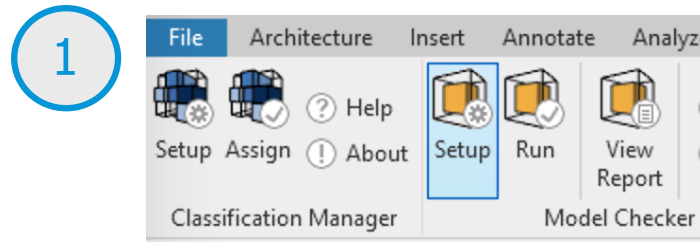
Revit Best Practices

04106_WyandotteLofts-A19-CENTRAL.rvt
MODEL NAME

AUTODESK

PROJECT INFORMATION

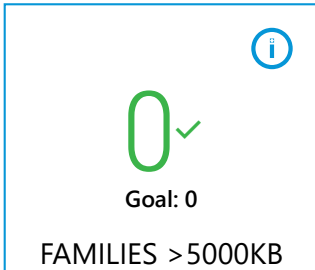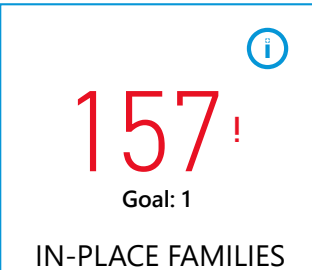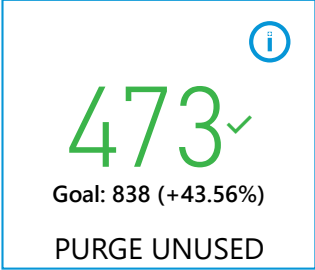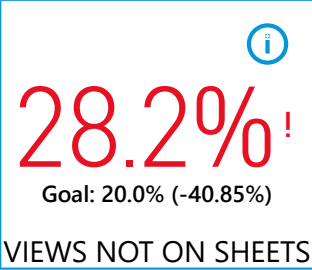| Name ▲	Value
Author	
Building Name	
Category	
Client Name	2120 Wyandotte Investors 5700 Golden Bear Overland Park, KS 66223
Design Option	
Design Option	Main Model
Edited by	
Family Name	
Organization Description	
Organization Name	
Project Address	2120 WYANDOTTE KANSAS CITY, MISSOURI 64108
Project Issue Date	19 December 2005
Project Name	FREIGHTHOUSE FLATS
Project Number	04106
Project Status	CONSTRUCTION SET
SR Document GUID	ffc1f165-8370-43a4-ae63-2077ab990b09
Type Name	
Workset	4

FILE SIZE
71.95 MB

ELEMENT COUNT
55,872

PERFORMANCE ANALYSIS

ERRORS & WARNINGS
1,128 !
Goal: 500 (-125.6%)

IMPORTED CONTENT
6 !
Goal: 0

VIEWS NOT ON SHEETS
28.2% !
Goal: 20.0% (-40.85%)

PURGE UNUSED
473 ✓
Goal: 838 (+43.56%)

IN-PLACE FAMILIES
157 !
Goal: 1

FAMILIES >5000KB
0 ✓
Goal: 0
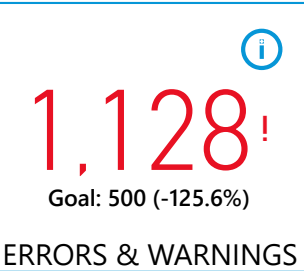
MODEL LOCATION

Name ▲	Value
Project Base Point Coordinate	0" E/W | 0" N/S
Project Base Point Elevation	0"
Project Base Point Rotation	0.00°
Survey Point Coordinate	0" E/W | 0" N/S
Survey Point Elevation	0"

SHARED PARAMETERS FILE LOCATION

MODEL PERFORMANCE BASICS

MODEL PERFORMANCE IS PRIMARILY IMPACTED BY FOLLOWING INDUSTRY BEST PRACTICES FOR REVIT MODEL CREATION. A LARGE, WELL CONSTRUCTED MODEL CAN OUT PERFORM A SMALL MODEL THAT WASN'T WELL BUILT.

THE BEST PRACTICES THAT MOST IMPACT MODEL PERFORMANCE (OUTSIDE OF PHYSICAL HARDWARE) SHOWN TO THE LEFT. MINIMIZING THESE VALUES CAN DRAMATICALLY IMPACT PERFORMANCE.

SELECT THE INFORMATION ICON FOR ADDITIONAL INFORMATION.

04106_WyandotteLofts-A19-CENTRAL.rvt

MODEL NAME

IMPORTED CAD

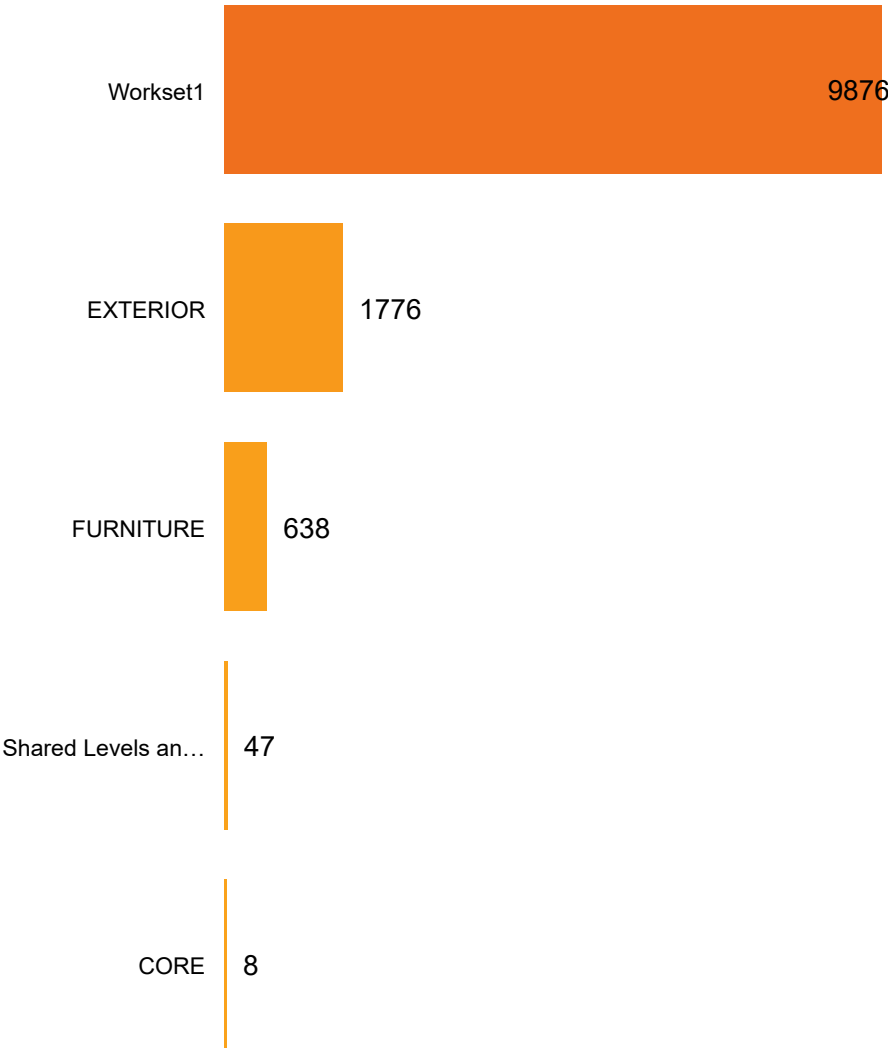| Name	Element ID
northSTAIRf.dwg : northSTAIRf.dwg	1964160
northSTAIRf.dwg (2) : northSTAIRf.dwg (2)	1994409
DOORS.dwg : DOORS.dwg	2192745
DOORS.dwg (3) : DOORS.dwg (3)	2192831
DOORS.dwg (2) : DOORS.dwg (2)	2192788
7-8 HAT.dwg : 7-8 HAT.dwg	2349157

IMPORTED IMAGES

Name	Element ID
Raster Images : Codes Interpretation CI2003-060.jpg	2347304
Raster Images : ibc2003_TBL 720.1(2).jpg	3236177
Raster Images : UL U411.jpg	3261160
Raster Images : UL U412.jpg	3261163
Raster Images : UL U415.jpg	3261156
Raster Images : UL U465.jpg	3261169

IMPORTED SKP

Name	Element ID

ELEMENT COUNT BY WORKSET ⓘ

Workset	Count
Workset1	9876
EXTERIOR	1776
FURNITURE	638
Shared Levels an…	47
CORE	8

DESIGN OPTIONS

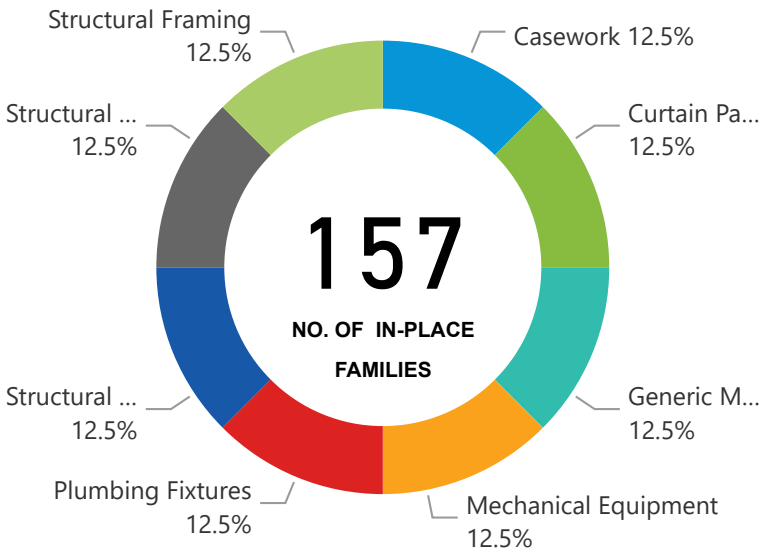| Name	Count
PATIO OPTIONS (primary)	24

GENERIC MODELS

Name	Element ID
Generic Models : 04106-awning : 04106-awning	3270023
Generic Models : 04106-East Door : EXISTING DOOR	321486
Generic Models : 04106-Galley Kitchen : 04106-Galley Kitchen	1288727
Generic Models : 04106-Galley Kitchen_UPGRADE : 04106-Galley Kitchen_UPGRADE	1359253
Generic Models : 04106-Galley Kitchen-unit20 : 04106-Galley Kitchen-unit20	1048765
Generic Models : 04106-refrigerator cover non wall based : 04106-refrigerator cover non wall based	1066537
Generic Models : 04106-refrigerator cover non wall based : 04106-refrigerator cover non wall based	1068242
Generic Models : 04106-refrigerator cover non wall based : 04106-refrigerator cover non wall based	1175609
Generic Models : 04106-refrigerator cover non wall based : 04106-refrigerator cover non wall	1423411

AUTODESK

Revit Best Practices

04106_WyandotteLofts-A19-CENTRAL.rvt

MODEL NAME

20 LARGEST FAMILIES

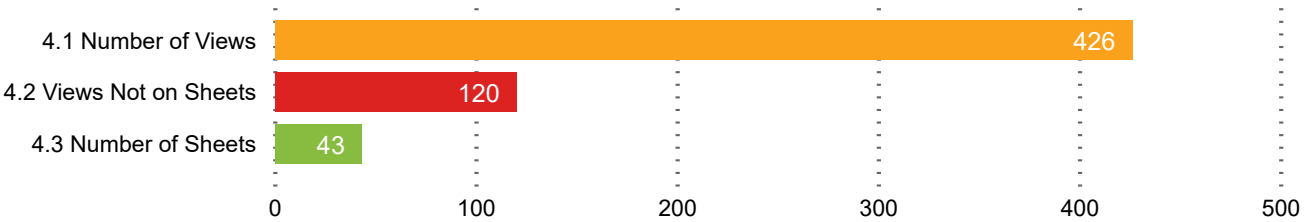| Name	Value
04106-Galley Kitchen-unit20	3,484 KB
04106-Galley Kitchen	3,012 KB
04106-Galley Kitchen_UPGRADE	2,844 KB
Kitchen Typ 4 - L	1,492 KB
Kitchen Typ 5 - L	1,484 KB
Kitchen Typ 2 - L	1,400 KB
Kitchen Typ 3 - L	1,400 KB
Kitchen Typ 1 - L	1,388 KB
04106-Galley Kitchen-with 42 inch uppers	1,284 KB
2nd floor windowsB	840 KB
Overhead-Sectional-tall	816 KB
2nd floor windows	808 KB
3rd floor windows	736 KB
3rd floor windowsB	696 KB
2nd floor windowsD	684 KB
3rd floor windowsC	656 KB
2nd floor windowsC	528 KB
04106-Counter Top w Sink_unit 20	496 KB
3rd floor windowsD	496 KB
04106-Counter Top w Sink	488 KB
04106-Counter Top w Sink.0001	488 KB
double vanity	464 KB
Sheets - CD - E1 30 x 42	448 KB
4106-kitchen microwave cabinet	436 KB
4106-kitchen microwave cabinet_upgrade	436 KB
single vanity	412 KB

Families donut chart

2000KB - 5000... 33.33%
< 1000KB 33.33%
1000KB - 2000KB 33.33%

295 NO. OF FAMILIES

In-place families donut chart

Structural Framing 12.5%
Casework 12.5%
Structural ... 12.5%
Curtain Pa... 12.5%
Structural ... 12.5%
Generic M... 12.5%
Plumbing Fixtures 12.5%
Mechanical Equipment 12.5%

157 NO. OF IN-PLACE FAMILIES
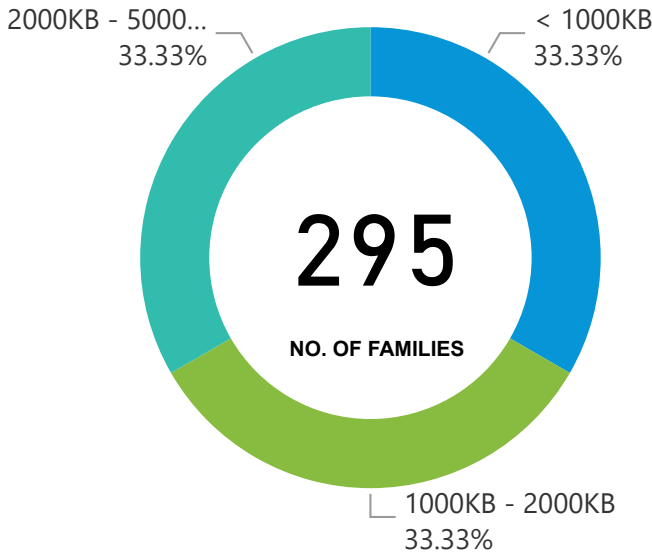
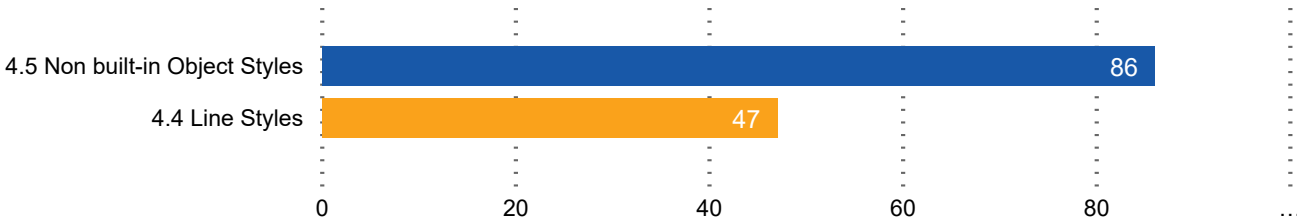### IN-PLACE FAMILIES

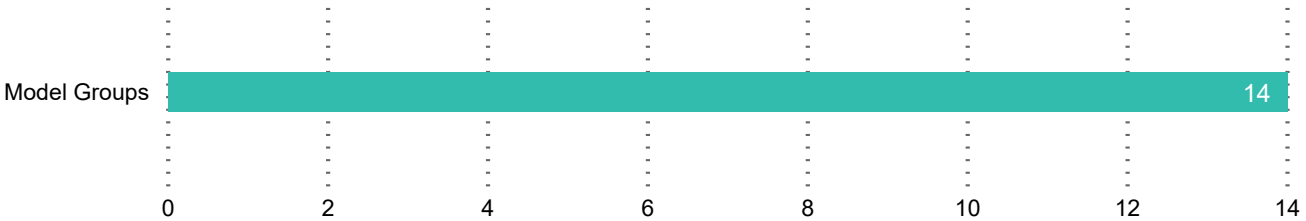| Name	Element ID
Casework : CALLBOX : CALLBOX	3162905
Curtain Panels : Curtain Panel : Curtain Panel	1156846
Curtain Panels : Curtain Panel1 : Curtain Panel	353731
Curtain Panels : Curtain Panel10 : Curtain Panel	999622
Curtain Panels : Curtain Panel11 : Curtain Panel	1573023
Curtain Panels : Curtain Panel12 : Curtain Panel	639309
Curtain Panels : Curtain Panel13 : Curtain Panel	346784
Curtain Panels : Curtain Panel14 : Curtain Panel	639183
Curtain Panels : Curtain Panel2 : Curtain Panel	639544
Curtain Panels : Curtain Panel3 : Curtain Panel	3114292
Curtain Panels : Curtain Panel4 : Curtain Panel	639024
Curtain Panels : Curtain Panel5 : Curtain Panel	1211406
Curtain Panels : Curtain Panel6 : Curtain Panel	1211371
Curtain Panels : Curtain Panel7 : Curtain Panel	1211344
Curtain Panels : Curtain Panel8 : Curtain Panel	1211311
Curtain Panels : Curtain Panel9 : Curtain Panel	1573086
Generic Models : balconies2 : balconies	1224396
Generic Models : balconies3 : balconies	1224942
Generic Models : balconies4 : balconies	1232141
Generic Models : balconies5 : balconies	2649219
Generic Models : balconies7 : balconies	2651464
Generic Models : Generic Models 1 : Generic Models 1	2237289
Generic Models : Generic Models 2 : Generic Models 1	1457646
Generic Models : Generic Models 3 : Generic Models 1	2237364
Generic Models : Generic Models 4 : Generic Models 1	2237439
Generic Models : Generic Models 5 : Generic Models 1	2237514
Generic Models : tile shower : tile shower	957080
Generic Models : tile shower1 : tile shower	957112
Mechanical Equipment : hvac 22 x 1 : hvac 22 x 28	3670567

AUTODESK

Revit Best Practices

04106_WyandotteLofts-A19-CENTRAL.rvt
MODEL NAME

AUTODESK.

VIEWS, SHEETS, VIEWS NOT ON SHEETS

4.1 Number of Views	426
4.2 Views Not on Sheets	120
4.3 Number of Sheets	43

0　100　200　300　400　500

OBJECT STYLES AND LINE STYLES

4.5 Non built-in Object Styles	86
4.4 Line Styles	47

0　20　40　60　80

MODEL AND DETAIL GROUPS

Model Groups	14

0　2　4　6　8　10　12　14

ERRORS & WARNINGS

COUNT	ERROR / WARNING
943	Two elements were not automatically joined because one or both is not editable.
62	Room is not in a properly enclosed region
23	A wall and a room separation line overlap. One of them may be ignored when Revit finds room boundaries. Shorten or delete the room separation line to remove the overlap.
21	Elements have duplicate "Number" values.
13	Highlighted walls overlap. One of them may be ignored when Revit finds room boundaries. Use Cut Geometry to embed one wall within the other.
11	Highlighted lines overlap. Lines may not form closed loops.
10	Line in Sketch is slightly off axis and may cause inaccuracies.
8	Highlighted walls are attached to, but miss, the highlighted targets.
7	There are identical instances in the same place. This will result in double counting in schedules.
5	Insert conflicts with joined Wall.
4	Actual Number of Risers is different from Desired Number of Risers. Add/remove Risers or change Desired Number of Risers in Stairs Properties.
4	Area separation line is slightly off axis and may cause inaccuracies.
4	Highlighted elements are joined but do not intersect.

TOTAL ERRORS

1,128