

Lesson 12

SCHEDULES:

You will continue to learn the powerful features available in Revit. This includes the ability to create parametric schedules; you can delete a door number on a schedule and Revit will delete the corresponding door from the plan.

Exercise 11-4:

Room and Door Tags

This exercise will look at adding room tags and door tags to your plans. As you insert doors, Revit adds tags to them automatically. However, if you copy or mirror a door you can lose the tag and have to add it.

Adding Room Tags:

You will add a Room Tag to each room on your Level 1 floor plan.



Room

1. Select **Architecture** → **Room & Area** → **Room**.

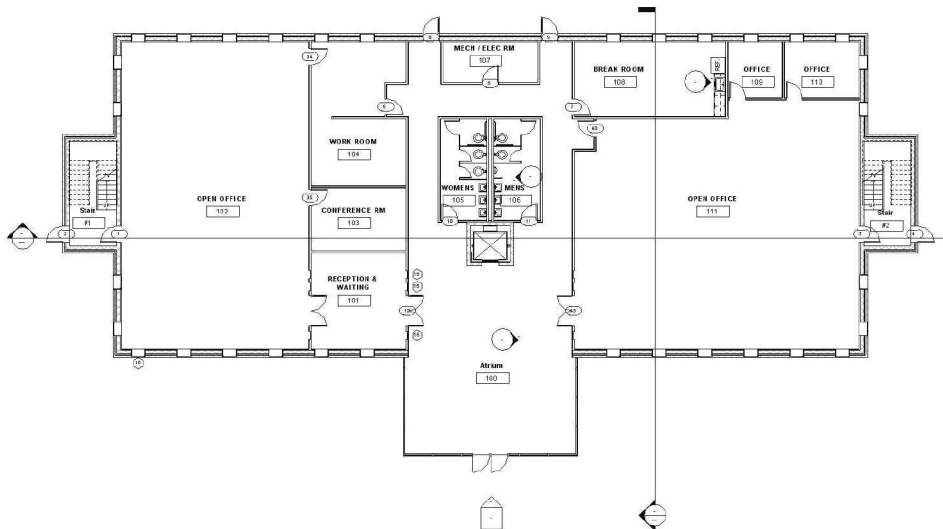


FIGURE 12-1.1 Room tag – Level 1

TIP: Change the height of the Room element in the stairs to go up to Level 3 + 10'-0" via the Properties Palette – and then just “tag” the room at Levels 2 and 3 rather than adding new room objects.

Placing a *Room/Room Tag* is similar to placing a ceiling in the reflected ceiling plan; as you move your cursor over a room, the room (perimeter) highlights. When the room you want to place a *Room* element in is highlighted, you click to place it.

- Click your cursor within the atrium area to place a **Room**, which will also automatically place a room tag (Figure 12-1.1).

By default, Revit will simply label the space “Room” and number it “1.” You will change these to something different.

- Press **Esc** or select **Modify** to cancel the *Room* command.
- Click on the *Room Tag* you just placed to select it.
- Now click on the room name text to change it; enter **Atrium**.
- Now click on the room number to change it; enter **100**.
- Add *Room Tags* (using the **Room** tool) for each room on Level 1, incrementing each room number by 1 (Figure 12-1.1).

The stair shafts typically are numbered Stair #1, Stair #2, etc. The same number is then placed on each level. This is because stair shafts are really one tall room and the finishes would apply to the entire shaft, not each floor. When you try to place a tag with the same name and number, Revit will warn you; see the tip on the previous page to avoid this problem.

- Add Room/Tags to Levels 2 and 3. The numbering for Level 2 should start with 200 and Level 3 should start with 300. (For Level 2, see Figure 12-1.2; for Level 3, see Figure 12-1.3.)

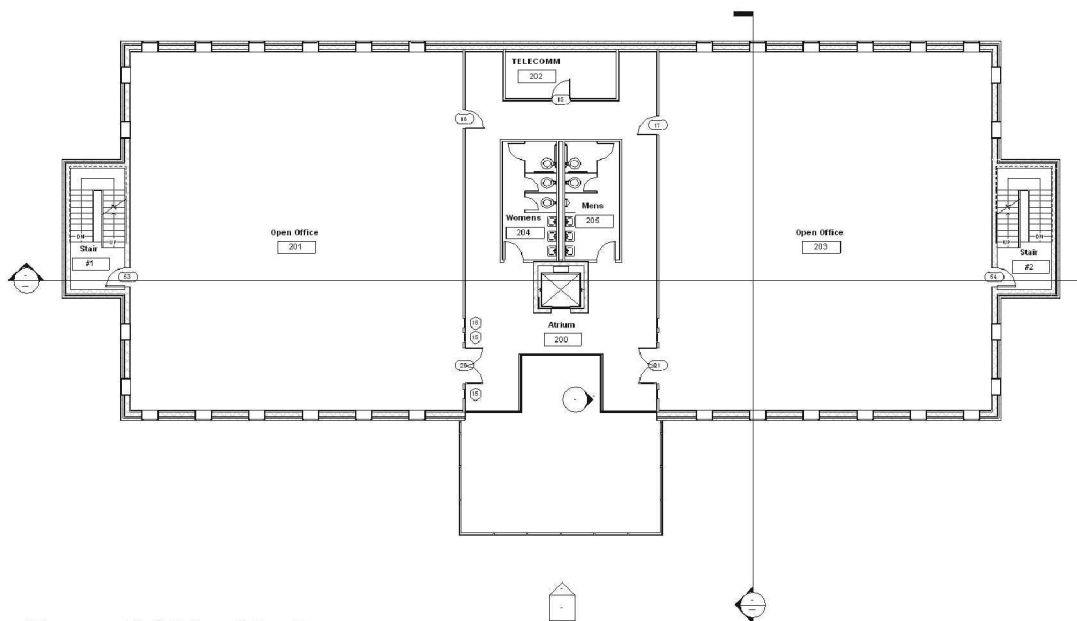


FIGURE 12-1.2 Level 2 – Room tags

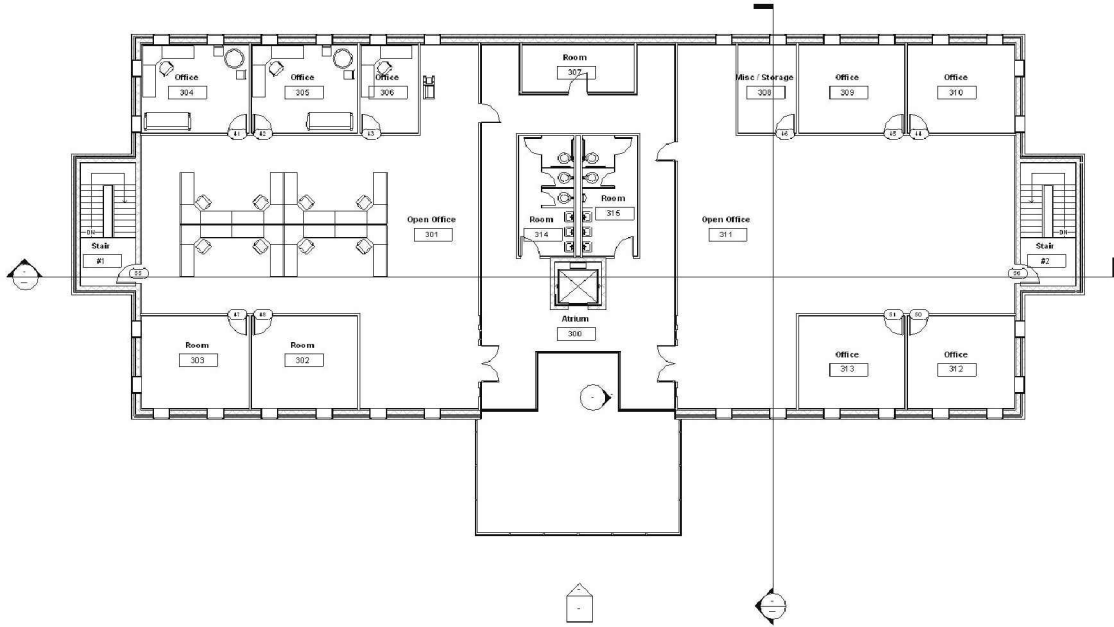


FIGURE 12-1.3 Level 3 – Room tags

Adding Door Tags:

Next you will add Door Tags to any doors that are missing them. Additionally, you will adjust the door numbers to correspond to the room numbers.

Revit numbers the doors in the order they are placed into the drawing. This would make it difficult to locate a door by its door number if door number 1 was on Level 1 and door number 2 was on Level 3, etc. Typically, a door number is the same as the room that the door swings into. For example, if a door swung into an office numbered 304, the door number would also be 304. If the office had two doors into it, the doors would be numbered 304A and 304B.

9. Switch to **Level 1** view.
10. Select **Annotate** → **Tag** → **Tag by Category** button on the *Ribbon* (Figure 12-1.4).

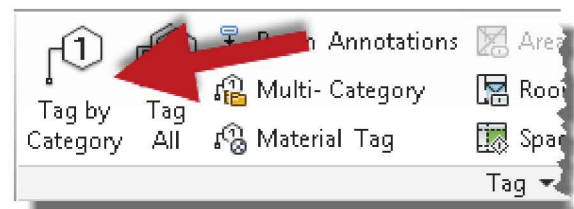


Figure 12-1.4 Annotate tab, Tag panel

Notice as you move your cursor around the screen Revit displays a tag, for any elements that can have tags, when the cursor is over it. Revit actually places a tag when you click the mouse.

11. **Uncheck** the **Leader** option on the *Options Bar*.



12. Place a door tag for each door that does not have a tag; do this for each level.

13. Renumber all the door tags to correspond to the room they open into; do this for each level (Figure 12-1.5).

REMEMBER: Click *Modify*, select the *Tag* and then click on the number to edit it.

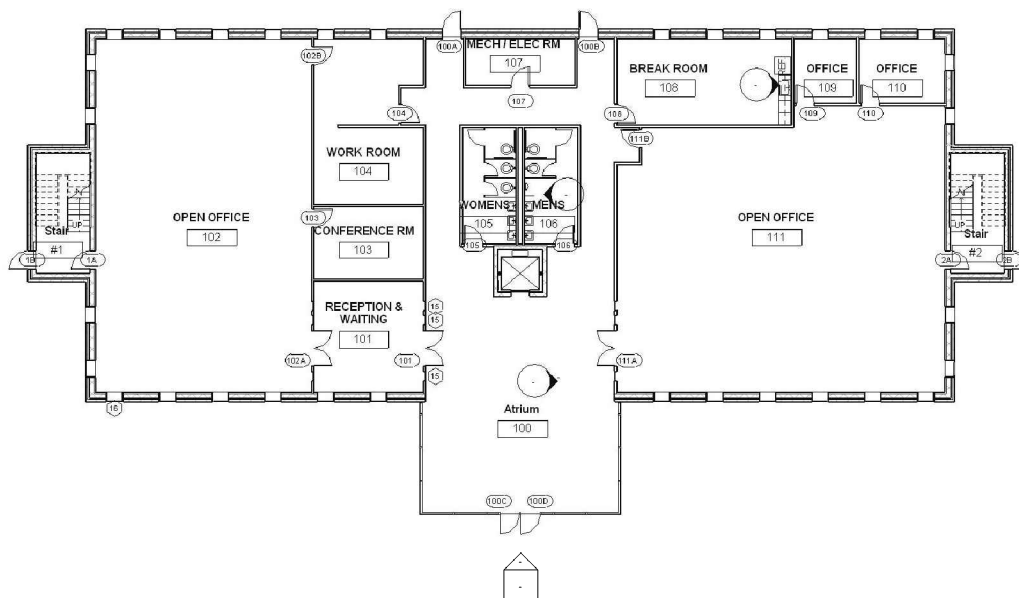


FIGURE 12-1.5 Level 1 – door tags (scale changed to make tags larger on this page)

TIP: TAG ALL...

This tool allows you to quickly tag all the elements of a selected type (e.g., doors) at one time. After selecting the tool, you select the type of element from a list and specify whether or not you want a leader. When you click OK, Revit tags all the untagged doors in that view.

14. **Save** your project as **ex12-1.rvt**.

Exercise 11-4:

Generate a Door Schedule

This exercise will look at creating a door schedule based on the information currently available in the building model (i.e., the tags).

Create a Door Schedule View:

A door schedule is simply another view of the building model. However, this view displays numerical data rather than graphical data. Just like a graphical view, if you change the view it changes all the other related views. For example, if you delete a door number from the schedule, the door is deleted from the plans and elevations.

1. Open ex12-1.rvt and **Save As ex12-2.rvt**.
2. Select **View → Create → Schedule/Quantities** button from the *Ribbon*.
3. Select **Doors** under *Category*, make sure *Phase* is set to **New Construction** and then click **OK** (Figure 12-2.1).

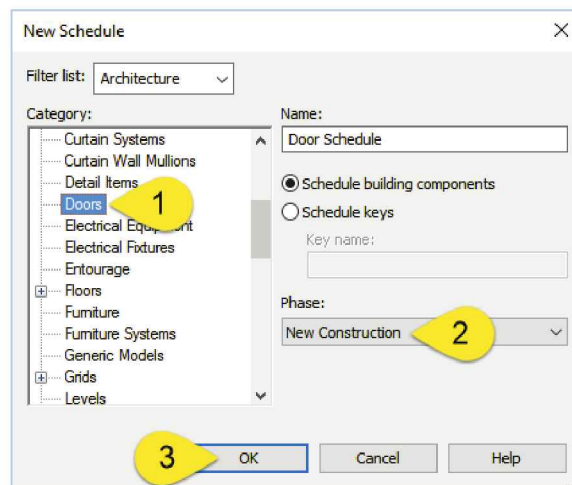
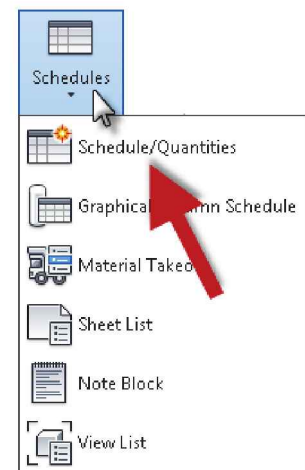


FIGURE 12-2.1 New Schedule dialog



You should now be in the *Schedule Properties* dialog where you specify what information is displayed in the schedule, how it is sorted and the text format.

4. On the **Fields** tab, add the information you want displayed in the schedule. Select the following (Figure 12-2.2):

- a. Mark

TIP: Click the Add → button each time.

- b. Width
- c. Height
- d. Frame Material
- e. Frame Type
- f. Fire Rating

As noted in the dialog, the fields added to the list on the right are in the order they will be in the schedule view. Use the *Move Up* and *Move Down* buttons to adjust the order.

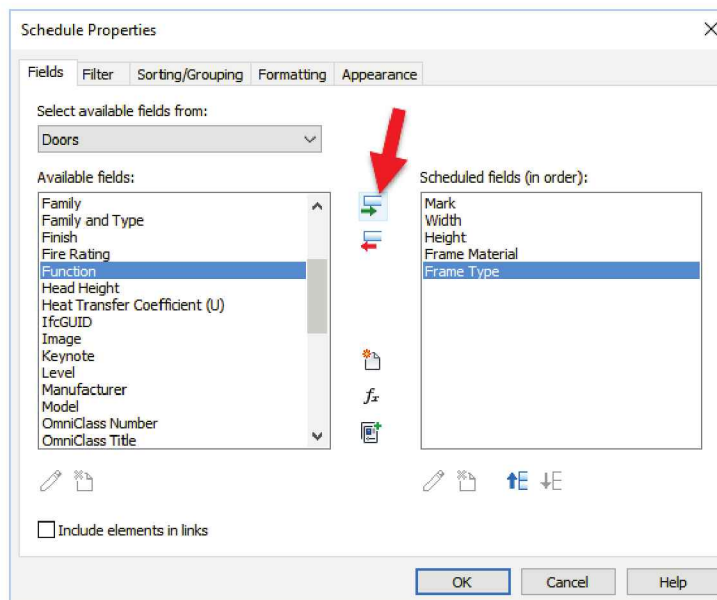


Figure 12-2.2 Schedule Properties – Fields

5. On the **Sorting/Grouping** tab, set the schedule to be sorted by the Mark (i.e., door number) in ascending order (Figure 12-2.3).

TIP: The Formatting and Appearance tabs allow you to adjust how the schedule looks. The formatting is not displayed until the schedule is placed on a plot sheet. Also, you cannot print a schedule unless it is on a sheet. Only views and sheets can be printed – not schedules or legends.

6. Click the **OK** button to generate the schedule view.

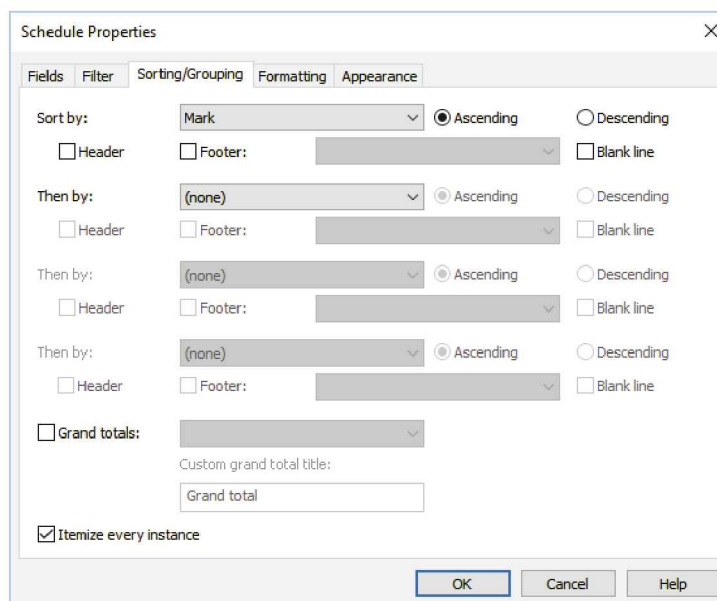


FIGURE 12-2.3 Schedule Properties – Sorting

You should now have a schedule similar to Figure 12-2.4.

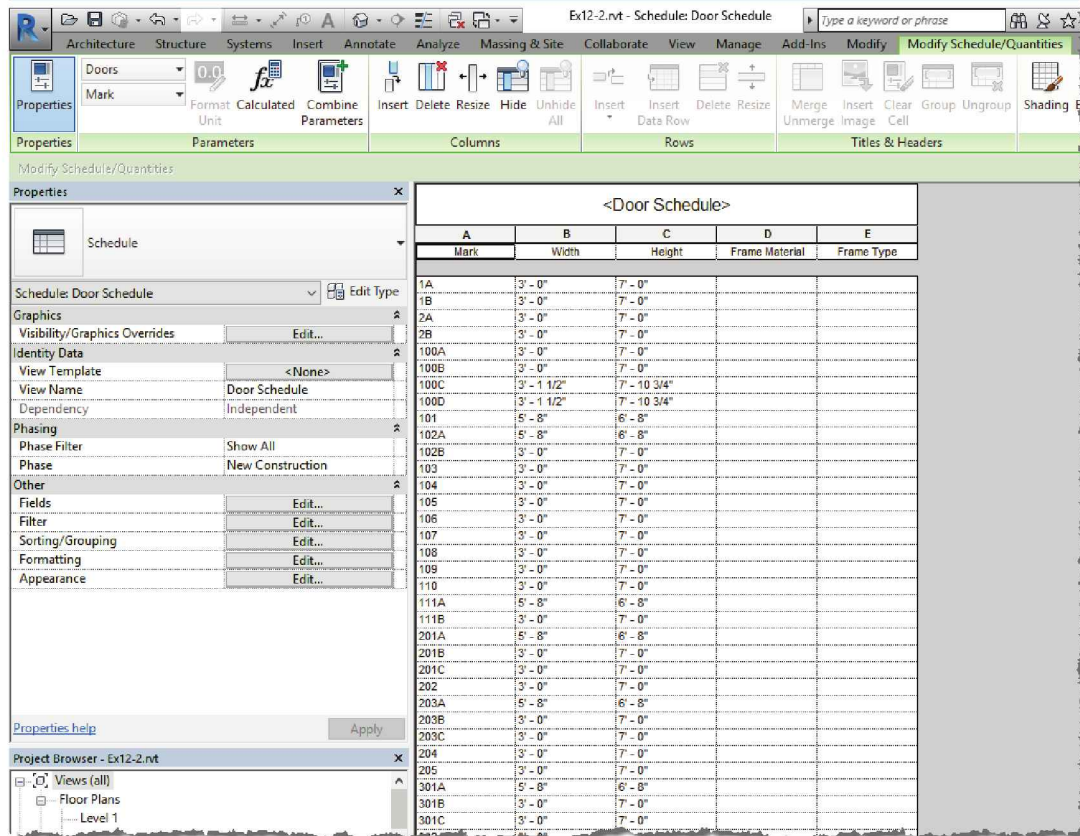


FIGURE 12-2.4 Door schedule view

TIP: You can select Application Menu → Export → Reports → Schedule to create a text file (.txt) that can be used in other programs such as MS Excel.*

The example below is from a real world Revit project; notice the detailed header information.

DOOR AND FRAME SCHEDULE												
DOOR NUMBER	DOOR				FRAME		DETAIL			GLAZING	FIRE RATING	HDWR GROUP
	WIDTH	HEIGHT	MATL	TYPE	MATL	TYPE	HEAD	JAMB	SILL			
1000A	3' - 8"	7' - 2"	WD	D10	HM	F10	11/A8.01	11/A8.01				
1046	3' - 0"	7' - 2"	WD	D10	HM	F10	11/A8.01	11/A8.01 SIM				34
1047A	6' - 0"	7' - 10"	ALUM	D15	ALUM	SF4	6/A8.01	6/A8.01	1/A8.01 S/M	1" INSUL		CARD READER N. LEAF
1047B	6' - 0"	7' - 2"	WD	D10	HM	F13	12/A8.01	11/A8.01 SIM			80 MIN	MAG HOLD OPENS
1050	3' - 0"	7' - 2"	WD	D10	HM	F21	6/A8.01	11/A8.01		1/4" TEMP		33
1051	3' - 0"	7' - 2"	WD	D10	HM	F21	6/A8.01	11/A8.01		1/4" TEMP		33
1052	3' - 0"	7' - 2"	WD	D10	HM	F21	6/A8.01	11/A8.01		1/4" TEMP		33
1053	3' - 0"	7' - 2"	WD	D10	HM	F21	6/A8.01	11/A8.01		1/4" TEMP		33
1054A	3' - 0"	7' - 2"	WD	D10	HM	F10	6/A8.01	11/A8.01		1/4" TEMP		34
1054B	3' - 0"	7' - 2"	WD	D10	HM	F21	6/A8.01	11/A8.01		1/4" TEMP		33
1055	3' - 0"	7' - 2"	WD	D10	HM	F21	6/A8.01	11/A8.01		1/4" TEMP		33
1056A	3' - 0"	7' - 2"	WD	D10	HM	F10	6/A8.01	9/A8.01			20 MIN	33
1056B	3' - 0"	7' - 2"	WD	D10	HM	F10	11/A8.01	11/A8.01			20 MIN	34
1056C	3' - 0"	7' - 2"	WD	D10	HM	F10	20/A8.01	20/A8.01			20 MIN	33
1057A	3' - 0"	7' - 2"	WD	D10	HM	F10	6/A8.01	11/A8.01			20 MIN	34
1057B	3' - 0"	7' - 2"	WD	D10	HM	F30	6/A8.01	9/A8.01		1/4" TEMP	20 MIN	33
1058A	3' - 0"	7' - 2"	WD	D10	HM	F10	6/A8.01	9/A8.01				33

Image courtesy LHB (www.LHBcorp.com)

Next you will see how adding a door to the plan automatically updates the door schedule. Likewise, deleting a door number from the schedule deletes the door from the plan.

- 7. Switch to the **Level 1** view.
- 8. Add a door as shown in **Figure 12-2.5**; number the door **111C**.

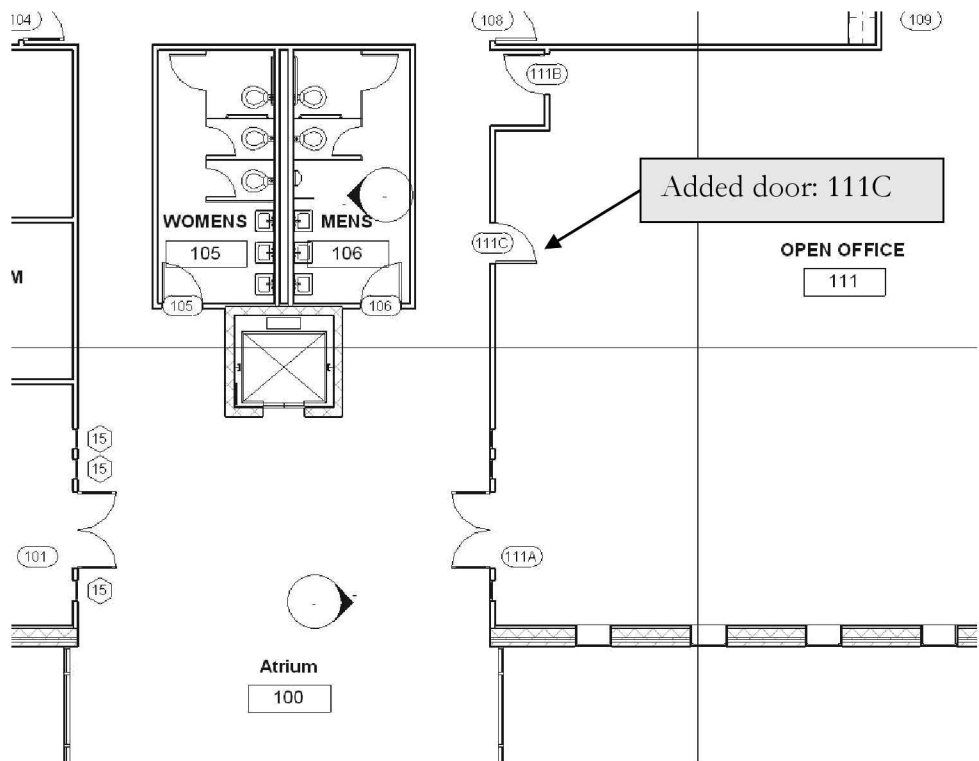


FIGURE 12-2.5 Level 1 – door added

- 9. Switch to the **Door Schedule** view, under Schedules/Quantities in the *Project Browser*. Notice door 111C was added (Figure 12-2.6).

109	3' - 0"	7' - 0"
110	3' - 0"	7' - 0"
111A	6' - 0"	7' - 0"
111B	3' - 0"	7' - 0"
111C	3' - 0"	7' - 0"
201A	6' - 0"	7' - 0"
201B	3' - 0"	7' - 0"

FIGURE 12-2.6 Updated door schedule

Next you will delete door 111C from the door schedule view.

10. Click in the cell with the number **111C**.
11. Now click the **Delete** button from the *Ribbon* (Figure 12-2.7).

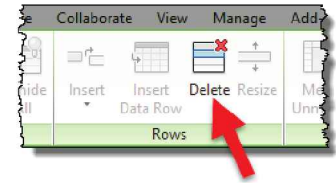


FIGURE 12-2.7
Ribbon for the door schedule view

You will get an alert. Revit is telling you that the actual door will be deleted from the project model (Figure 12-2.8).

12. Click **OK** to delete the door (Figure 12-2.8).

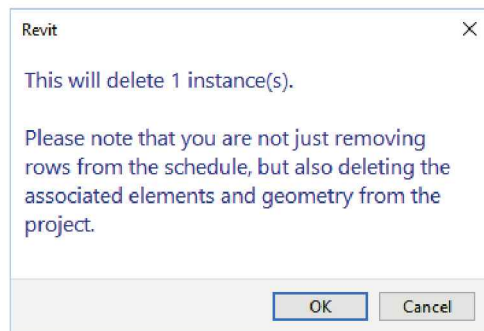


FIGURE 12-2.8 Revit alert message

13. Switch back to the **Level 1** view and notice that door 111C and its tag have been deleted from the project model.
14. **Save** your project as **ex12-3.rvt**.

TIP: You can also change the door number in the schedule and even the size; however, changing the size actually changes the door family which affects all the doors of that type.

The image below shows a real world Revit project with several doors; notice the door numbers match the room numbers. Also, the shaded walls are existing (Revit can manage phases very well).

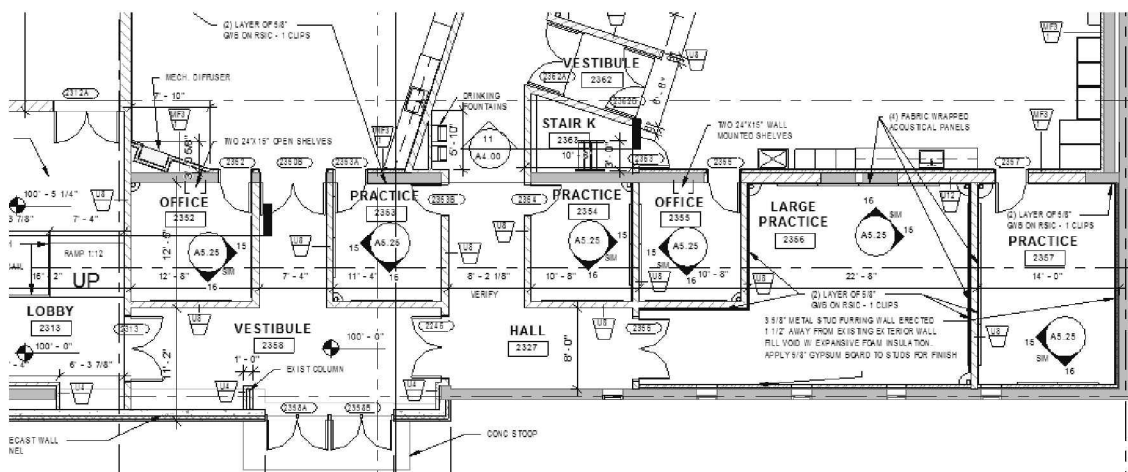


Image courtesy LHB (www.LHBcorp.com)

Exercise 11-4:

Generate a Room Finish Schedule

In this exercise you will create a room finish schedule. The process is similar to the previous exercise. You will also create a color-coded plan based on information associated with the *Room* element.

Create a Room Finish Schedule:

1. Open ex12-2.rvt and **Save As ex12-3.rvt**.
2. Select **View → Create → Schedule/Quantities** button from the *Ribbon*.
3. Select **Room** under *Category* and then click **OK** (Figure 12-3.1).
4. In the **Fields** tab of the *Schedule Properties* dialog, add the following fields to be scheduled (Figure 12-3.2):
 - a. Number
 - b. Name
 - c. Base Finish
 - d. Floor Finish
 - e. Wall Finish
 - f. Ceiling Finish
 - g. Area

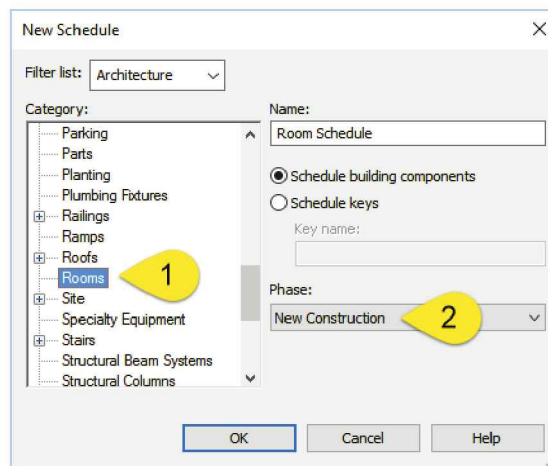


FIGURE 12-3.1 New Schedule dialog

Area is not typically listed on a room finish schedule. However, you will add it to your schedule to see the various options Revit allows.

5. On the **Sorting/Grouping** tab set the schedule to be sorted by the **Number** field.
6. On the **Appearance** tab, select 1/4" **Arial** for the *Title Text* (Figure 12-3.3).
7. Select **OK** to generate the **Room Schedule**.

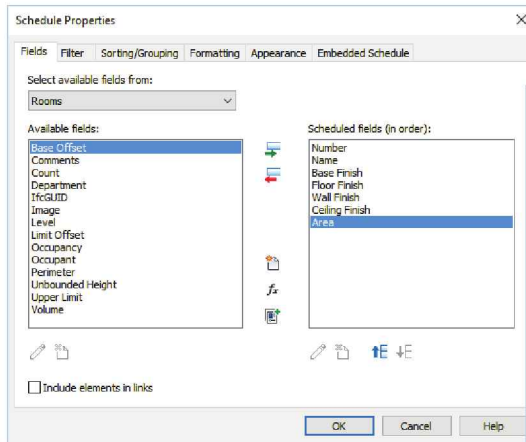


FIGURE 12-3.2
Schedule Properties – Fields

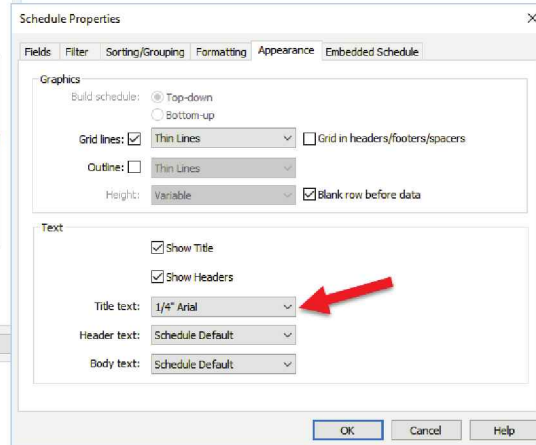


FIGURE 12-3.3
Schedule Properties – Appearance

Place cursor here to
resize the column

<Room Schedule>						
A	B	C	D	E	F	G
Number	Name	Base Finish	Floor Finish	Wall Finish	Ceiling Finish	Area
#1	Stair					168 SF
#2	Stair					168 SF
100	Atrium					1805 SF
101	RECEPTION &					313 SF
102	OPEN OFFICE					1977 SF
103	CONFERENCE					204 SF
104	WORK ROOM					437 SF
105	WOMENS					161 SF
106	MENS					161 SF
107	MECH / ELEC R					131 SF
108	BREAK ROOM					389 SF
109	OFFICE					104 SF
110	OFFICE					143 SF
111	OPEN OFFICE					2309 SF
200	Atrium					1759 SF
201	Open Office					3000 SF
202	TELECOMM					131 SF
203	Open Office					3000 SF
204	Womens					161 SF
205	Mens					161 SF
300	Atrium					1759 SF
301	Open Office					1870 SF
302	Room					240 SF
303	Room					243 SF
304	Office					232 SF
305	Office					229 SF
306	Office					125 SF
307	Room					131 SF
308	Misc / Storage					125 SF
309	Office					229 SF
310	Office					232 SF
311	Open Office					1870 SF
312	Office					243 SF
313	Office					240 SF
314	Room					161 SF
315	Room					161 SF

FIGURE 12-3.4 Room Schedule view

Your schedule should look similar to the one to the left. (Figure 12-3.4)

8. Resize the *Name* column so all the room names are visible. Place the cursor between the *Name* and *Base Finish* and drag to the right until all the names are visible. (Figure 12-3.4)

The formatting (i.e., Bold header text) will not show up until the schedule is placed on a plot sheet.

Modifying and Populating a Room Schedule:

Like the door schedule, the room schedule is a tabular view of the building model. So you can change the room name or number on the schedule or in the plans.

9. In the **Room Schedule** view, change the name for room **307** (this should be the room directly north of the toilet rooms) to **MECH/ELEC RM.**

TIP: Click on the current room name and then click on the down-arrow that appears. This gives you a list of all the existing names in the current schedule, otherwise you can type a new name.

10. Switch to the **Level 3** view to see the updated room tag.

You can quickly enter finish information to several rooms at one time. You will do this next.

11. In the Level 3 plan view, select the *Rooms* (not the room tags) for all private offices – 9 total (Figure 12-3.5).

REMEMBER: Hold the Ctrl key down to select multiple elements.

TIP: Move the cursor near the room tag but not over it to select the room – the large “X” will appear when the Room is selectable (see image below).

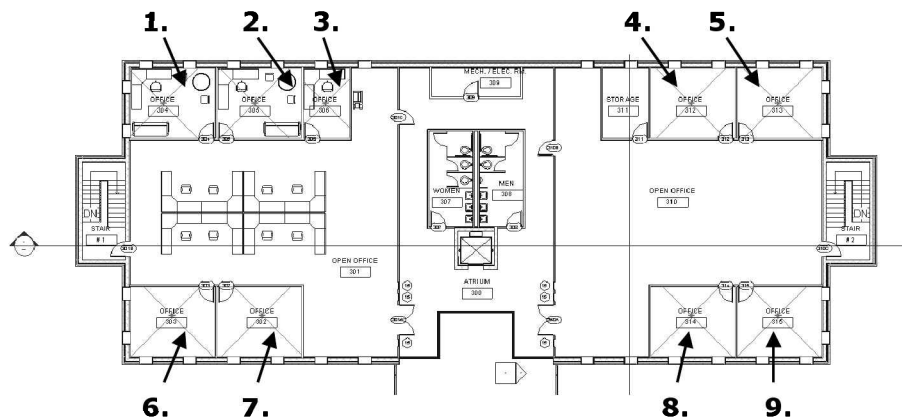


FIGURE 12-3.5 Level 3 – selected room

12. Next you will make changes in the *Properties Palette*; type *PP* to open it if needed.

The *Parameters* listed here are the same as the *Fields* available for display in the room schedule. When more than one tag is displayed and a parameter is not the same (e.g., different names), that value field is left blank. Otherwise, the values are displayed for the selected *Room* element. Next you will enter values for the finishes.

13. If the *Name* field is blank, enter **OFFICE** so the nine rooms are labeled office.

14. Enter the following for the finishes (Figure 12-3.6):

- a. *Base Finish*: **Wood**
- b. *Ceiling Finish*: **ACT 1** (*ACT* = *acoustic ceiling tile*)
- c. *Wall Finish*: **VWC 1** (*VWC* = *vinyl wall covering*)
- d. *Floor Finish*: **Carpet 1**

Properties

Multiple Families Selected

Rooms (9) Edit Type

Volume Not Computed

Computation Height 0' 0"

Identity Data

Number

Name

Image

Comments

Occupancy

Department

Base Finish Wood

Ceiling Finish ACT1

Wall Finish VWC1

Floor Finish Carpet1

Occupant

Design Option Main Model

Phasing

Phase New Construction

Properties help Apply

FIGURE 12-3.6 Element Properties – Room

15. Click **Apply**.

16. Switch back to the **Room Schedule** view to see the automatic updates (Figure 12-3.7).

You can also enter data directly into the Room Schedule view.

17. Enter the following data for the Men's and Women's toilet rooms:

- a. *Base*: **COVERED CT**
- b. *Ceiling*: **Gyp. Bd.**
- c. *Wall*: **CT**
- d. *Floor*: **CT**

Hopefully, in the near future, Revit will be able to enter the finishes based on the wall, floor and ceiling types previously created!

TIP:

You can add fields and adjust formatting anytime by selecting one of the edit buttons in the Properties Palette. This gives you the same options that were available when you created the schedule.

204	WOMENS					161 SF
205	MENS					161 SF
300	Room					1786 SF
302	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	229 SF
303	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	232 SF
304	OPEN OFFICE					1896 SF
305	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	232 SF
306	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	229 SF
307	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	125 SF
308	MECH / ELEC RM					98 SF
309	WOMENS					161 SF
310	MEN					161 SF
311	MISC. / STORAGE					125 SF
312	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	229 SF
313	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	232 SF
314	OPEN OFFICE					1896 SF
315	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	232 SF
316	OFFICE	Wood	Carpet 1	VWC 1	ACT 1	229 SF
# 1	STAIR					168 SF

FIGURE 12-3.7 Partial Room Schedule with new data

Setting Up a Color-Coded Floor Plan:

With the *Rooms* in place you can quickly set up color-coded floor plans. These are plans that indicate (with color) which rooms are Offices, Circulation, Public, etc., based on the room name in our example.

18. Switch to **Level 3** view.

19. Select **Annotate** → **Color Fill** → **Color Fill Legend**.

20. Click just below the floor plan on the right side.

21. Select **Name** and then **OK** to the following prompt (Figure 12-3.8).

You now have a color-coded plan where the colors are assigned by room name; e.g., all the rooms named “Office” have the same color (Figure 12-3.9).

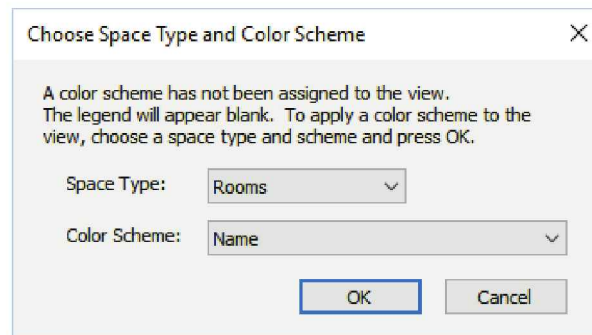


FIGURE 12-3.8 Color fill prompt

TIP: You can use a Room Separation Line, drawn along the railing, to stop the Atrium “Room” from extending out over the multi-story atrium area (i.e. no floor area). This will also make the “area” correct.

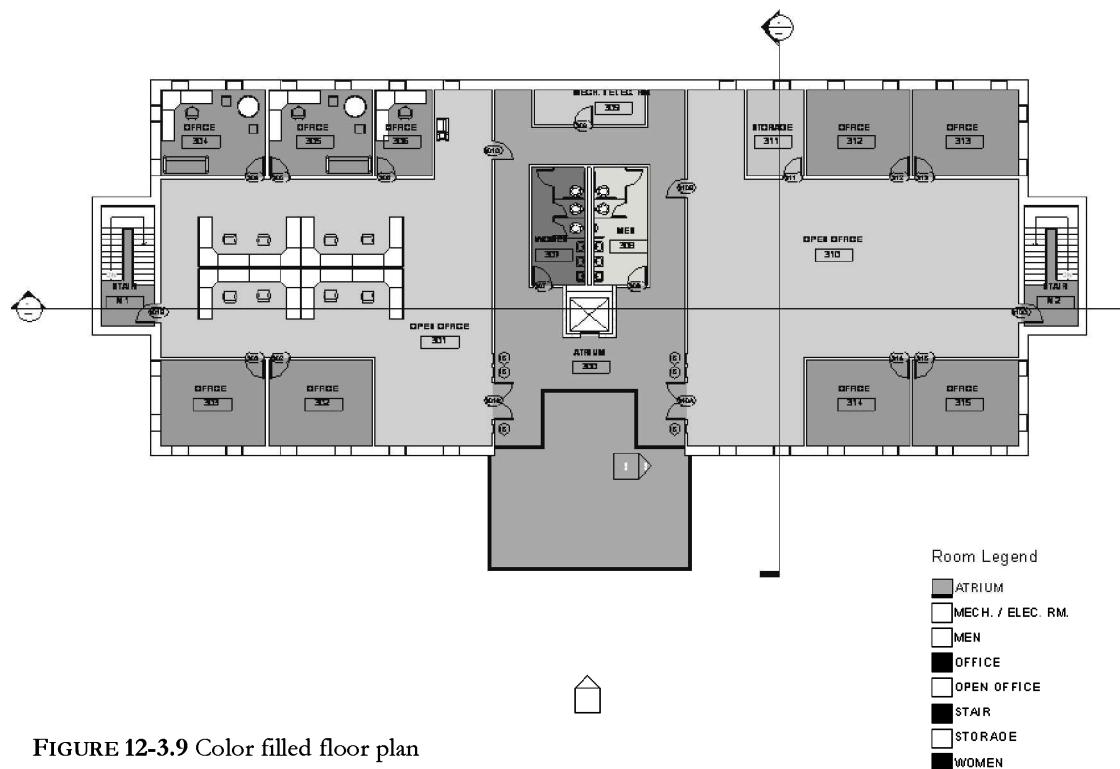


FIGURE 12-3.9 Color filled floor plan

22. Select the *Room Legend* shown in **Figure 12-3.9**.
23. Click **Edit Scheme** on the *Ribbon* (Figure 12-3.10).

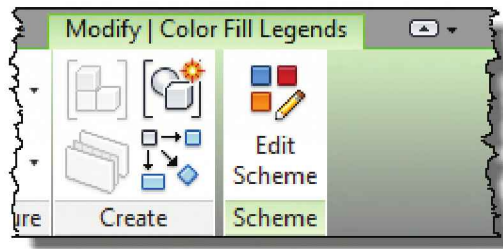


FIGURE 12-3.10 Ribbon;
Color Legend key selected

Each unique room name will get a different color. Before you finish you will change one *Color* and one *Fill Pattern*.

24. Click on the *Color* for the **Atrium**.

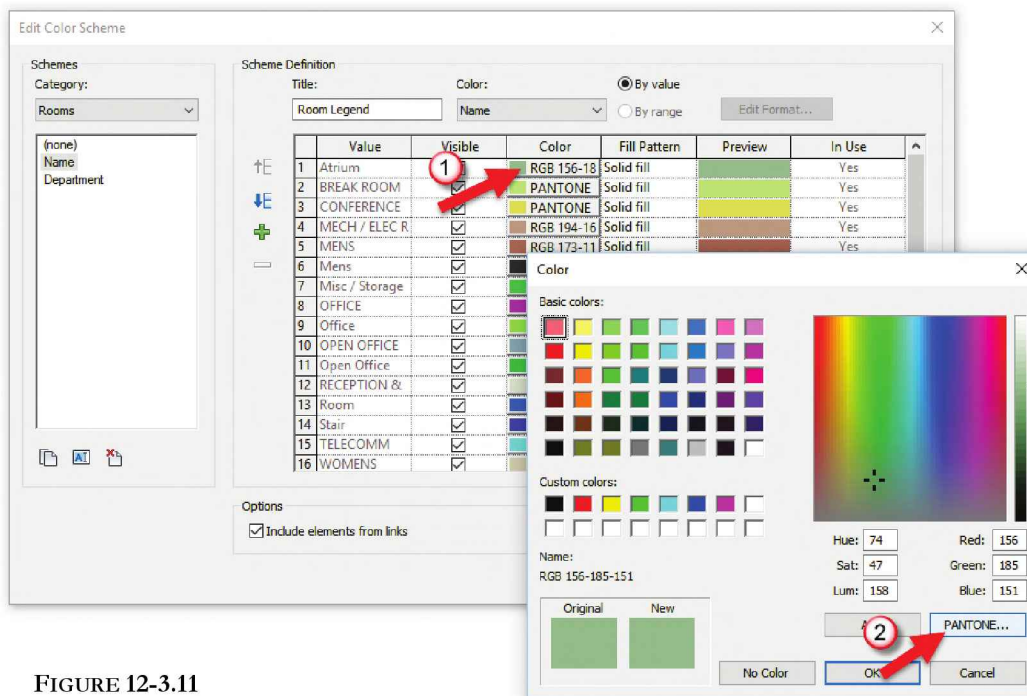


FIGURE 12-3.11
Edit Color Scheme dialog

FIGURE 12-3.12 Color selector

25. Click the **PANTONE...** button to select a standard *Pantone* color (Figure 12-3.12).

26. Pick any color you like (Figure 12-3.13).

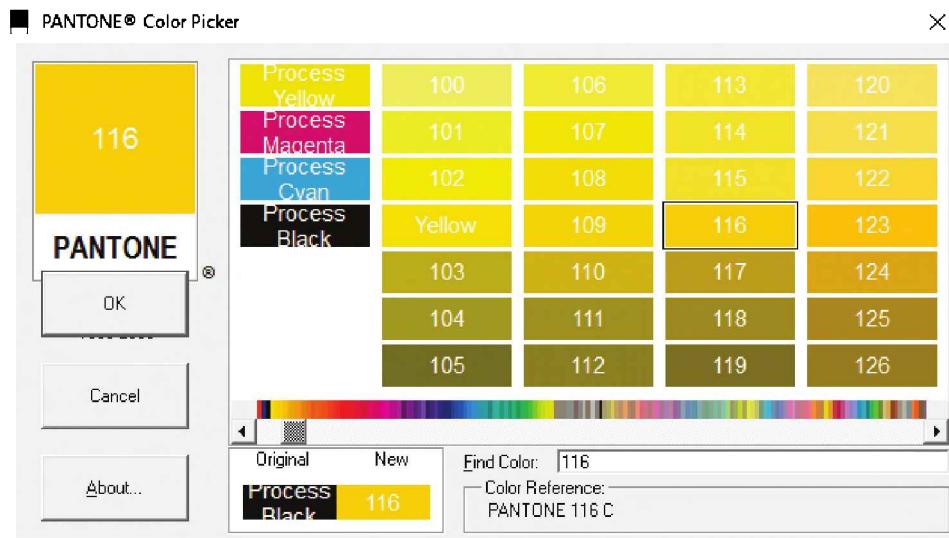


FIGURE 12-3.13 PANTONE Color Picker

27. Click **OK** to accept.

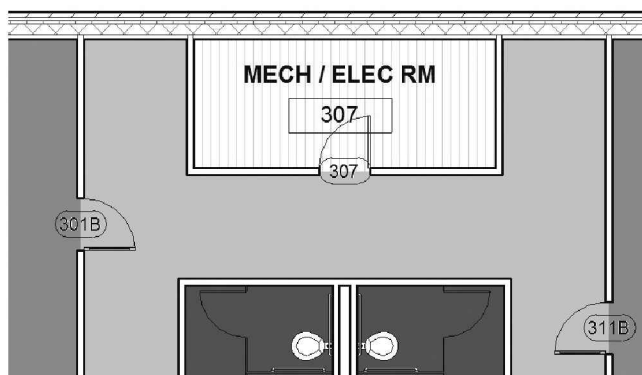
28. Now click on the *Fill Pattern* for the **MECH /ELEC RM**.

29. Click the down-arrow and select **Vertical-small** from the list.

30. Click **OK**.

Your plan should now have the new color you selected for the Atrium and a hatch pattern in the mechanical room. The color legend can also sort by *Department* (see Figure 12-3.11) in addition to many other variables common to the *Room* element. (Interior Designers can create a color filled plan based on the floor finishes, for example.)

31. **Save** your project as **ex12-4.rvt**.



TIP: In the Properties Palette you can set the Color Scheme Location to "foreground" if you do not want 3D objects like chairs and toilets to obscure the color beneath them.

Self-Exam:

The following questions can be used as a way to check your knowledge of this lesson. The answers can be found at the bottom of this page.

1. Revit is referred to as a Building Information Modeler (BIM). (T/F)
2. The area for a room is calculated when a *Room* element is placed. (T/F)
3. Revit can tag all the doors not currently tagged on a given level with the “*Tag All*” tool. (T/F)
4. You can add or remove various fields in a door or room schedule. (T/F)
5. Use the _____ tool to add color to the rooms in a plan view.

Review Questions:

The following questions may be assigned by your instructor as a way to assess your knowledge of this section. Your instructor has the answers to the review questions.

1. You can add a door tag with a leader. (T/F)
2. You can export your schedule to a file that can be used in MS Excel. (T/F)
3. A door can be deleted from the door schedule. (T/F)
4. The schedule formatting only shows up when you place the schedule on a sheet. (T/F)
5. It is not possible to add the finish information (i.e., base finish, wall finish) to multiple rooms at one time. (T/F)
6. When setting up a color scheme, you can adjust the color and the _____ pattern in the *Edit Scheme* dialog.
7. Use the _____ palette to adjust the various fields associated with each room in a plan view.
8. Most door schedules are sorted by the _____ field.
9. Revit provides access to the industry standard _____ color library.

SELF-EXAM ANSWERS:

1 – T, 2 – T, 3 – T, 4 – T, 5 – Legend