Planning and Control

Using

Microsoft® Project

365 and 2021

Including 2019, 2016 and 2013

by

Paul Eastwood Harris

DISCLAIMER

The information contained in this book is, to the best of the author's knowledge, true and correct. The author has made every effort to ensure accuracy of this publication but cannot be held responsible for any loss or damage arising from any information in this book.

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3.14 Workshop 1 – Navigation and Setting Your Project Options

Background

In this workshop you will practice navigating around the screen, set the options to allow durations to be entered in days, ensure that a useful date format is displayed and ensure other options are set so the software operates in a simpler mode than the standard defaults.

Navigation Practice

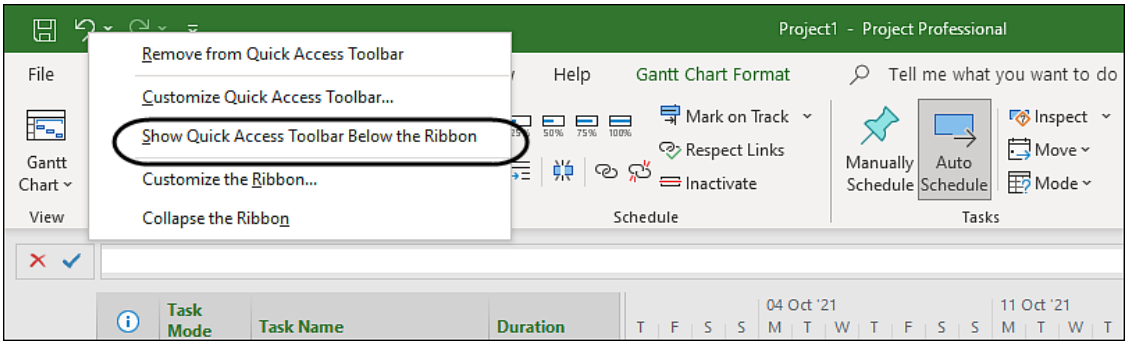
1. Start Microsoft Project and if there is a Project created go to the next line or else create a project with any **Start Date** by clicking on **Blank** Project.
2. Click on the **Ribbon Toolbar** menu at the top of the screen, work your way through the tabs and observe what commands are located on each tab, the Toolbars in Project 2013 or 2016 and 2019 or 2021 are slightly different:

Microsoft Project 2021

Microsoft Project 2016 and 2019

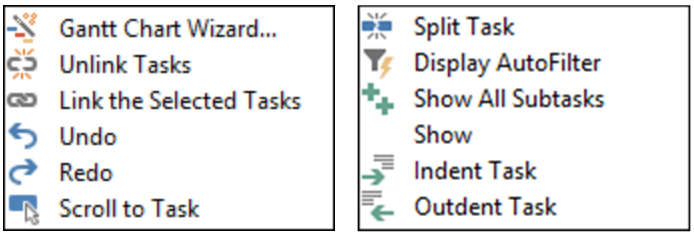
Microsoft Project 2013

3. Right-click on the **Quick Access Toolbar** and display the **Quick Access Toolbar Menu**:

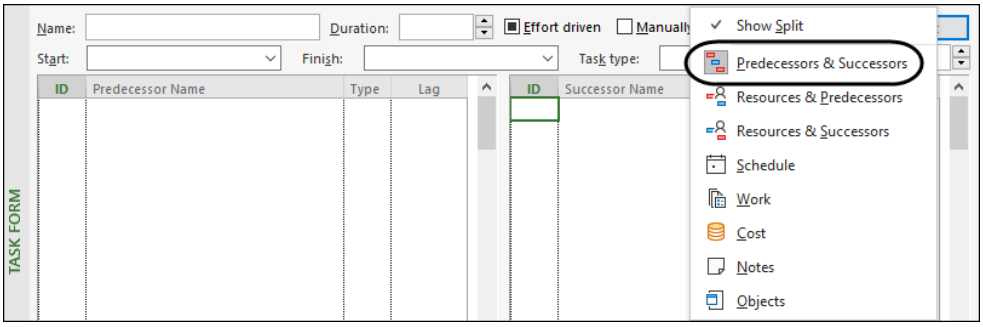


4. To allow more icons to be displayed on the Quick Access Toolbar, click on the **Show Quick Access Toolbar Below the Ribbon** to move the Quick Access Toolbar below the Ribbon Toolbar.
5. From the same menu, click on the **Customize Quick Access Toolbar…** to open the **Project Options** form. This form may also be opened by selecting **File**, **Options**. Now explore the tabs on the left-hand side of the **Project Options** form.

6. With the **Project Options** form open, click on the **Quick Access Toolbar** tab and either:
   - Open a web browser and download the Microsoft Project Quick Access Toolbar from the www.eh.com.au website Software & Downloads page, unzip it by double clicking on the file and dragging it to your Desktop and import the Toolbar using **File**, **Options**, **Quick Access Toolbar**, **Import/Export**, your Toolbar should then have may icons on it, or
   - If you are unable to download the Eastwood Harris Quick Access Toolbar, then add the following frequently used icons to the Quick Access Toolbar, if they not already displayed:



7. Select **File**, **Options** and click on the **Customize Ribbon** tab to open the **Options** form, **Customize Ribbon** tab, ensure that **Developer** tab is checked. The **Developer** tab will now be displayed on the **Ribbon** to allow access the **Organizer** form more easily, and then close the form.
8. Right-click on the **Ribbon Toolbar** to the Ribbon Toolbar menu and click on **Collapse the Ribbon** to hide the Ribbon Toolbar. When you click in the Gantt Chart area the Ribbon will minimize and more work area will be available allowing you to see more tasks. This is useful when you have a small screen.
9. Now display the **Ribbon Tool** bar again.
10. Right-click in the Gantt Chart, select **Show Split** to split the window and this will show the **Task** form in the bottom window.
11. Make the bottom window active by clicking in it.
12. **NOTE**: The text on the left-hand side of the screen is highlighted, when moving from the top pane to the bottom pane. The active pane has the highlighted text. This may be quite hard to see with some screen colors.
13. Right-click in the bottom pane and select the different menu options to see how the **Task Details** form changes with the different options. Leave this form with the **Predecessors and Successors** option displayed.

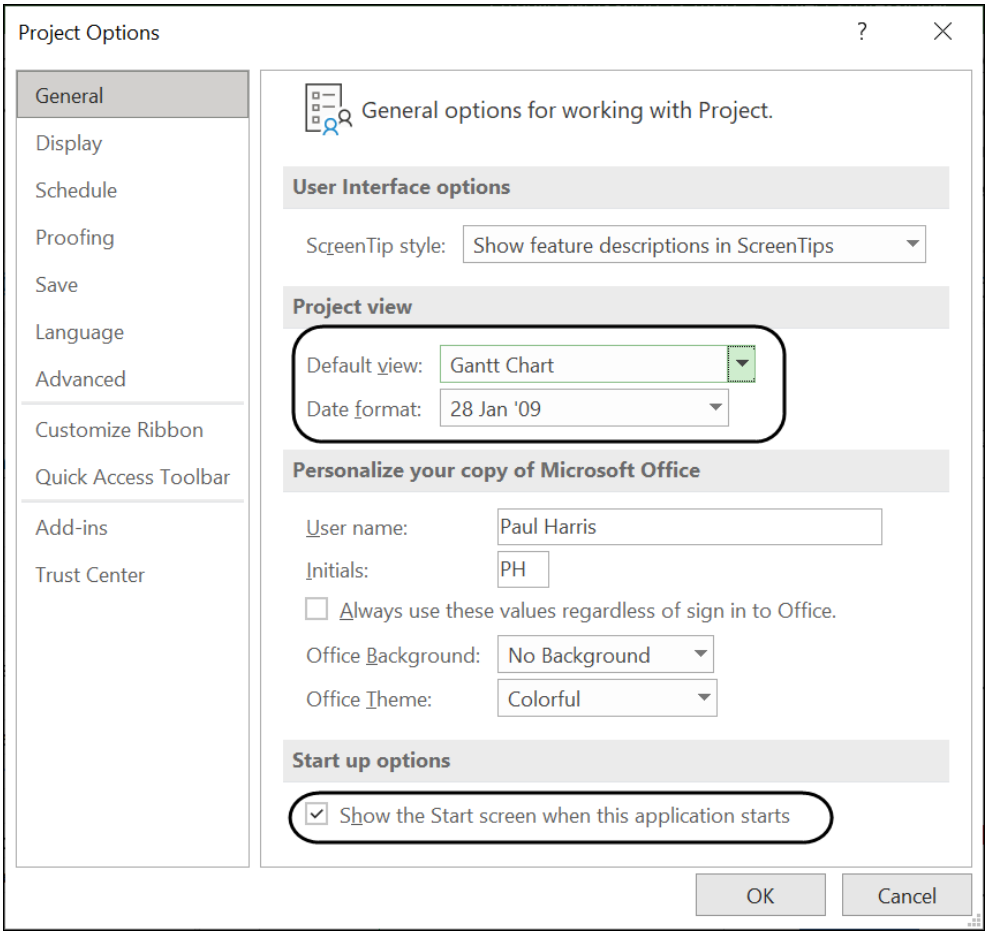


14. Activate the upper pane, by clicking in it.
15. Resize the panes by dragging the Split screen bar.
16. Close the Split screen by double-clicking on the horizontal dividing line.

17. Split the screen by double-clicking on the small bar in the bottom right-hand corner of the screen.

Assignment – Set the Options

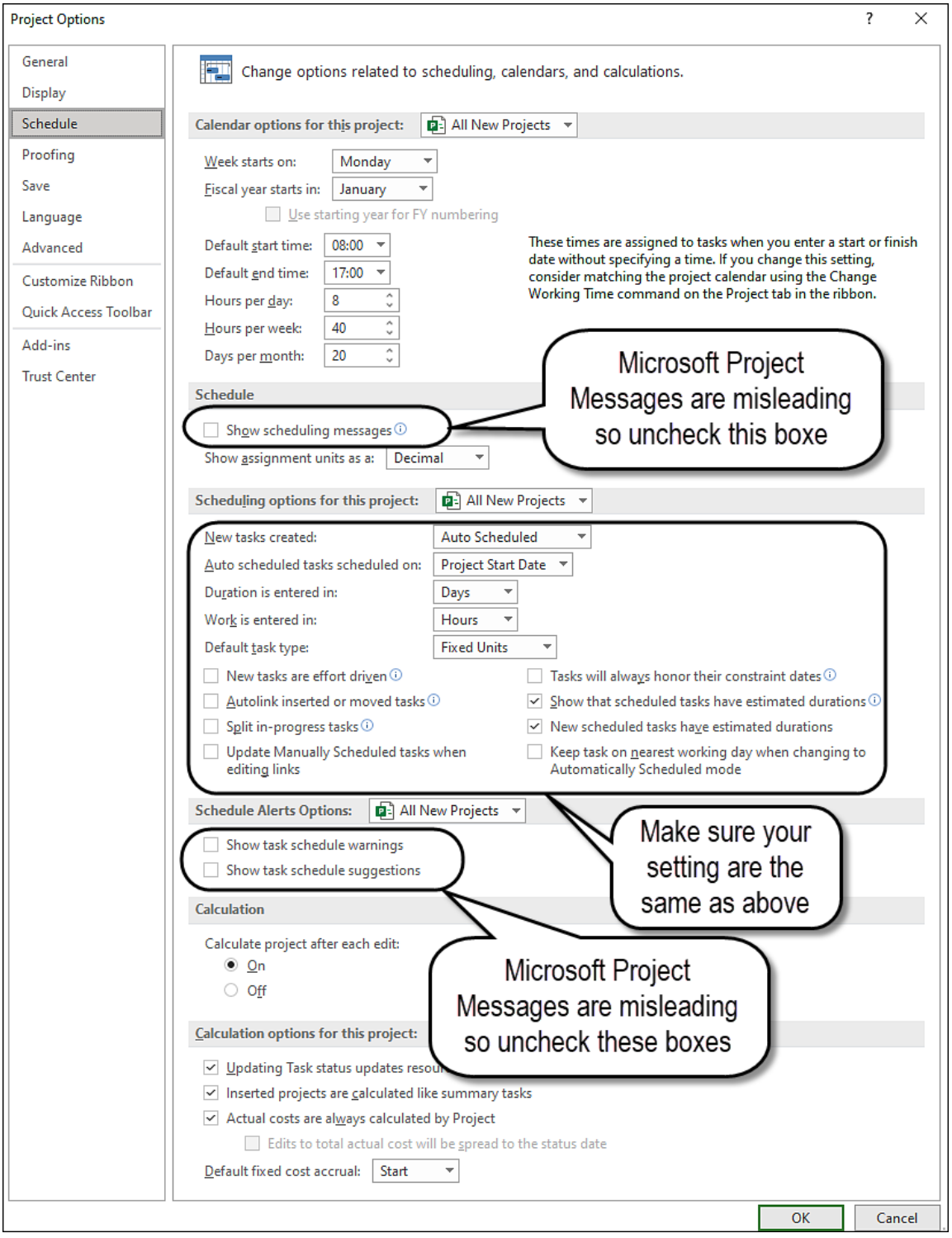
1. Close all projects by selecting **File**, **Close** and do not save any changes, you should have Microsoft Project open, but no projects in view and a blank screen when you click on the arrow in the top left hand of the screen.
2. Select **File**, **Options** to open the **Project Options** form.
3. Select **General** tab and set the **Default View** to **Gantt Chart**, then the **Timeline** will not be displayed when you start Microsoft Project.
4. Set the **Date format:** to either:
   - "**ddmmmyy**" i.e., 28 Jan '09, or
   - "**mmmddyy**" i.e., Jan 28 '09.



NOTE: The available date format will depend on your system settings, set in the **Settings**, **Region and Language in Windows 10** or **Control Panel**, **Region and Language Options** in earlier Windows operating systems. If you wish to show the time in 24-hour format then there is more information in the **OPTIONS** chapter, para 21.1.2 **Project view**.

5. Enter your name and initials, these will not be available from **Print Preview**.
6. Check the **Start up options**, **Show the Start screen when this application starts** then the **Start Screen** will be displayed when you start Microsoft Project and you will the software will not create a **Blank Project** when it starts.
7. Select the **Display** tab and check that **ALL** check boxes are checked.

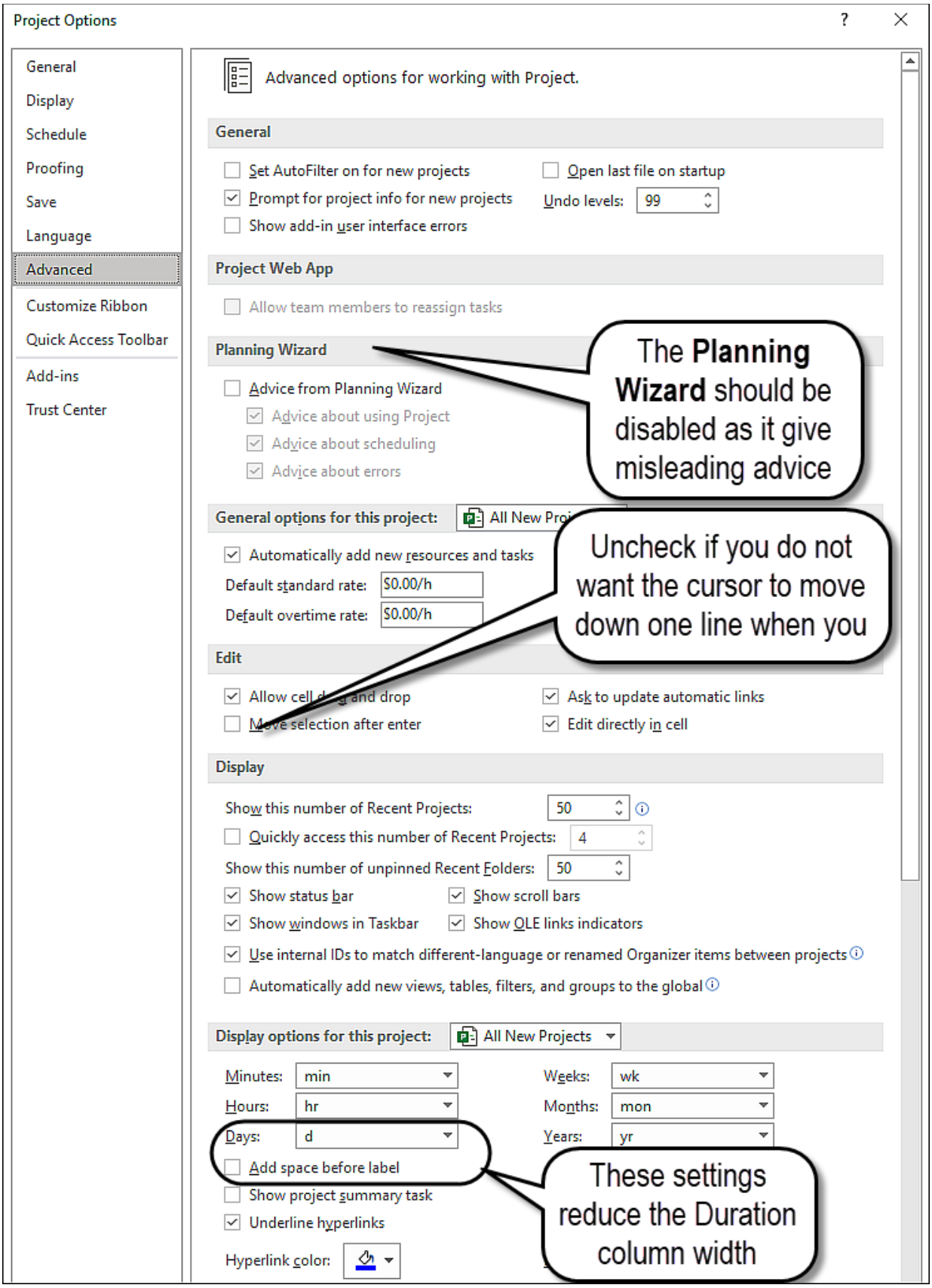
8. Select the **Schedule** tab and set the **Schedule Options** for your project as per the picture below:



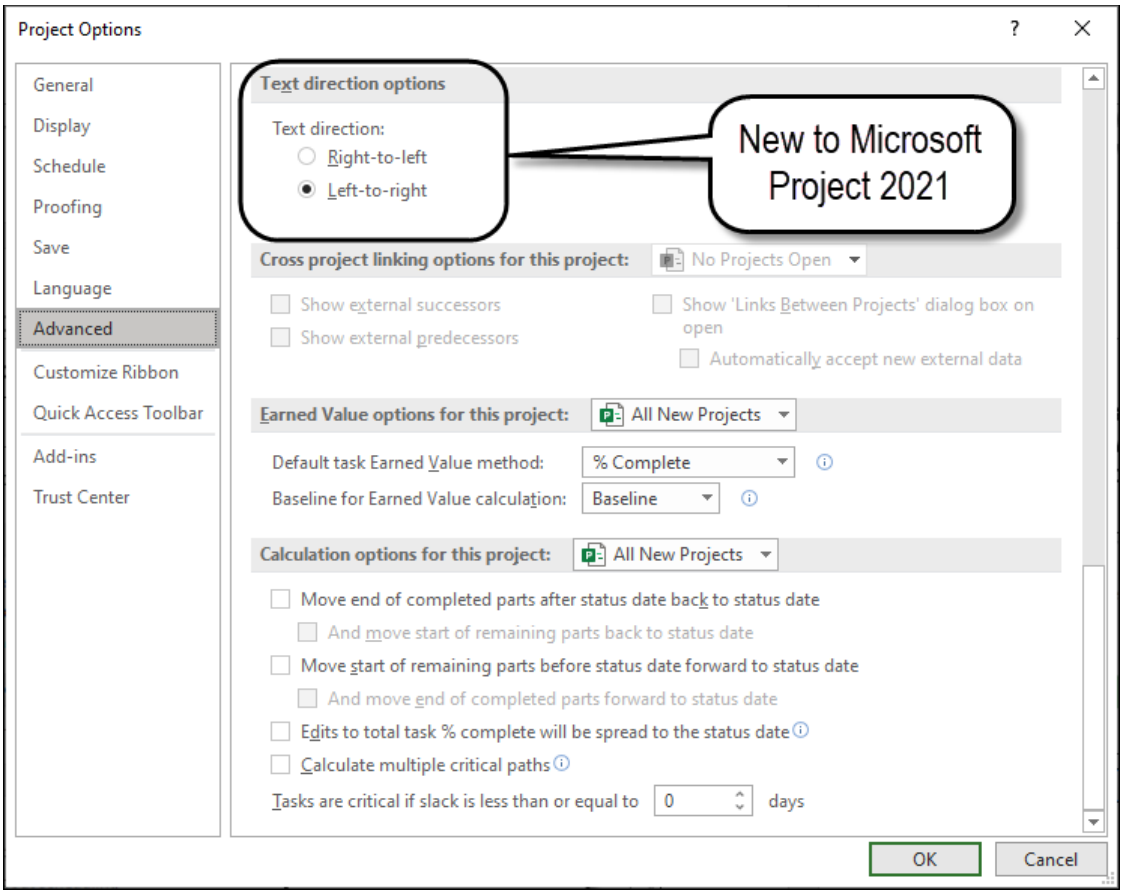
NOTE: The picture above shows the time in 24 hour format, if you wish to show the time in 24 hour format then you will need to change your system settings in **Settings**, **Region and Language in Windows 10** (or **Control Panel**, **Region and Language Options** in earlier Windows operating systems). There is more information in the **OPTIONS** chapter, para 21.1.2 Project view.

9. More details about the settings in the form above, and how they operate, are available in the **OPTIONS** chapter.

10. Select the **Advanced** tab and set options as per the diagram below:

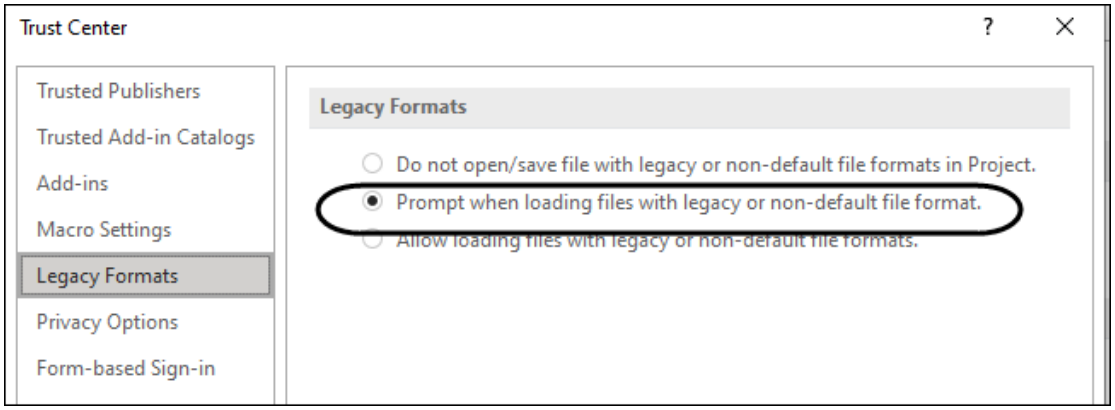


Continued over the page.



11. The **Text direction** command is new to Microsoft Project 2021 but the author could not find any information about this command or how it worked in the Help file. Experimentation found that it only affected the direction of the text in the dialogue box drop down fields. See para 21.7.7 for more information.

12. Go to the **Trust Center**, **Trust Center Settings…**, **Legacy Formats** and select **Prompt when loading files with legacy or non-default file format**. This option will allow you to open files created in earlier versions of Microsoft Project but will warn you that it is not a Microsoft Project 2010 or later file format. This option is not important anymore.



13. Select OK twice to close the **Project Options** form.

14. Close Microsoft Project to save your settings and reopen.

4.11 Workshop 2 - Creating a Project

Background

You are an employee of OzBuild Ltd and are responsible for planning the bid preparation required to ensure that a response to an RFQ (Request For Quote) from Wilson International is submitted on time. Your company has completed the Startup Phase of the project, the Bid Strategy has been developed, and approval to bid for this project has been given. You have been requested to plan the project Initiation Phase, where the Bid will be produced and submitted to the customer. You have been advised that the RFQ will not be available until the 09 December 2024. The Bid will comprise the following deliverables/products:

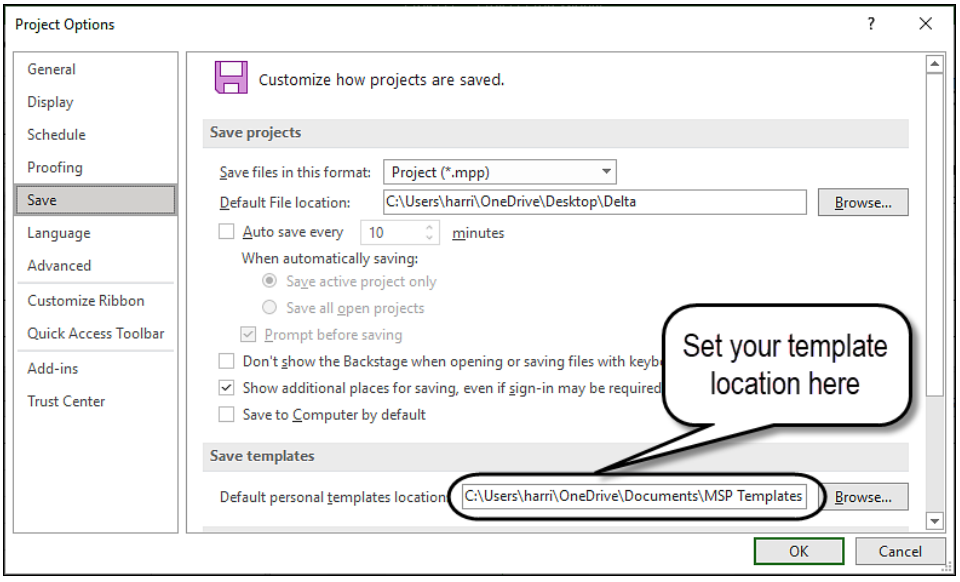
- Technical Specification
- Delivery Plan
- Bid Document.

These workshops will take you through the process of creating a schedule for the development of the Bid, which will be submitted in response to the RFQ.

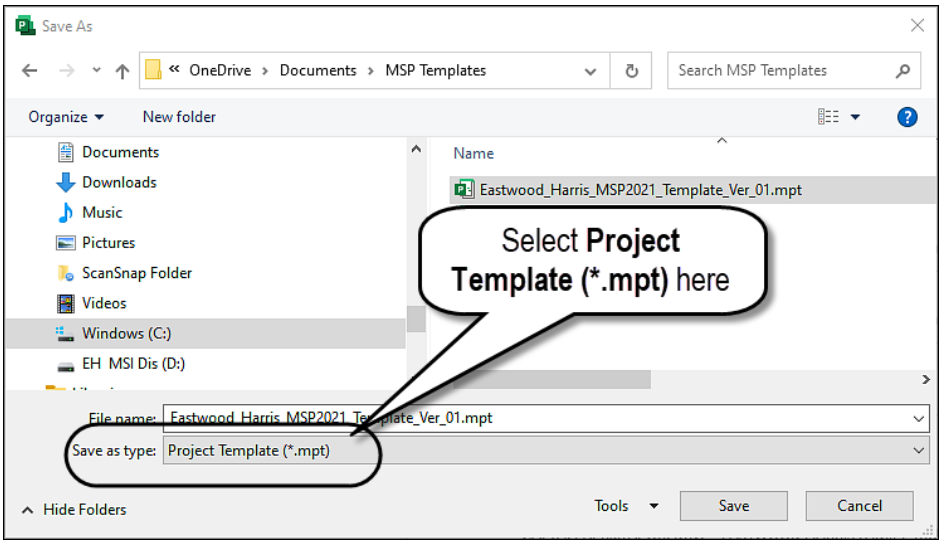
A project template in *.mpt format has been loaded on the Eastwood Harris web site at www.eh.com.au Software Downloads page that has several of the issues with Microsoft Project defaults, other settings and formatting issues resolved. You should download this file, open it, save it as a template and use this file instead of the **Blank Project** option.

Assignment

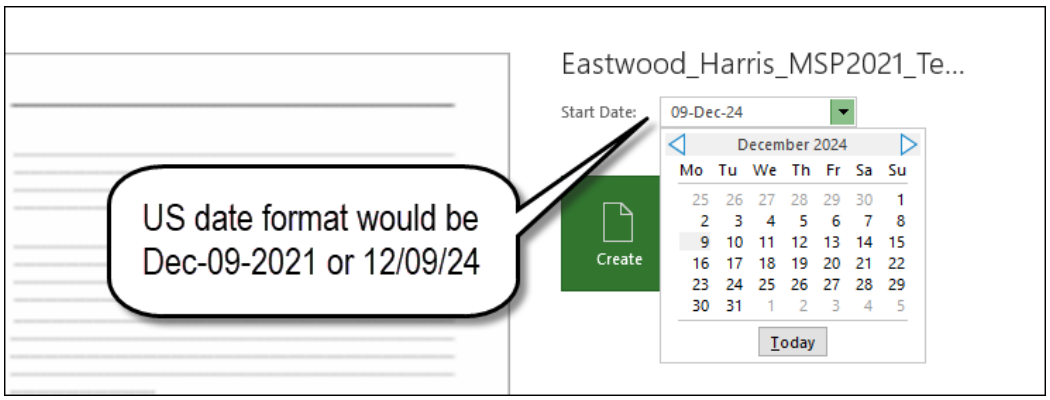
1. Create or select a directory to save your Microsoft Project templates in Windows Explorer and copy the directory path.
2. Select **File**, **Options** to open the **Project Options** form.
3. Select the **Save** tab and set the directory that your Microsoft Project Templates are to be saved:



4. Download the Microsoft Project 2021 template from www.eh.com.au - **Software Downloads** page.
5. Unzip it by double clicking on the zip file and dragging the file to your desktop.
6. Double click on it to open the file with Microsoft Project or select **File**, **Open** and select *.mpt format to open it.
7. **NOTE**: **Manually Scheduled** tasks as a will now displayed with a turquoise color bar, as shown in the template and if you ever see one then change it to an **Auto Scheduled** task.
8. Delete these tasks if you do not want to see them each time you create a new project.
9. Select **File**, **Save As**, **Computer** and **Browse**, then, select from the drop-down box to save as type **Microsoft Project template (*.mpt)**. Microsoft will default to the directory you have selected as a Template directory, so save the file in the Template Directory with your chosen file name.

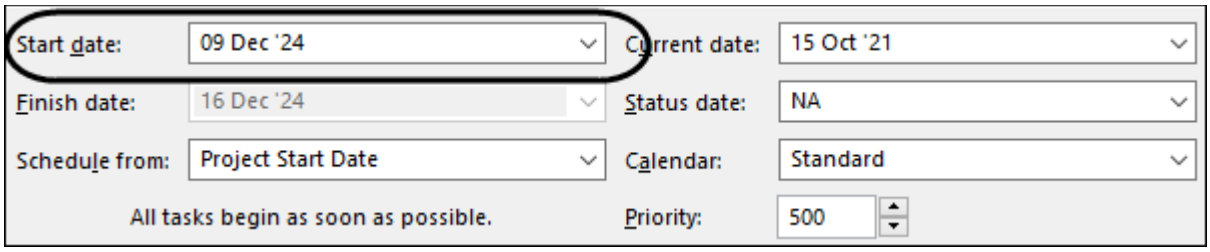


10. Select the defaults at the **Save As Template** form and click **Save**.
11. Close the Eastwood Harris template file and any other projects that may be open.
12. Then create a new project using this template, with the command **File**, **New, Personal** and select the Eastwood Harris template from below **Personal**.
13. If you click once on the template, you will get the screen shown below, where you are able to set the **Project Start Date.** Enter 09 Dec 24, then click on **Create**:



14. If you double clicked on the template, the project will have opened in the Gantt Chart view and you will need to set the **Start date:** to **Mon 09 Dec 24** using the **Project**, **Properties** group, **Project Information** form, but do not edit the **Current date:** Press the OK button to save the input data.

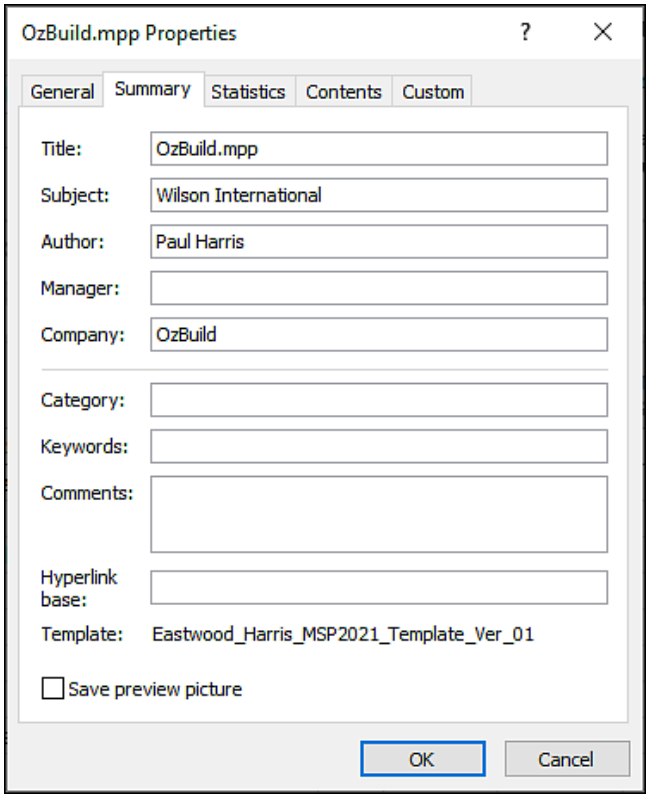
15. Now check again the project **Start date in** the **Project**, **Properties** group, **Project Information** form:



NOTE: The date format will be displayed according to a combination of the Microsoft Project Options settings and your computer system default settings. You may adjust your date format so you are able to see the day month and year using the **File**, **Options**, **General** form. The order of the day, month and year is set in the **Settings**, **Region and Language in Windows 10 (**or **Control Panel**, **Region and Language Options** in earlier Windows operating systems)

18. **Save** your project as **OzBuild** in a location of your choice, such as the desktop.

19. Add the following project information in the **File**, **Info**, **Project Information** (Drop down box on the top right-hand side of the screen), **Advanced Properties** form.



20. **Save** your project as **OzBuild** again.

NOTE: Completed workshops and PowerPoint Instructors slide presentations may be downloaded from the Eastwood Harris web site at www.eh.com.au. Please contact the author Paul E Harris email: harrispe@eh.com.au.

5.9 Workshop 3 - Maintaining the Calendars

Background

The normal working week at OzBuild Ltd is Monday to Friday, 8 hours per day, excluding Public Holidays. The installation staff works Monday to Saturday, 8 hours per day. The company observes the following holidays:

	2022	2023	2024	2025
New Year's Day	3 January*	2 January*	1 January	1 January
Easter	15 - 18 April	7 - 10 April	29 March- 1 April	18 - 21 April
Christmas Day	26 December*	25 December	25 December	25 December
Boxing Day	27 December*	26 December	26 December	26 December

* These holidays occur on a weekend and the dates in the table above have been moved to the next weekday.

NOTE: Boxing Day, the day after Christmas, is a holiday celebrated in many countries.

Assignment

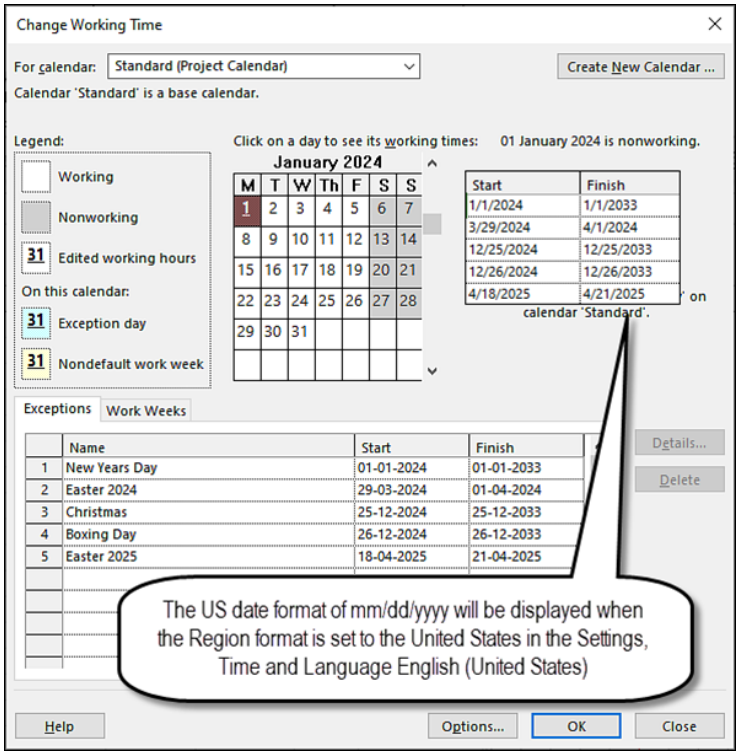
1. Edit the **Standard Calendar** to ensure that only the holidays above in **2024 and 2025** are present by selecting **Project**, **Properties** group, **Change Working Time**, see pictures below.
   NOTE: You do not need holidays in 2022 and 2023, these are for information only
2. Make the following annual holidays repeating, say for 10 years when you set the holidays in 2024, by clicking on the Details... button after adding the first holiday:
   - New Year's Day 1 January
   - Christmas Day 25 December
   - Boxing Day 26 December

   NOTE: When creating Easter 2024 select 29 March 2024 in the calendar, add the title and then change the finish to 1 April 2024
3. Select OK to exit the **Calendar** form to save the calendar edits.
4. Create a new calendar titled **6 Day Week** for the 6-day week by:
   - Copying the **Standard (Project Calendar)** using the Create New Calendar ... button, then,
   - Select the **Work Weeks** tab, click on the Details... tab and make Saturdays workdays with the same working hours as the other working days.
5. If a holiday was to fall on a weekend then the next weekday will have to be manually assigned as a nonworking day.
6. Save your **OzBuild Bid** project.

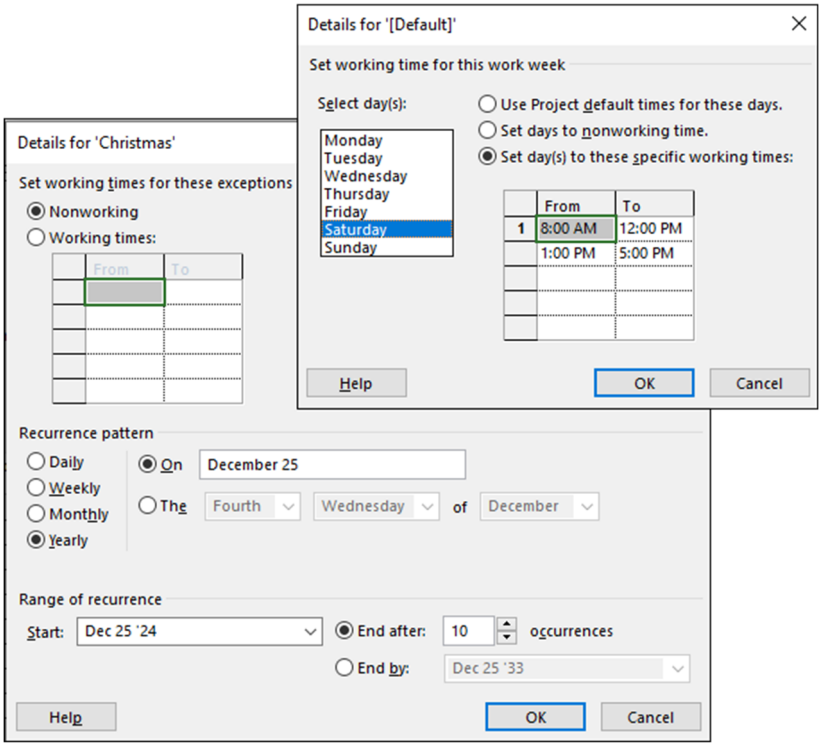
continued……

Answers to Workshop 3

In the edited **Standard (Project Calendar)** of the **Change Working Time** form below, the dates are displayed in the ROW (Rest of World) date format of dd/mm/yyyy. Computers configured with the US date format will see the dates in the mm/dd/yyyy format.



An example of setting Christmas Day as recurring and setting Saturday as a Workday:



6.13 Workshop 4 - Adding Tasks

Background

If you do not have the default Microsoft Project settings installed on your computer, or you are not using the Eastwood Harris template, then you may not have the same results as displayed in these workshops.

It is simpler to teach Microsoft Project by showing how to enter the tasks first and then creating the summary tasks to represent the WBS Nodes or Products or Deliverables. Once a user understands the process, then the tasks and summary tasks and detailed tasks may be entered in any order.

Assignment

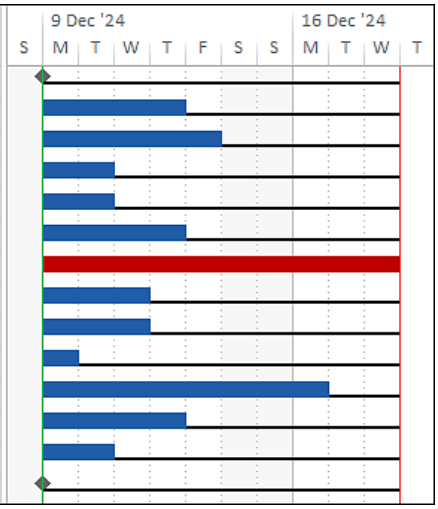
1. We will assume that the Planning Process is complete and we are to produce a schedule with several tasks for each Product (Deliverable) in the Work Breakdown Structure - WBS.
2. Use the columns to enter the Name and Duration of the tasks as below.
   - The Estimate and Schedule will be completed by site personnel who work 6 days/ week.
   - Assign the 6-Day Working Week calendar using the **Task Information** form **Advanced** tab to Tasks 8 and Task 9.
   - Double-click on the task to open this form and select the **Advanced** tab, **Calendar** drop-down box to assign the Task Calendar.
3. A task will become a milestone when assigned a zero duration.

ID	Task Name	Duration	Task Calendar
1	Approval to Bid	0 days	
2	Determine Installation Requirements	4 days	
3	Create Technical Specification	5 days	
4	Identify Supplier Components	2 days	
5	Validate Technical Specification	2 days	
6	Document Delivery Methodology	4 days	
7	Obtain Quotes from Suppliers	8 days	
8	Calculate the Bid Estimate	3 days	Assign the 6 Days Working Week
9	Create the Project Schedule	3 days	Assign the 6 Days Working Week
10	Review the Delivery Plan	1 day	
11	Create Draft of Bid Document	6 days	
12	Review Bid Document	4 days	
13	Finalize and Submit Bid Document	2 days	
14	Bid Document Submitted	0 days	

continued…

4. Your schedule should look like this using the Eastwood Harris Template:

	Task Name	Dur	Start	Finish	Total Slack
1	Approval to Bid	0d	9 Dec '24	9 Dec '24	8d
2	Determine Installation Requireme	4d	9 Dec '24	12 Dec '24	4d
3	Create Technical Specification	5d	9 Dec '24	13 Dec '24	3d
4	Identify Supplier Components	2d	9 Dec '24	10 Dec '24	6d
5	Validate Technical Specification	2d	9 Dec '24	10 Dec '24	6d
6	Document Delivery Methodology	4d	9 Dec '24	12 Dec '24	4d
7	Obtain Quotes from Suppliers	8d	9 Dec '24	18 Dec '24	0d
8	Calculate the Bid Estimate	3d	9 Dec '24	11 Dec '24	6d
9	Create the Project Schedule	3d	9 Dec '24	11 Dec '24	6d
10	Review the Delivery Plan	1d	9 Dec '24	9 Dec '24	7d
11	Create Draft of Bid Document	6d	9 Dec '24	16 Dec '24	2d
12	Review Bid Document	4d	9 Dec '24	12 Dec '24	4d
13	Finalize and Submit Bid Document	2d	9 Dec '24	10 Dec '24	6d
14	Bid Document Submitted	0d	9 Dec '24	9 Dec '24	8d



NOTES:

1. The icon in the **Information** column on the left-hand side indicates that Tasks 8 and 9 have a non-standard calendar, which is the **6-Day Working Week** calendar set in this workshop.
2. The Eastwood Harris template does not display the **Task Mode** column, but when a task is made into a **Manually Scheduled** task the bar will go a turquoise color.
3. All tasks should be assigned the **Task Mode** of **Auto Scheduled**. If the task bars are not a solid blue color, except Task 7, which is critical and should be a solid red color, then they are **Manually Scheduled** and you have not set the options correctly in the Project Options.
4. Save your **OzBuild Bid** project.

7.7 Workshop 5 - Entering Summary Tasks

Background

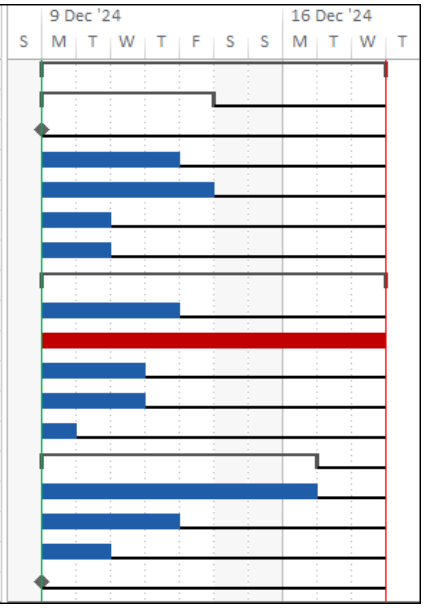
The summary tasks may be used to represent a Project, Deliverables/Products, WBS Nodes, Phase, Stages or Work Packages.

We will add summary tasks to represent the Initiation Phase and Deliverables.

Assignment

1. Display the **Project Summary Task** by checking the **Gant Chart Format**, **Show/Hide** group, **Project Summary Task**. This command is also available in the **File**, **Options**, **Advanced** tab.
2. Observe how the **Project Summary Task** is formatted, it will be **Bold** and have a Task ID of "0" and the **Task Name** adopted from the **Project Information** form.
3. Hide the **Project Summary Task** by repeating para 1 and unchecking or using the undo command**,** and we will create an Outline Level for the Project summary task.
4. Create an Outline Level 1 for Phase entitled **Bid for Facility Extension** and
5. Create an Outline Level 2 for each of the three Products:
   - **Technical Specification**
   - **Delivery Plan**
   - **Bid Document**
6. Try using the various methods for indenting and outdenting tasks.
7. Your schedule should look like this with the Eastwood Harris template:

	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**8d**	**9 Dec '24**	**18 Dec '24**	**0d**
2	**Technical Specification**	**5d**	**9 Dec '24**	**13 Dec '24**	**3d**
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	8d
4	Determine Installation Requ	4d	9 Dec '24	12 Dec '24	4d
5	Create Technical Specificatio	5d	9 Dec '24	13 Dec '24	3d
6	Identify Supplier Componen	2d	9 Dec '24	10 Dec '24	6d
7	Validate Technical Specificat	2d	9 Dec '24	10 Dec '24	6d
8	**Delivery Plan**	**8d**	**9 Dec '24**	**18 Dec '24**	**0d**
9	Document Delivery Methodc	4d	9 Dec '24	12 Dec '24	4d
10	Obtain Quotes from Supplier	8d	9 Dec '24	18 Dec '24	0d
11	Calculate the Bid Estimate	3d	9 Dec '24	11 Dec '24	6d
12	Create the Project Schedule	3d	9 Dec '24	11 Dec '24	6d
13	Review the Delivery Plan	1d	9 Dec '24	9 Dec '24	7d
14	**Bid Document**	**6d**	**9 Dec '24**	**16 Dec '24**	**2d**
15	Create Draft of Bid Documen	6d	9 Dec '24	16 Dec '24	2d
16	Review Bid Document	4d	9 Dec '24	12 Dec '24	4d
17	Finalize and Submit Bid Docu	2d	9 Dec '24	10 Dec '24	6d
18	Bid Document Submitted	0d	9 Dec '24	9 Dec '24	8d



8. Save your **OzBuild Bid** project.

8.10 Workshop 6 - Formatting the Bar Chart

Background

Management has received your draft report and requests some changes to the presentation.

If you are using the Eastwood Harris template then most of the formatting requirements you need to make are made in the template in the **Gant Chart Inc Total Float and Neg Float** view.

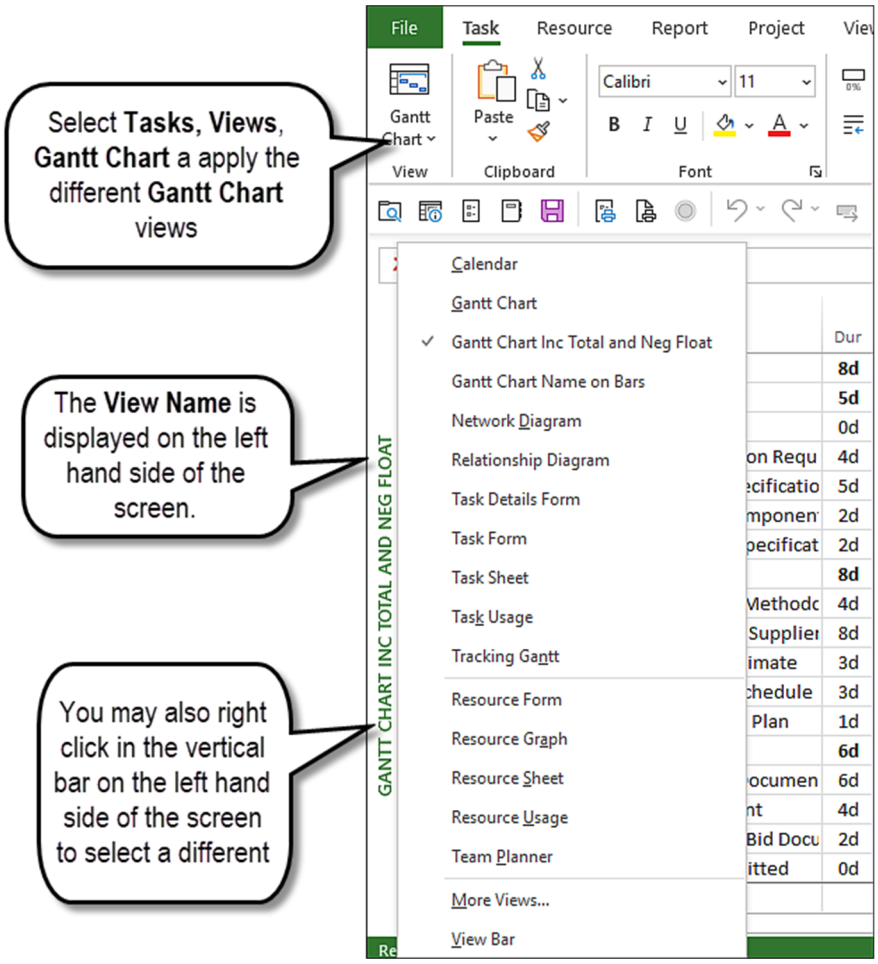
The following attributes have been changed from the standard settings:

- The **File**, **Options**, **Schedule** and **Advanced** have been edited in line with the author's recommendations in his book.
- The template also has two new Views titled **Gantt Chart Inc Negative and Total Float** and **Gantt Chart Name on Bars**.
- **Columns:** Total Float added and Resources removed from the **Gant Chart Inc Total Float and Neg Float** view.
- **Grid lines:** Middle and Bottom Timescale Tiers, Project Start, Project Finish and Status Date displayed and Current Date removed.
- **Bars:**
  - Total Float (Total Slack) and Negative Float added and all text removed from all bars.
  - Bar display in the Legend: Many bars have been hidden in the Legend (but not deleted) by placing an **"*"** at the front of the Bar description in the Bars form.
  - The bars have been formatted with brighter colors, a dark red and dark blue.
- **Printing:** some project information is drawn from the **Project Information**, **Advanced Properties** form.
- All project data has been removed from the **Legend** so the **Legend** may be hidden if not required, thus leaving all project data displayed if the **Legend** is hidden.
- A **Custom Field** has been added to the **Tracking Table** titled **Status Check** that indicates when tasks have been updated correctly.
  NOTE: You must set the **Status Date** in the **Project Information** form for this field to calculate correctly and comments against summary tasks must be ignored.

Assignment

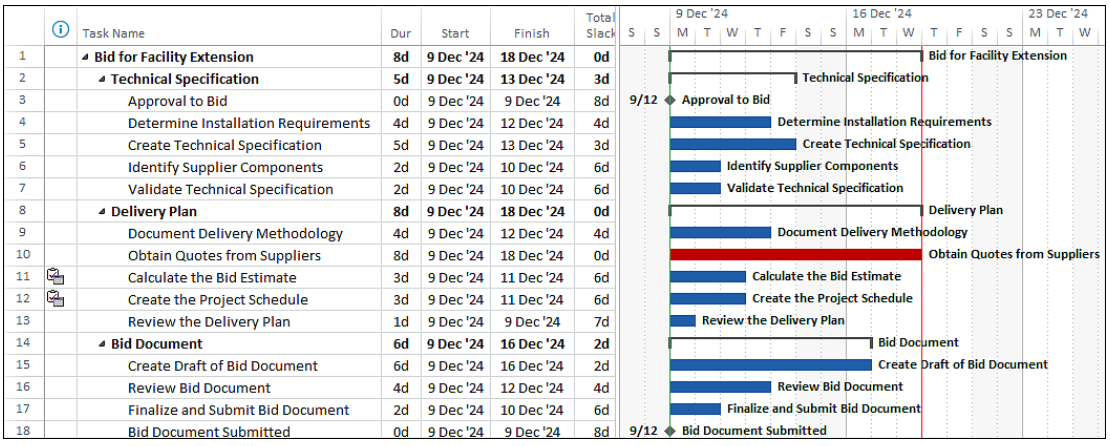
Format your schedule as follows:

1. Select **Task**, **Views, Gantt Chart**, **Custom** and select **Gant Chart Inc Total Float and Neg Float** to apply this view.



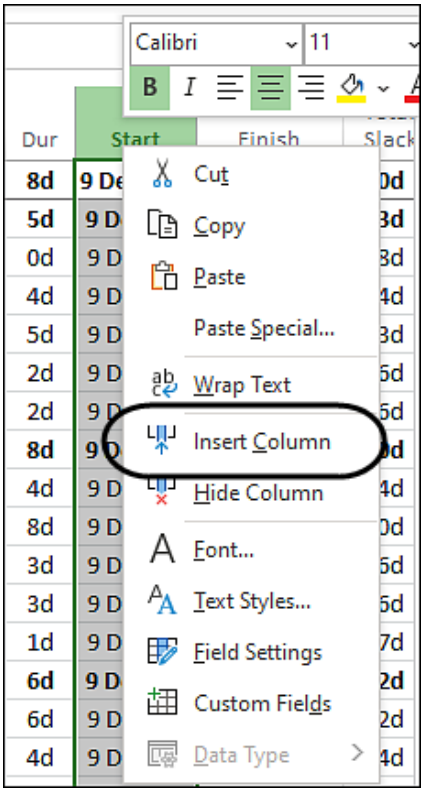
2. Then apply the **Gantt Chart Name on Bars** view and then the **Gantt Chart,**..
   NOTE: You will need to use the **Scroll to task** command to see the tasks.

3. Your answer show be as per the pictures below:



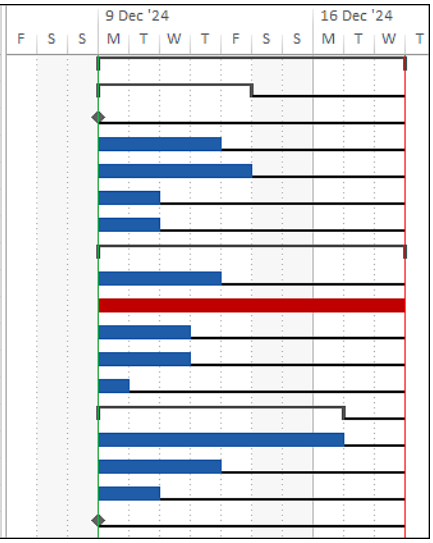
	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**8d**	**9 Dec '24**	**18 Dec '24**	**0d**
2	**Technical Specification**	**5d**	**9 Dec '24**	**13 Dec '24**	**3d**
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	8d
4	Determine Installation Requirements	4d	9 Dec '24	12 Dec '24	4d
5	Create Technical Specification	5d	9 Dec '24	13 Dec '24	3d
6	Identify Supplier Components	2d	9 Dec '24	10 Dec '24	6d
7	Validate Technical Specification	2d	9 Dec '24	10 Dec '24	6d
8	**Delivery Plan**	**8d**	**9 Dec '24**	**18 Dec '24**	**0d**
9	Document Delivery Methodology	4d	9 Dec '24	12 Dec '24	4d
10	Obtain Quotes from Suppliers	8d	9 Dec '24	18 Dec '24	0d
11	Calculate the Bid Estimate	3d	9 Dec '24	11 Dec '24	6d
12	Create the Project Schedule	3d	9 Dec '24	11 Dec '24	6d
13	Review the Delivery Plan	1d	9 Dec '24	9 Dec '24	7d
14	**Bid Document**	**6d**	**9 Dec '24**	**16 Dec '24**	**2d**
15	Create Draft of Bid Document	6d	9 Dec '24	16 Dec '24	2d
16	Review Bid Document	4d	9 Dec '24	12 Dec '24	4d
17	Finalize and Submit Bid Document	2d	9 Dec '24	10 Dec '24	6d
18	Bid Document Submitted	0d	9 Dec '24	9 Dec '24	8d

4. Apply the **Gant Chart** view.
5. Ensure that the **Entry Table** is displayed by selecting **View**, **Data** group, **Tables**, **Entry** table.
6. Apply the **Costs** table,
7. Then apply the **Tracking** table, you should see the **Status Check** column,
8. Reapplying the **Gant Chart Inc Total Float and Neg Float** view,
9. Insert the **Task Calendar** column between **Duration** and **Start** columns by using the right clicking on the Start column and selecting **Task Calendar**:



10. Your answer show be as per the pictures below:

		Task Name	Dur	Task Calendar	Start	Finish	Total Slack
1		**Bid for Facility Extension**	**8d**	**None**	**9 Dec '24**	**18 Dec '24**	**0d**
2		**Technical Specification**	**5d**	**None**	**9 Dec '24**	**13 Dec '24**	**3d**
3		Approval to Bid	0d	None	9 Dec '24	9 Dec '24	8d
4		Determine Installation Requ	4d	None	9 Dec '24	12 Dec '24	4d
5		Create Technical Specificatio	5d	None	9 Dec '24	13 Dec '24	3d
6		Identify Supplier Componen	2d	None	9 Dec '24	10 Dec '24	6d
7		Validate Technical Specificat	2d	None	9 Dec '24	10 Dec '24	6d
8		**Delivery Plan**	**8d**	**None**	**9 Dec '24**	**18 Dec '24**	**0d**
9		Document Delivery Methodc	4d	None	9 Dec '24	12 Dec '24	4d
10		Obtain Quotes from Supplier	8d	None	9 Dec '24	18 Dec '24	0d
11		Calculate the Bid Estimate	3d	6 Day Week	9 Dec '24	11 Dec '24	6d
12		Create the Project Schedule	3d	6 Day Week	9 Dec '24	11 Dec '24	6d
13		Review the Delivery Plan	1d	None	9 Dec '24	9 Dec '24	7d
14		**Bid Document**	**6d**	**None**	**9 Dec '24**	**16 Dec '24**	**2d**
15		Create Draft of Bid Documen	6d	None	9 Dec '24	16 Dec '24	2d
16		Review Bid Document	4d	None	9 Dec '24	12 Dec '24	4d
17		Finalize and Submit Bid Docu	2d	None	9 Dec '24	10 Dec '24	6d
18		Bid Document Submitted	0d	None	9 Dec '24	9 Dec '24	8d



11. Test the **Zoom** functions.

    NOTE: Add the **Zoom In** and **Zoom Out** icons to the **Quick Access Toolbar** if these icons are not present on your **Toolbar**.
12. Leave the scaling at months and weeks and set the **Size** in the **Timescale** form to 100%.
13. Save your **OzBuild Bid** project.

9.6 Workshop 7- Adding the Relationships

Background

You have determined the logical sequence of tasks, so you may now enter the relationships.

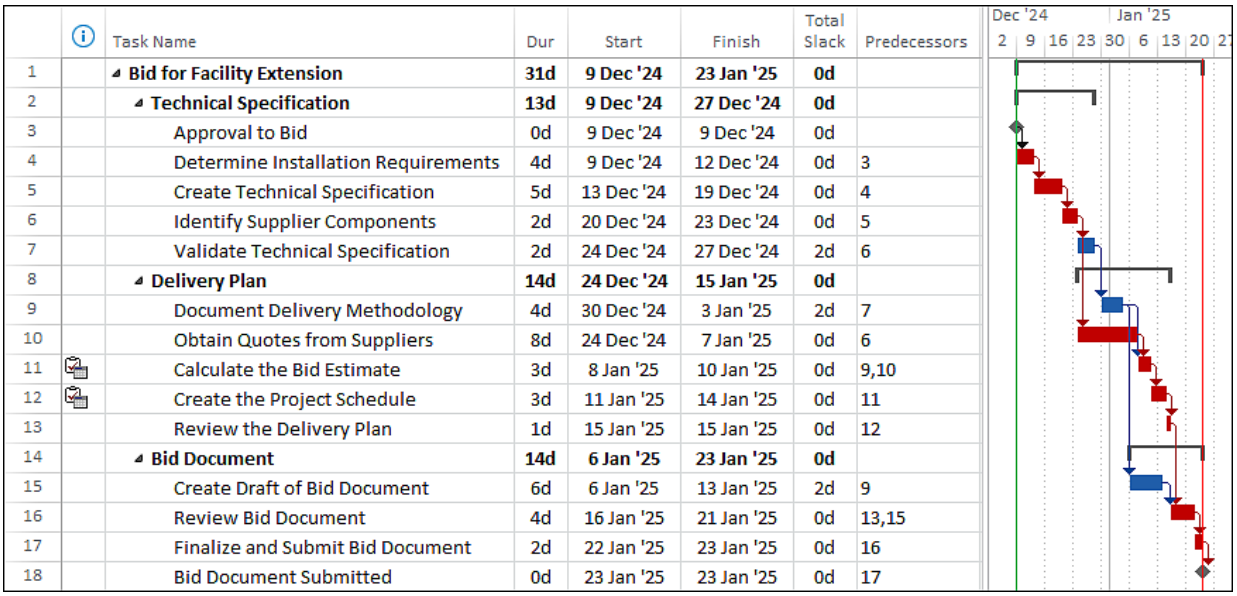
Assignment

1. Ensure you have the last workshop file open.
2. Apply the **Gant Chart Inc Total Float and Neg Float** view.
3. Right click on the **Select All** button and apply the **Entry** table.
4. Remove the **Task Calendar** column.
5. Add the **Predecessor** and **Total Slack** columns if they are not displayed.
6. Input the logic below using several of the methods detailed in this chapter.

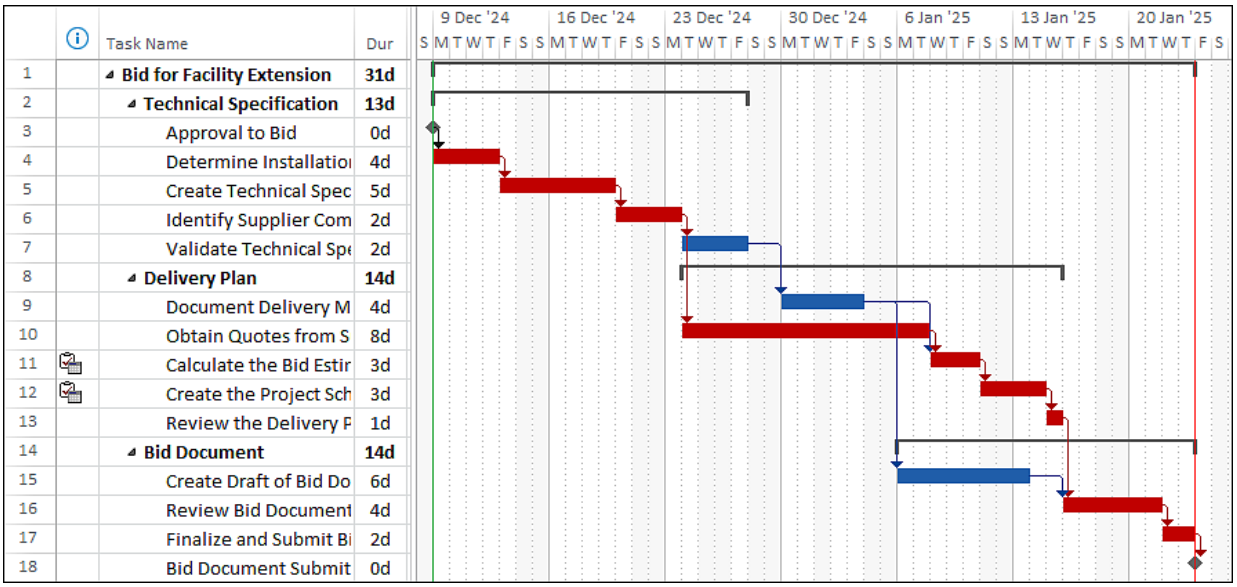
	Task Name	Predecessors
1	**Bid For Facility Extension**	
2	**Technical Specification**	
3	Approval to Bid	
4	Determine Installation Requirements	3
5	Create Technical Specification	4
6	Identify Supplier Components	5
7	Validate Technical Specification	6
8	**Delivery Plan**	
9	Document Delivery Methodology	7
10	Obtain Quotes from Suppliers	6
11	Calculate the Bid Estimate	9,10
12	Create the Project Schedule	11
13	Review the Delivery Plan	12
14	**Bid Document**	
15	Create Draft of Bid Document	9
16	Review Bid Document	13,15
17	Finalize and Submit Bid Document	16
18	Bid Document Submitted	17

7. Use the **Zoom Out** command to set the Timescale to Week and Months
8. Add the **Gantt Chart Format**, **Format** group, **Layout** icon to the **Quick Access Toolbar** if it is not on the Toolbar.
9. Hide and display the Logic Links using **Gantt Chart Format**, **Format** group, **Layout,** to open the **Layout** form (If your links are displayed by default, try hiding and then displaying them again.)

10. Check your results against the pictures below:



	Task Name	Dur	Start	Finish	Total Slack	Predecessors
1	**Bid for Facility Extension**	**31d**	**9 Dec '24**	**23 Jan '25**	**0d**	
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**0d**	
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	0d	
4	Determine Installation Requirements	4d	9 Dec '24	12 Dec '24	0d	3
5	Create Technical Specification	5d	13 Dec '24	19 Dec '24	0d	4
6	Identify Supplier Components	2d	20 Dec '24	23 Dec '24	0d	5
7	Validate Technical Specification	2d	24 Dec '24	27 Dec '24	2d	6
8	**Delivery Plan**	**14d**	**24 Dec '24**	**15 Jan '25**	**0d**	
9	Document Delivery Methodology	4d	30 Dec '24	3 Jan '25	2d	7
10	Obtain Quotes from Suppliers	8d	24 Dec '24	7 Jan '25	0d	6
11	Calculate the Bid Estimate	3d	8 Jan '25	10 Jan '25	0d	9,10
12	Create the Project Schedule	3d	11 Jan '25	14 Jan '25	0d	11
13	Review the Delivery Plan	1d	15 Jan '25	15 Jan '25	0d	12
14	**Bid Document**	**14d**	**6 Jan '25**	**23 Jan '25**	**0d**	
15	Create Draft of Bid Document	6d	6 Jan '25	13 Jan '25	2d	9
16	Review Bid Document	4d	16 Jan '25	21 Jan '25	0d	13,15
17	Finalize and Submit Bid Document	2d	22 Jan '25	23 Jan '25	0d	16
18	Bid Document Submitted	0d	23 Jan '25	23 Jan '25	0d	17



	Task Name	Dur
1	**Bid for Facility Extension**	**31d**
2	**Technical Specification**	**13d**
3	Approval to Bid	0d
4	Determine Installatio	4d
5	Create Technical Spec	5d
6	Identify Supplier Com	2d
7	Validate Technical Spe	2d
8	**Delivery Plan**	**14d**
9	Document Delivery M	4d
10	Obtain Quotes from S	8d
11	Calculate the Bid Estir	3d
12	Create the Project Sch	3d
13	Review the Delivery P	1d
14	**Bid Document**	**14d**
15	Create Draft of Bid Do	6d
16	Review Bid Document	4d
17	Finalize and Submit Bi	2d
18	Bid Document Submit	0d

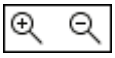
11. Save your **OzBuild Bid** project.

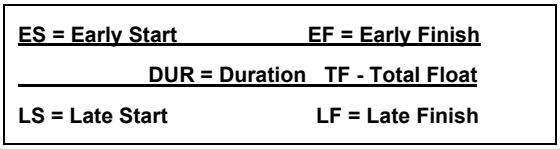
10.8 Workshop 8 - Scheduling Calculations

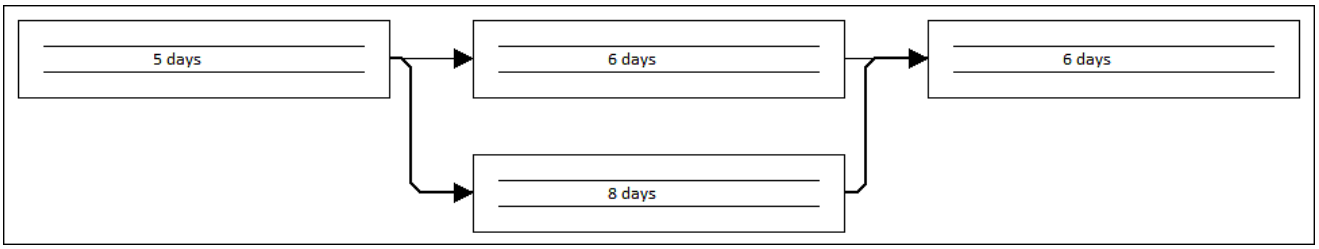
Background

We want to look at the Network Diagram and practice calculating Early and Late dates with a simple manual exercise.

Assignment

1. Apply the **Network Diagram** view by right clicking in the dark band on the left-hand side of the screen and selecting it.
2. Hide the Summary tasks by selecting **Network Diagram Format**, **Show/Hide** group, **Summary Tasks**.
3. Use the  icons to zoom in and out.
4. Right-click in the **Network Diagram,** select **Layout** to open the **Layout** form and select **Allow manual box positioning**.
5. You should now be able to reposition the boxes manually selecting tasks and the mouse left-clicking and drag.
6. Reapply the **Gantt Chart** View and **Entry** Table.
7. Calculate the Early Dates, Late Dates, and Total Float for the following tasks, assuming a Monday-to-Friday working week and the first activity starting on 01 Dec 25.





8. See over the page for the answer:

December 2025						
M	T	W	Th	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

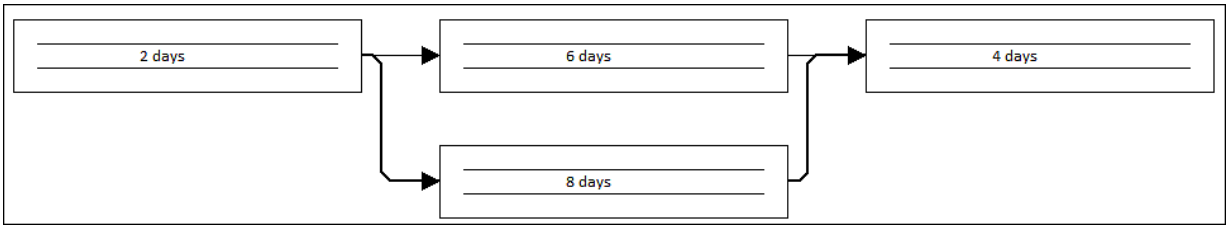
Answer to Workshop 8

ES = Early Start	EF = Early Finish
DUR = Duration	TF - Total Float
LS = Late Start	LF = Late Finish

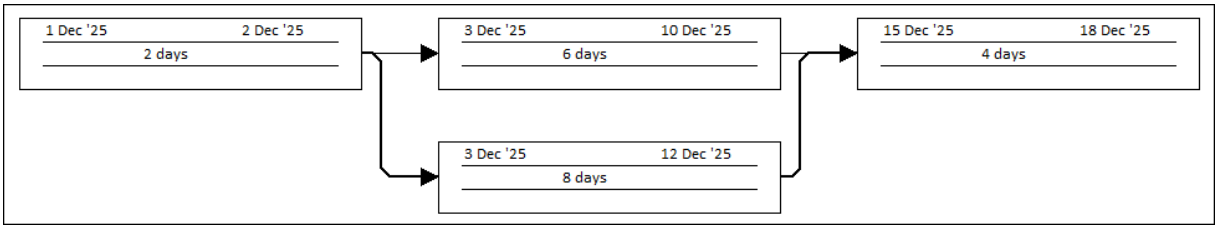
December 2025

M	T	W	Th	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

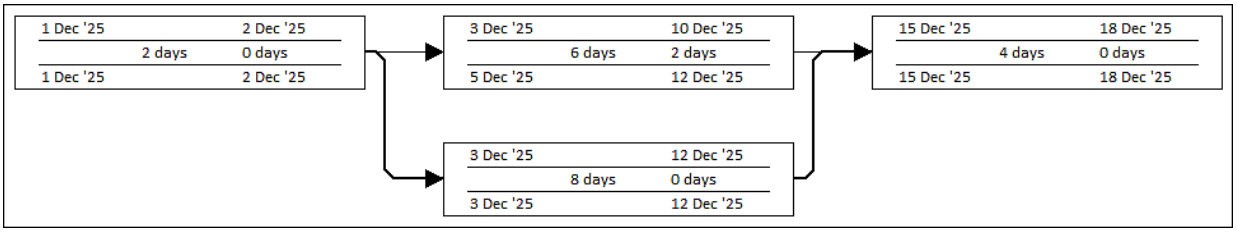
Forward Pass EF = ES + DUR – 1



Backward Pass LS = LF – DUR + 1

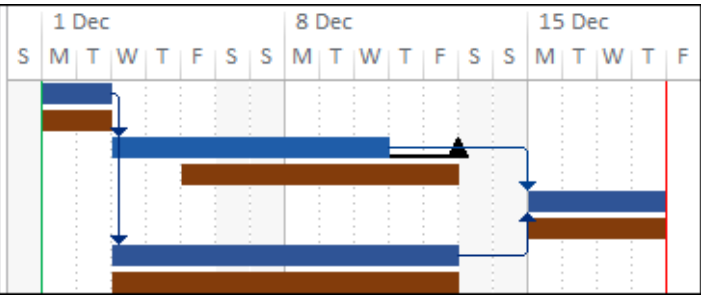


Float Calculation TF = LS – ES



9. The Early Bar is the upper bar, the Late Bar the lower bar and the end of the Total Float bar, which is the thin bar, ends at the Late Finish date.

Dur	Start	Finish	Total Float (Slack)
2 days	1 Dec	2 Dec	0 days
6 days	3 Dec	10 Dec	2 days
4 days	15 Dec	18 Dec	0 days
8 days	3 Dec	12 Dec	0 days



11.6 Workshop 9 - Constraints

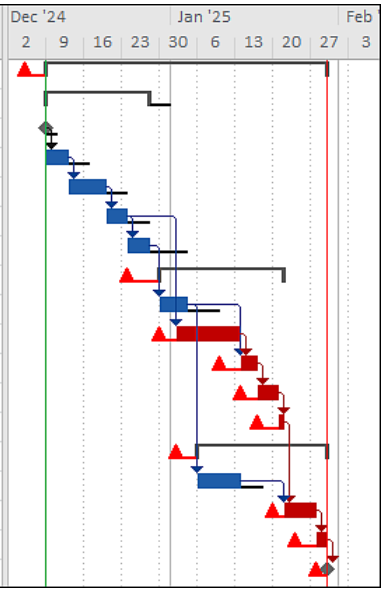
Background

Management has provided further input to your schedule. The client requires the submission 27 Jan 25.

Assignment

1. Apply the **Gant Chart Inc Total Float and Neg Float** view and adjust the timescale to weeks and months.
2. Apply a **Finish No Later Than** constraint with a constraint date of 27 Jan 25 to task **18 Bid Document Submitted** task. If you are presented with an error message, read the message carefully and then set the constraint. Now review float, there should be no change in the Total Float. This demonstrates that a **Finish No Later Than** constraint after the calculated early finish date does not create positive float.
3. Due to proximity to Christmas, management has requested we delay task **10 Obtain Quotes from Suppliers** until first thing in the New Year, 02 Jan 25. It is hoped that sharper prices will be obtained after the Christmas rush. You may record this decision in the task notes.
   - To achieve this, set a **Start No Earlier Than** constraint and a constraint date of 02 Jan 25 on task **10 Obtain Quotes from Suppliers**. Should you be presented with an error message, then allow scheduling conflict and set the constraint. This error message will be presented because you have not set you Options as recommended.
   - Now observe the impact on the Critical Path and end dates:

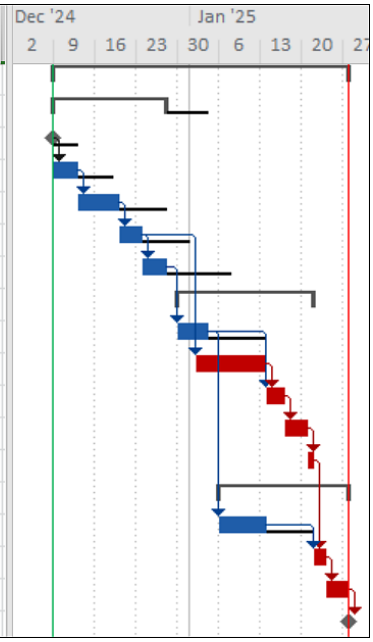
	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**35d**	**9 Dec '24**	**29 Jan '25**	**-2d**
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**2d**
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	2d
4	Determine Installation Requirer	4d	9 Dec '24	12 Dec '24	2d
5	Create Technical Specification	5d	13 Dec '24	19 Dec '24	2d
6	Identify Supplier Components	2d	20 Dec '24	23 Dec '24	2d
7	Validate Technical Specification	2d	24 Dec '24	27 Dec '24	4d
8	**Delivery Plan**	**16d**	**30 Dec '24**	**21 Jan '25**	**-2d**
9	Document Delivery Methodolog	4d	30 Dec '24	3 Jan '25	4d
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	-2d
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	-3d
12	Create the Project Schedule	3d	17 Jan '25	20 Jan '25	-3d
13	Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	-2d
14	**Bid Document**	**18d**	**6 Jan '25**	**29 Jan '25**	**-2d**
15	Create Draft of Bid Document	6d	6 Jan '25	13 Jan '25	4d
16	Review Bid Document	4d	22 Jan '25	27 Jan '25	-2d
17	Finalize and Submit Bid Docume	2d	28 Jan '25	29 Jan '25	-2d
18	Bid Document Submitted	0d	29 Jan '25	29 Jan '25	-2d



4. After review, it is agreed that 2 days can be deducted from task **16 Review Bid Document**. Change the duration of this task to 2 days.
5. Press **F9** to ensure the schedule is recalculated as Microsoft Project sometimes does not calculate the Float automatically.

6. You will notice that the Total Float of all critical tasks is now zero and the Critical Path runs between the two tasks with constraints.

	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**33d**	**9 Dec '24**	**27 Jan '25**	**0d**
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**4d**
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	4d
4	Determine Installation Requirer	4d	9 Dec '24	12 Dec '24	4d
5	Create Technical Specification	5d	13 Dec '24	19 Dec '24	4d
6	Identify Supplier Components	2d	20 Dec '24	23 Dec '24	4d
7	Validate Technical Specification	2d	24 Dec '24	27 Dec '24	6d
8	**Delivery Plan**	**16d**	**30 Dec '24**	**21 Jan '25**	**0d**
9	Document Delivery Methodolog	4d	30 Dec '24	3 Jan '25	6d
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d
12	Create the Project Schedule	3d	17 Jan '25	20 Jan '25	0d
13	Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	0d
14	**Bid Document**	**16d**	**6 Jan '25**	**27 Jan '25**	**0d**
15	Create Draft of Bid Document	6d	6 Jan '25	13 Jan '25	6d
16	Review Bid Document	2d	22 Jan '25	23 Jan '25	0d
17	Finalize and Submit Bid Docume	2d	24 Jan '25	27 Jan '25	0d
18	Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d



7. Save your **OzBuild Bid** project
8. Notice that tasks with constraints have an icon in the **Indicators** column.
9. **NOTE**: If your Total Float is not calculating as above, press **F9** to recalculate.

12.9 Workshop 10 - Filters

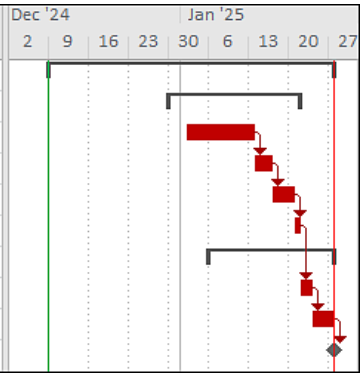
Background

Management has asked for some reports to suit their unique requirements.

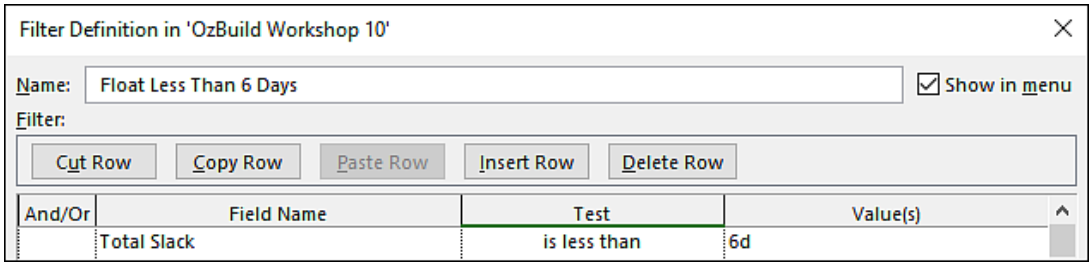
Assignment

1. They would like to see all the critical tasks.
   - Find the  **Filter** icon, found under **View**, **Data** group, or in the **Quick Access Toolbar**, if it is not there then add it.
   - Apply the **Critical** tasks filter.
   - You will see only tasks that are on the Critical Path and their associated Summary tasks.

	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**33d**	**9 Dec '24**	**27 Jan '25**	**0d**
8	**Delivery Plan**	**16d**	**30 Dec '24**	**21 Jan '25**	**0d**
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d
12	Create the Project Schedule	3d	17 Jan '25	20 Jan '25	0d
13	Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	0d
14	**Bid Document**	**16d**	**6 Jan '25**	**27 Jan '25**	**0d**
16	Review Bid Document	2d	22 Jan '25	23 Jan '25	0d
17	Finalize and Submit Bid Document	2d	24 Jan '25	27 Jan '25	0d
18	Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d

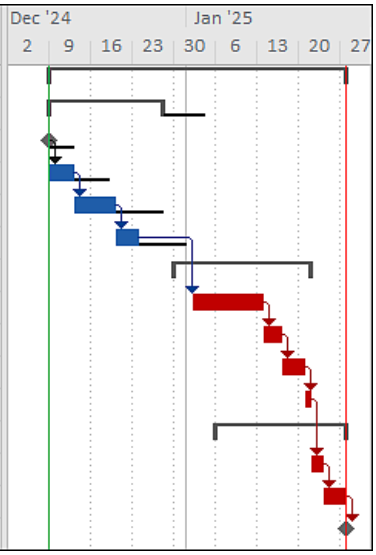


2. They would like to see all the tasks with float less than 6 days:
   - Remove the previous filter.
   - Use the **Filter** icon, or the **View**, **Filter**, **More Filters…** to open the **More Filters** form.
   - Create a new filter titled **Float Less Than 6 Days**,
   - If you place a space at the start of the Filter name, the filter will be placed at the top of the list and make it easier to find filters you have created.
   - Create a criteria to display a **Total Slack** of less than 6 days,
   - Show the Summary tasks by checking **Show related summary rows** box,
   - Show the filter in the menu, and apply the filter:



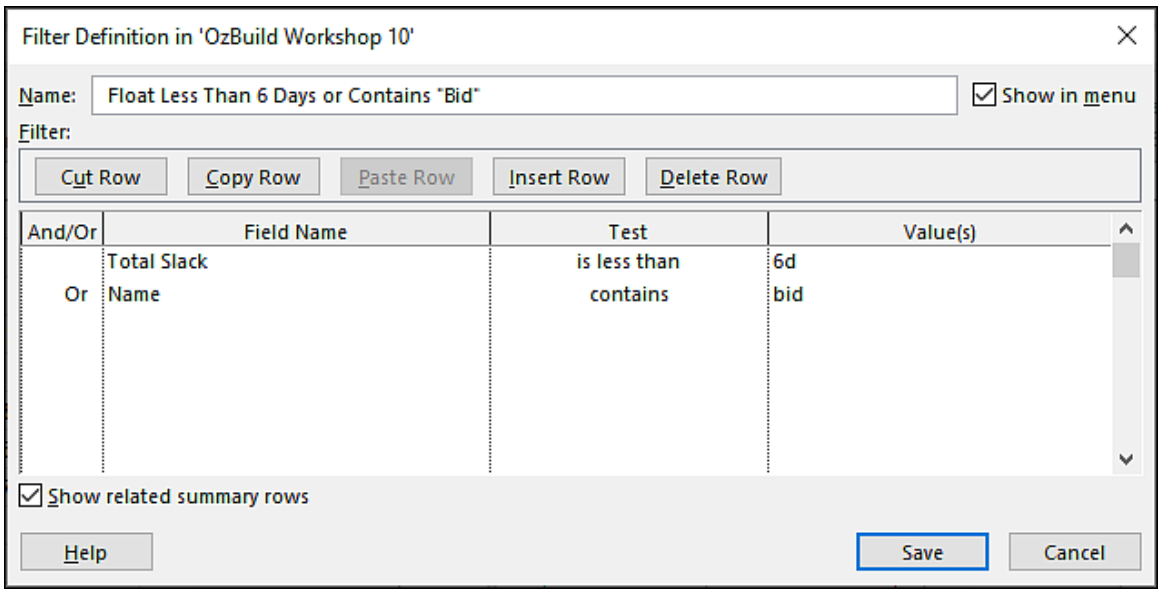
3. You should see that only the tasks with float less than 6 days are now displayed, the two tasks, Task 7 and 9 with 6 days Total Float are hidden.

	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**33d**	**9 Dec '24**	**27 Jan '25**	**0d**
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**4d**
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	4d
4	Determine Installation Requirer	4d	9 Dec '24	12 Dec '24	4d
5	Create Technical Specification	5d	13 Dec '24	19 Dec '24	4d
6	Identify Supplier Components	2d	20 Dec '24	23 Dec '24	4d
8	**Delivery Plan**	**16d**	**30 Dec '24**	**21 Jan '25**	**0d**
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d
12	Create the Project Schedule	3d	17 Jan '25	20 Jan '25	0d
13	Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	0d
14	**Bid Document**	**16d**	**6 Jan '25**	**27 Jan '25**	**0d**
16	Review Bid Document	2d	22 Jan '25	23 Jan '25	0d
17	Finalize and Submit Bid Docume	2d	24 Jan '25	27 Jan '25	0d
18	Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d

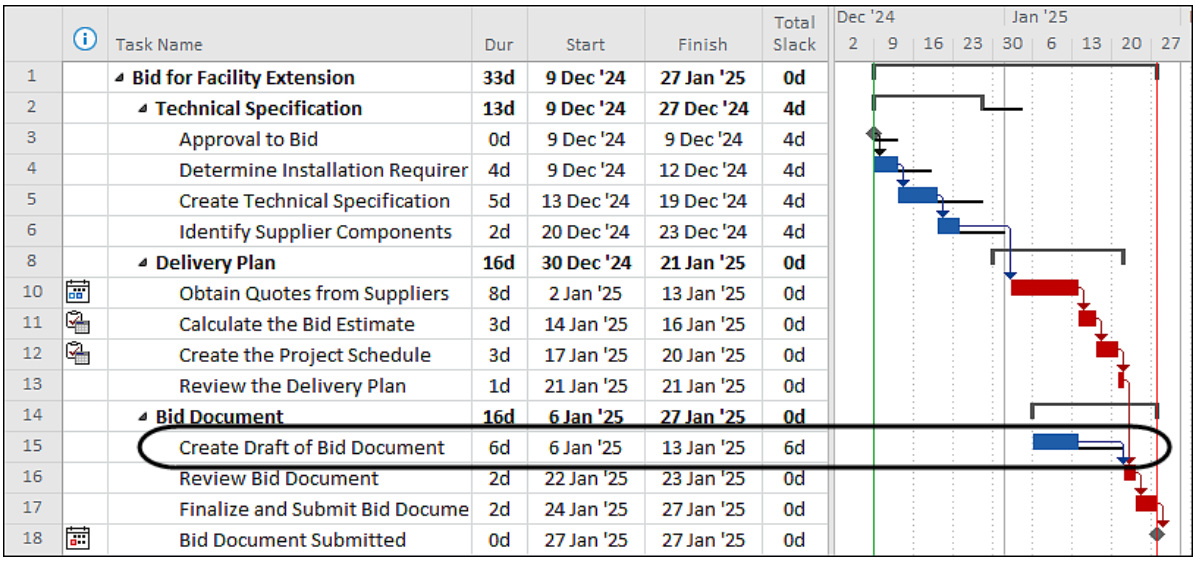


4. Management would like to see all the tasks with float less than, or equal to 6 days, **OR** contains the word "Bid."

   - Copy the **Float Less Than 6 Days** filter,
   - Assign a title to the filter: **Float Less Than 6 Days or Contains "Bid"**,
   - Add the condition: **Or** Name (Task Name) contains **Bid**,
   - Show in the menu, and
   - Apply the filter.

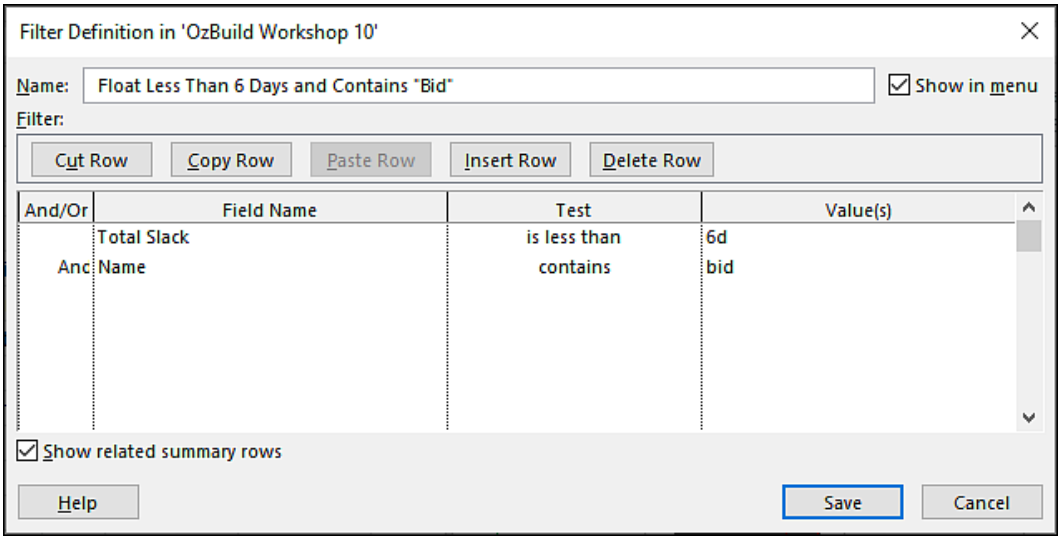


5. You should find that one extra task is now shown.

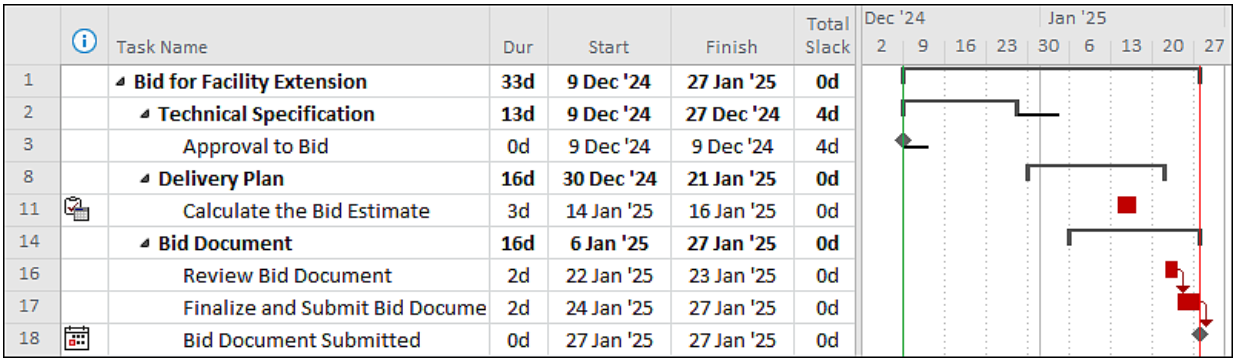


	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**33d**	**9 Dec '24**	**27 Jan '25**	**0d**
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**4d**
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	4d
4	Determine Installation Requirer	4d	9 Dec '24	12 Dec '24	4d
5	Create Technical Specification	5d	13 Dec '24	19 Dec '24	4d
6	Identify Supplier Components	2d	20 Dec '24	23 Dec '24	4d
8	**Delivery Plan**	**16d**	**30 Dec '24**	**21 Jan '25**	**0d**
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d
12	Create the Project Schedule	3d	17 Jan '25	20 Jan '25	0d
13	Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	0d
14	**Bid Document**	**16d**	**6 Jan '25**	**27 Jan '25**	**0d**
15	Create Draft of Bid Document	6d	6 Jan '25	13 Jan '25	6d
16	Review Bid Document	2d	22 Jan '25	23 Jan '25	0d
17	Finalize and Submit Bid Docume	2d	24 Jan '25	27 Jan '25	0d
18	Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d

6. Copy the filter, title it **Float Less Than 6 Days and Contains "Bid"** and change the condition to **And** to see the difference between **Or** and **And** options,



7. Apply the filter:



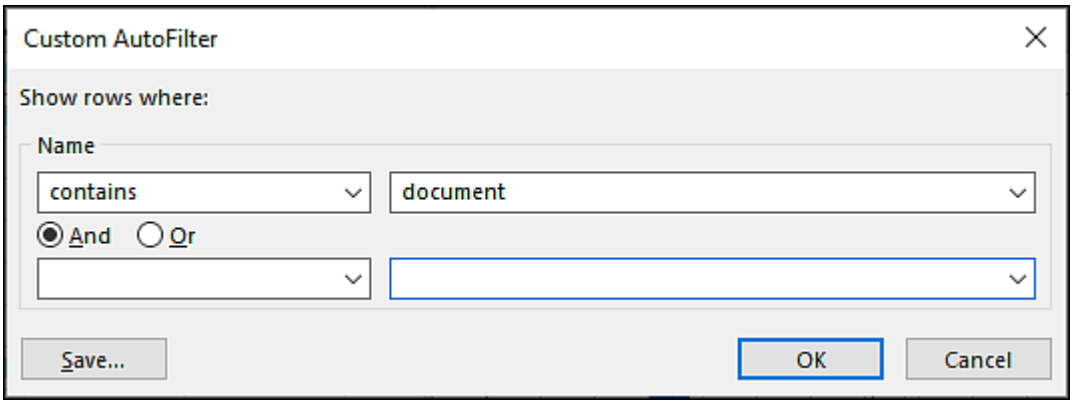
	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**33d**	**9 Dec '24**	**27 Jan '25**	**0d**
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**4d**
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	4d
8	**Delivery Plan**	**16d**	**30 Dec '24**	**21 Jan '25**	**0d**
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d
14	**Bid Document**	**16d**	**6 Jan '25**	**27 Jan '25**	**0d**
16	Review Bid Document	2d	22 Jan '25	23 Jan '25	0d
17	Finalize and Submit Bid Docume	2d	24 Jan '25	27 Jan '25	0d
18	Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d

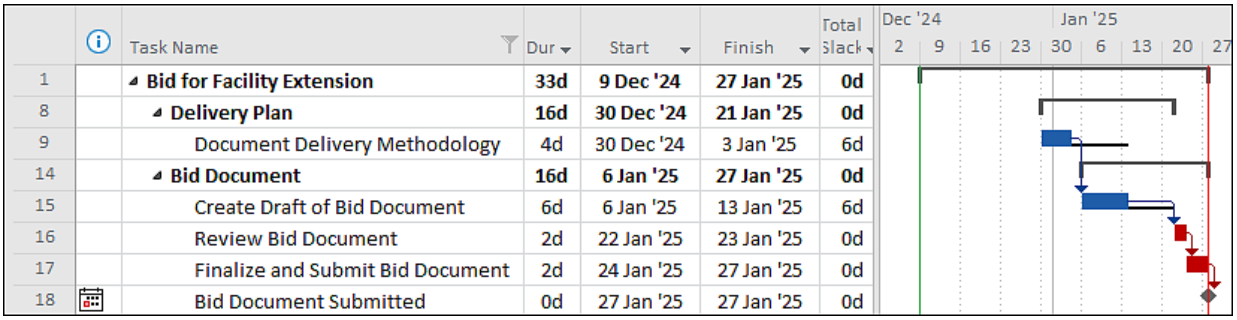
8. Remove the **Float Less Than 6 Days and Contains "Bid"** filter and display All Tasks by applying the **(No Filter)** or the **All Tasks** filter.

9. Add the **Display Auto Filter** icon to the **Quick Access Toolbar** if it is not displayed and use this to ensure the **Auto Filters** are activated and each column header has a down arrow as per this picture:

	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**33d**	**9 Dec '24**	**27 Jan '25**	**0d**
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**4d**

10. Try the **Auto Filters** on the existing columns, for example:
    - Filter on the **Total Slack** column and select zero to show the **Critical Path**,
    - Filter on a date column as display tasks starting or finishing in Jan 25,
    - Filter on the **Duration** column and select zero to display the Milestones.
11. We now wish to create an **AutoFilter** that displays all the tasks containing the word "document".
12. Apply the **(No Filter)** option, which is the same as the **All Tasks** option used in other forms.
    - Click on the down arrow in the **Task Name** header,
    - Select **Filters, Custom…** to open the **Custom Auto Filter** form,
    - Create a Custom Auto filter to contain tasks containing the word "document".





11. Now apply the **(No Filter)** or the **All Tasks** filter to remove the **AutoFilter**.
12. Save your **OzBuild Bid** project.

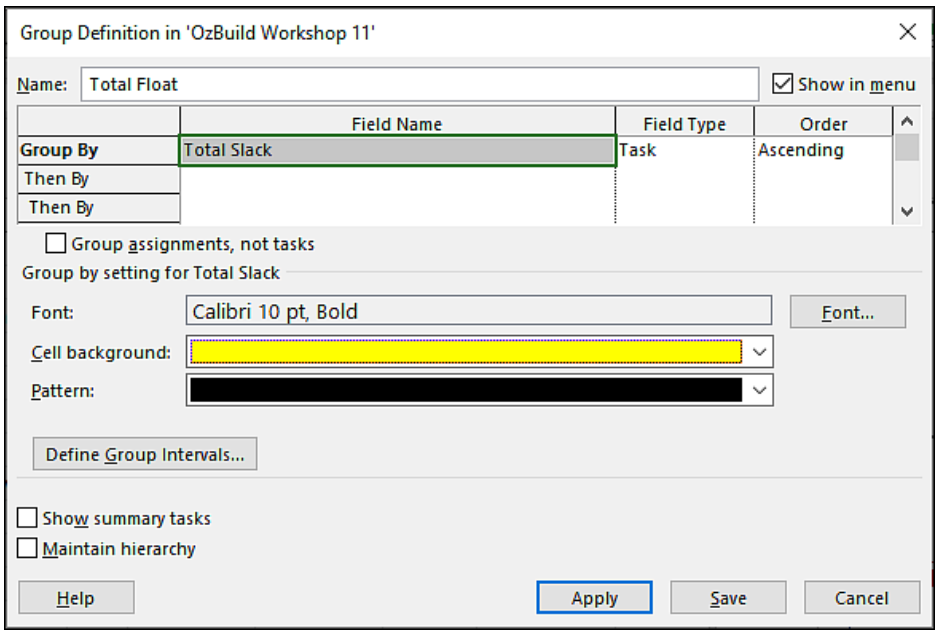
13.5 Workshop 11 - Reorganizing the Schedule

Background

We want to issue reports for comment by management. We will group the tasks by their float value and show the WBS columns. We will also look at the Outline Codes and then Group the Tasks by the people responsible for the work, which we will enter into a text column.

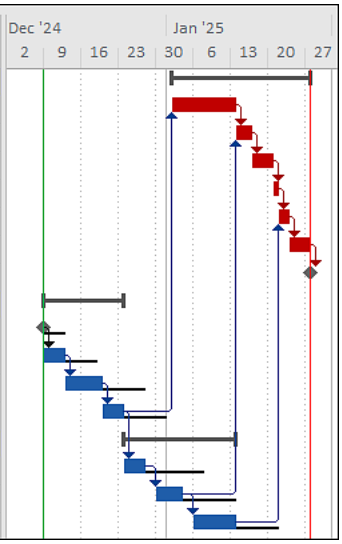
Assignment

1. Grouping – to group tasks by their float value:
   - Ensure there is no filter applied.
   - Apply the **Entry** table and ensure the **Total Slack** column is displayed.
   - Select **View**, **Data**, **Group By** drop down box and select **New Group by**:
   - Create a new Group titled **Total Float** and group the tasks by **Total Slack**
   - Change the font to Calibri 10 pt, Bold,
   - Select an appropriate cell background,
   - Check the **Show in menu** option, **DO NOT** show Summary tasks and apply.

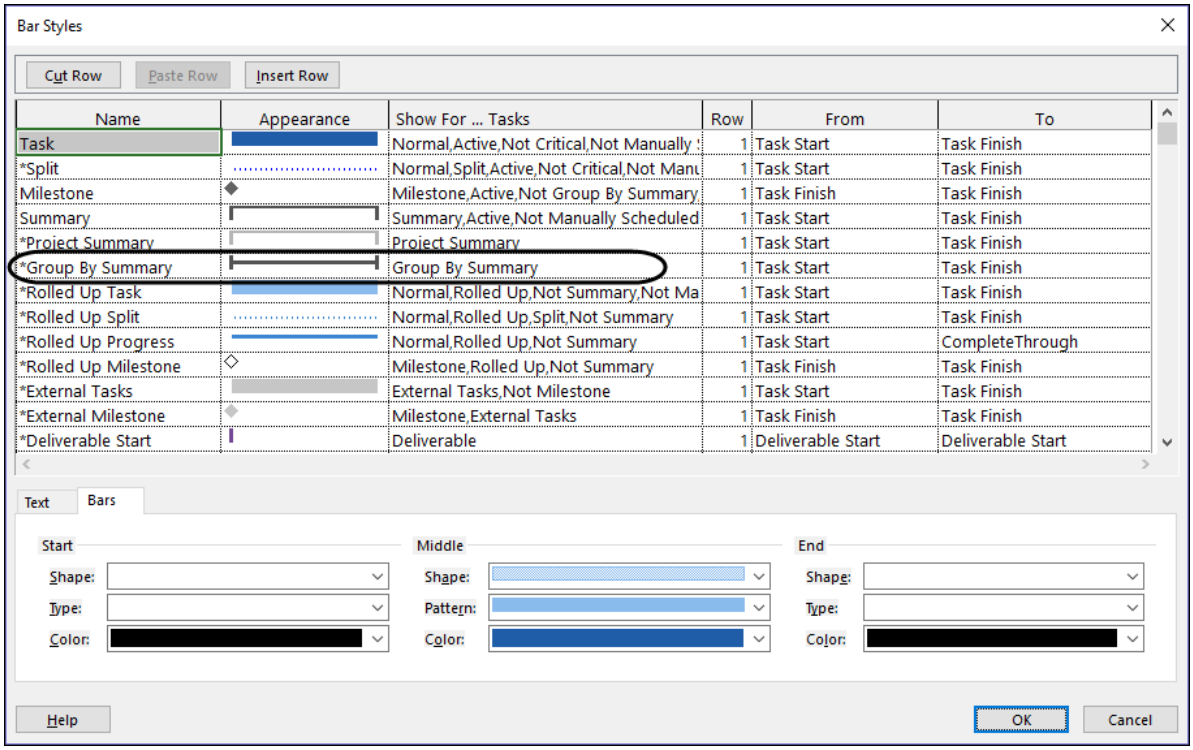


- All the tasks with zero days' float are grouped at the top under the heading **Total Slack: 0 days**.

	Task Name	Dur	Start	Finish	Total Slack	Predecessors
	Total Slack: 0d	**18d**	**2 Jan '25**	**27 Jan '25**	**0d**	
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d	6
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d	9,10
12	Create the Project Schedule	3d	17 Jan '25	20 Jan '25	0d	11
13	Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	0d	12
16	Review Bid Document	2d	22 Jan '25	23 Jan '25	0d	13,15
17	Finalize and Submit Bid Document	2d	24 Jan '25	27 Jan '25	0d	16
18	Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d	17
	Total Slack: 4d	**11d**	**9 Dec '24**	**23 Dec '24**	**4d**	
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	4d	
4	Determine Installation Requirements	4d	9 Dec '24	12 Dec '24	4d	3
5	Create Technical Specification	5d	13 Dec '24	19 Dec '24	4d	4
6	Identify Supplier Components	2d	20 Dec '24	23 Dec '24	4d	5
	Total Slack: 6d	**12d**	**24 Dec '24**	**13 Jan '25**	**6d**	
7	Validate Technical Specification	2d	24 Dec '24	27 Dec '24	6d	6
9	Document Delivery Methodology	4d	30 Dec '24	3 Jan '25	6d	7
15	Create Draft of Bid Document	6d	6 Jan '25	13 Jan '25	6d	9

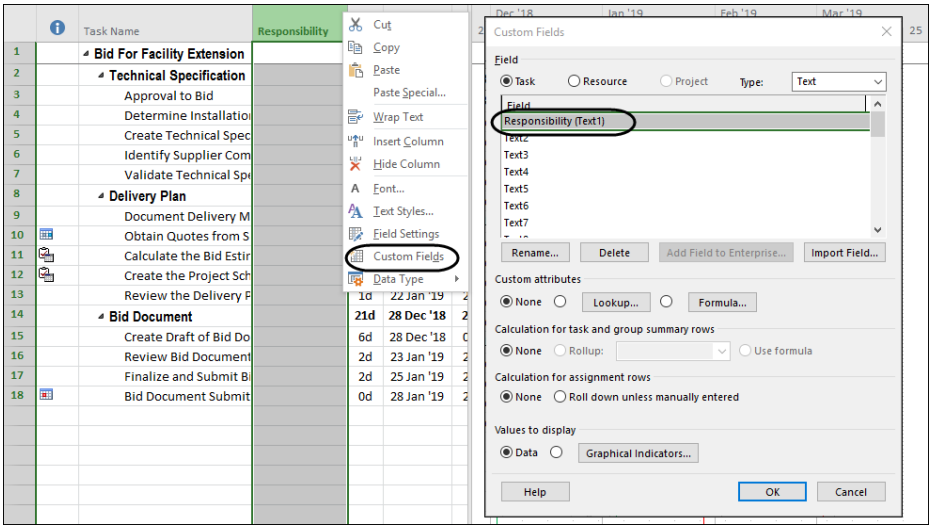


NOTE: You may format or remove the summary bars or add text to them by opening the **Bars** form and editing the **Group By Summary** bar text tab.



2. Grouping by Responsibility

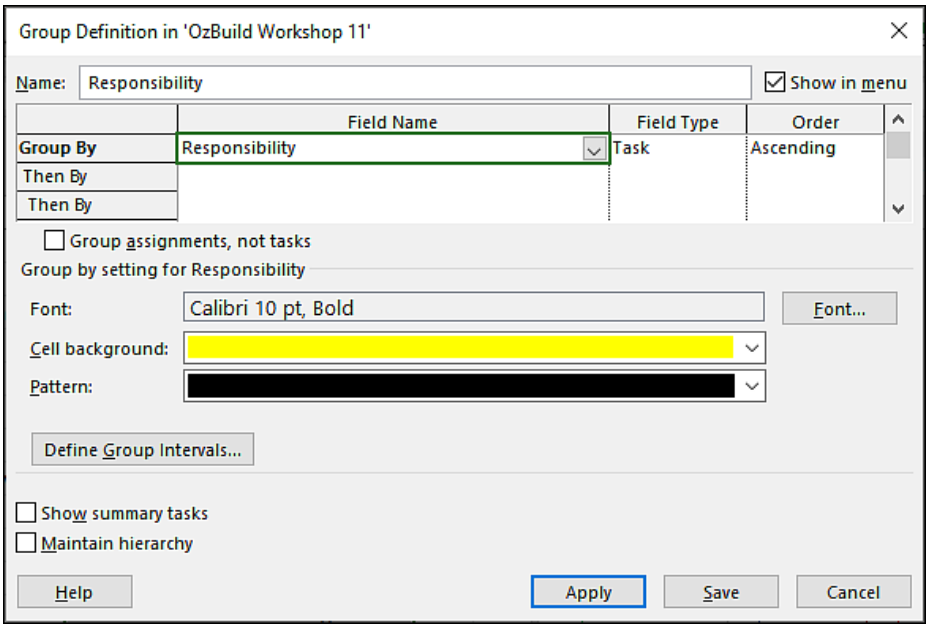
- Remove the previous grouping by selecting **[No Group]**,
- Use the **Add New Column** command to add a **Text 1** as a new column,
- Drag this new column so it is beside the Task Name
- Right Click on the column heading, select **Custom Fields** and use the **Rename** command to rename the column as **Responsibility**,



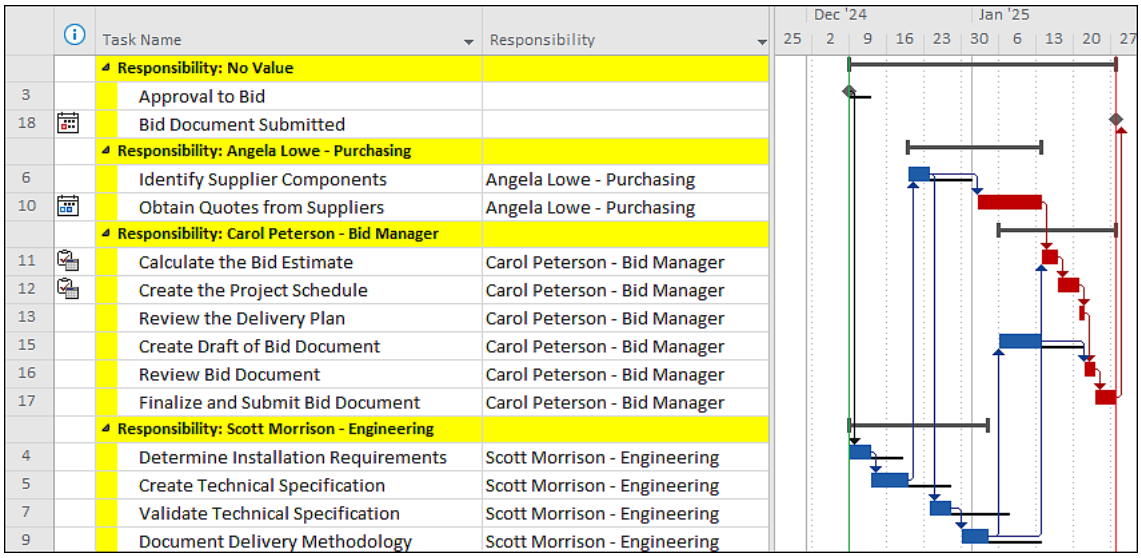
- Assign the Responsibilities in the table below, use Copy & Paste cells:

ID	Task Name	Responsibility
2	**Technical Specification**	
3	Approval to Bid	
4	Determine Installation Requirements	Scott Morrison - Engineering
5	Create Technical Specification	Scott Morrison - Engineering
6	Identify Supplier Components	Angela Lowe - Purchasing
7	Validate Technical Specification	Scott Morrison - Engineering
8	**Delivery Plan**	
9	Document Delivery Methodology	Scott Morrison - Engineering
10	Obtain Quotes from Suppliers	Angela Lowe - Purchasing
11	Calculate the Bid Estimate	Carol Peterson - Bid Manager
12	Create the Project Schedule	Carol Peterson - Bid Manager
13	Review the Delivery Plan	Carol Peterson - Bid Manager
14	**Bid Document**	
15	Create Draft of Bid Document	Carol Peterson - Bid Manager
16	Review Bid Document	Carol Peterson - Bid Manager
17	Finalize and Submit Bid Document	Carol Peterson - Bid Manager
18	Bid Document Submitted	

- Create a Group titled **Responsibility** by clicking the **Gantt Chart Format, Data, New Group by:** icon and grouping the tasks by Responsibility showing in the menu but do not show Summary tasks.



- Select **Apply**,
- See the answer below:



3. Remove all Grouping.
4. Hide the **Responsibility** column.
5. Save your **OzBuild Bid** project.

14.6 Workshop 12- Organizing Your Data Using Views and Tables

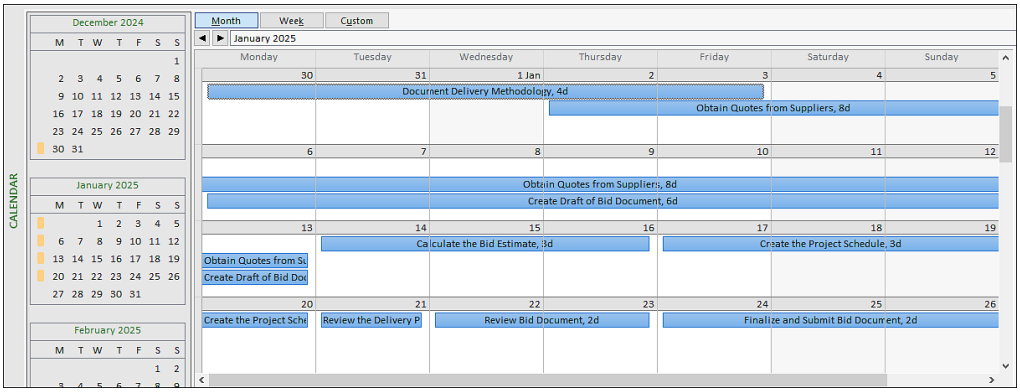
Background

Having completed the schedule you want to report the project schedule with different views.

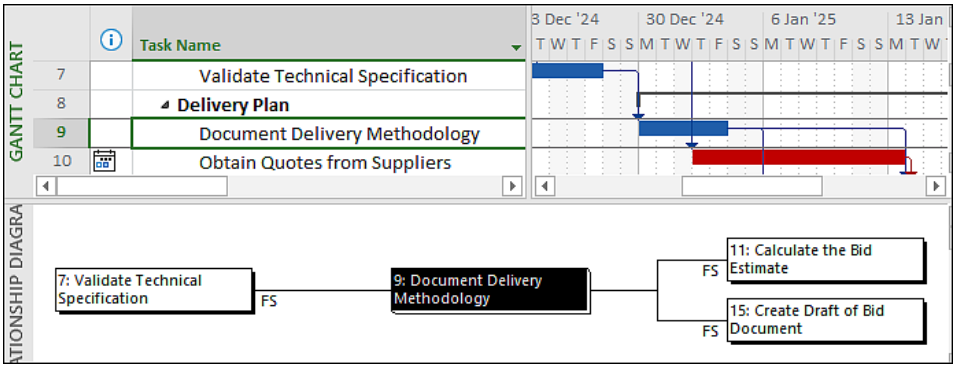
Assignment

Display your project in the following formats, noting the different ways you may represent the same data. Open your **OzBuild Bid** project from the previous workshop to complete the following exercise.

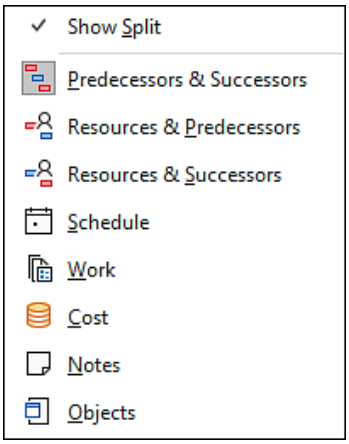
1. Right click in the bar on the left hand side of the task numbers, display the **Calendar** view and scroll to December 2025. Right-click in different parts of the screen and view the menu options. When there are many tasks on one day, they may not all be displayed, depending on the scale of your screen and/or paper size when you are printing the Calendar View.



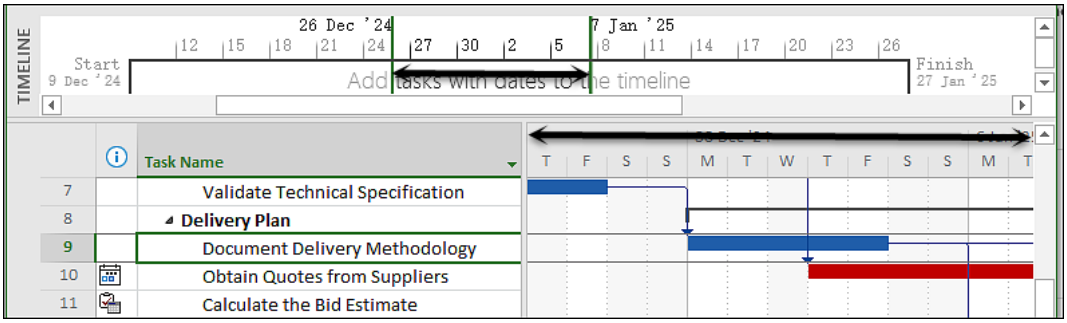
2. Display the **Network Diagram** view and display the Summary Tasks from the **Layout** form,
3. Zoom to 50%, using **View**, **Zoom** group, **Zoom** or the   icons.
4. Scroll around the schedule and then summarize the task by clicking on the ⊞ and the ⊟.
5. Display the **Gantt Chart** view and split the screen.
6. Display the **Relationship Diagram** view in the bottom pane by first making the bottom pane active and then right clicking in the band on the left of the screen to open the **More Views** form if it is not visible by right clicking. Scroll around the schedule by clicking on tasks in the top pane and review the changes in the bottom pane.



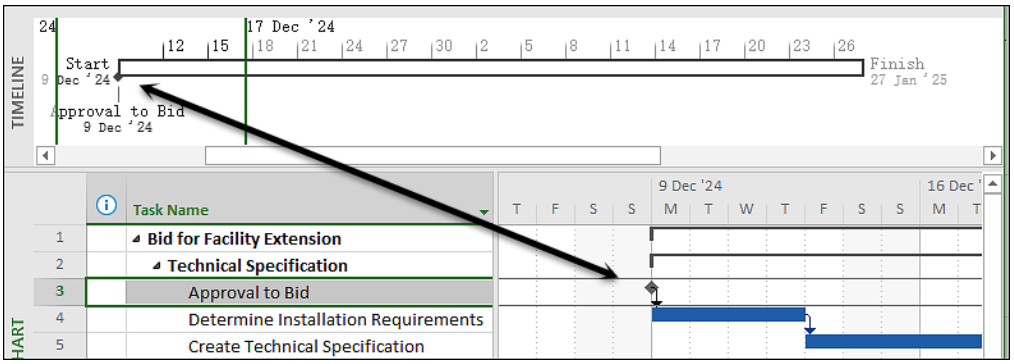
7. Display the **Task Details Form** view in the bottom pane. If this menu is not immediately available then select, **More Views**. Notice the additional fields that are available in this form compared to the **Task Information** form.
8. Apply each one of the following **Details** forms to the **Task Details** view in the bottom screen by right-clicking in the bottom pane and observe the different information for each option.



9. Display the **Timeline View** by selecting the **View**, **Split View** group and check the **Timeline** box.
10. Change the timescale to expand the **Gantt Chart** so not all of project timescale may be viewed. Observe the **Timeline** duration displayed in the Gantt Chart and the highlighted section of the **Timescale** are the same:

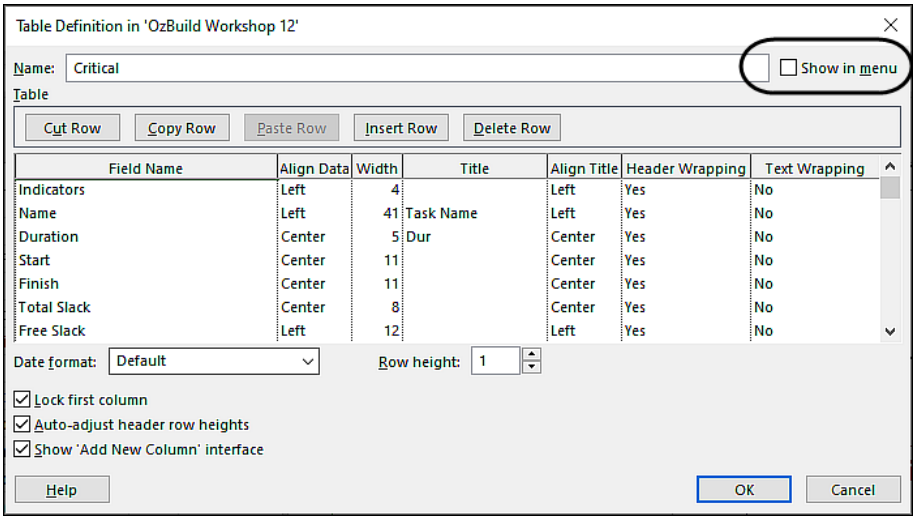


11. Change the **Timescale** back to the previous settings, so you may see the whole **Gantt Chart**.
12. Add both Milestones and the **Obtain Quotes from Suppliers** task to the **Timeline** by right clicking and selecting **Add to Timeline**.

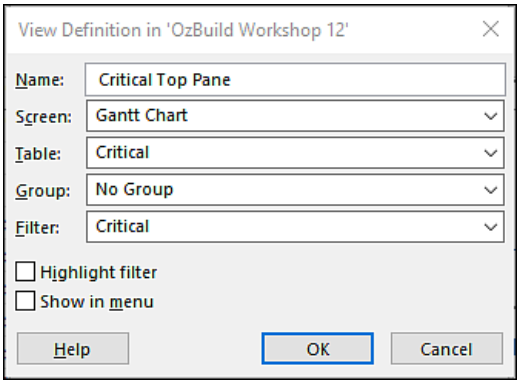


13. Remove the **Timeline** by right clicking in the Gantt Chart and click on **Show Timeline**.
14. Display the **Gantt Chart** view, with the **Entry** table and split the screen.

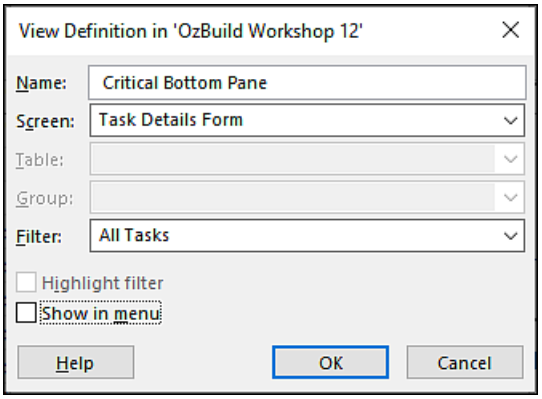
15. Apply the following Tables to the **Gantt Chart** view using **View**, **Data**, **Tables**:
    - **Schedule**, then
    - **Tracking**, then
    - **Entry**
16. We now will create a Combination View titled **Critical** to show only Critical Tasks in the top pane with the Task Details form in the bottom pane. We will create the following:
    - A Critical Table
    - A Critical View for the Top Pane
    - A Critical View for the Bottom Pane and
    - A Critical Combination View, with the Top Pane Critical View and Bottom Pane Critical View.
17. To create the Critical Table:
    - Select **View**, **Data** group, **Tables, More Tables** and copy the **Entry** table and create a table named **Critical** with the following columns:
    - ID, Indicators, Name, Duration, Start, Finish, Total Slack and Free Slack.
    - Do not check **Show in the menu**, and **Close** the form



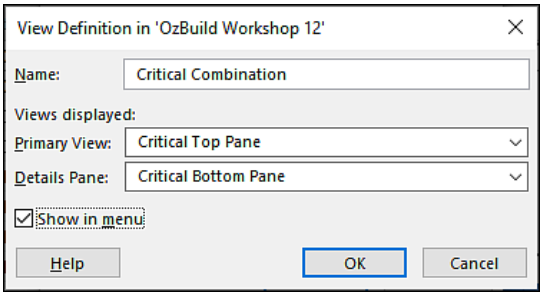
18. To create the Critical View for the Top Pane:
    - Select **View, Task Views** group and from any menu select **More Views**,
    - Copy the **Gantt Chart** view and rename the view **Critical Top Pane**,
    - Select the **Critical** Table,
    - Select the **Critical** Filter,
    - Ensure the **Show in menu** is not selected,
    - Close the forms without applying the view.



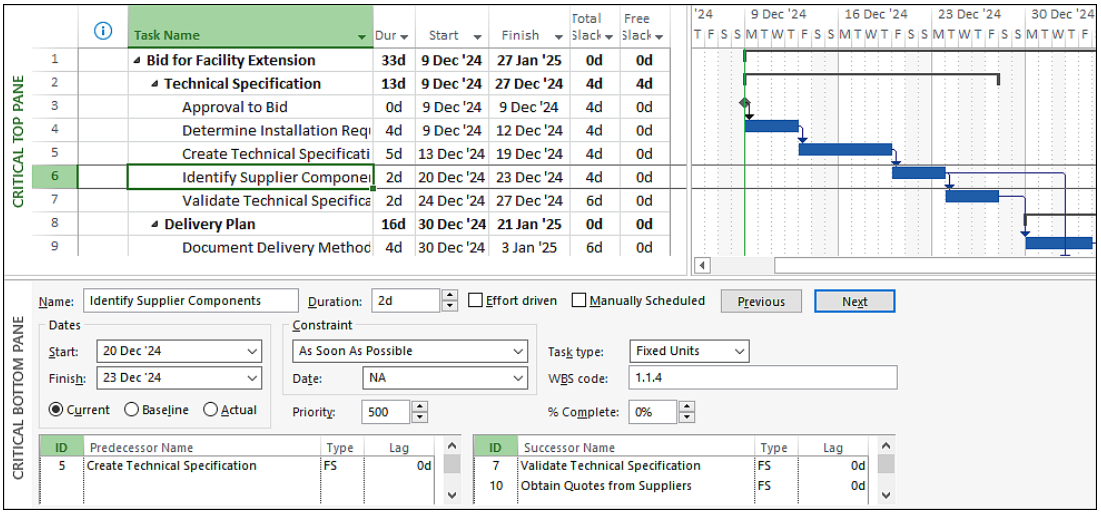
19. To create the Critical View for the Bottom Pane:
    - Select **View, Task Views** group and from any menu select **More Views**,
    - Select **New** to create a new **Single** view titled **Critical Bottom Pane** using the **Task Details** form,
    - Select **All Tasks** filter,
    - Do not **Show in menu**, as per the picture on the right:
    - Close the form without applying the view.



20. To create the Combination View:
    - Select **View, Task Views** group and from any menu select **More Views**,
    - Create a new **Combination view** titled **Critical Combination** as per the picture on the right,
    - Select **Show in menu**,
    - Close the forms without applying the view.



21. Apply the **Critical Combination** l view and you should see that the Critical Filter and Critical Table are applied in the Top Pane and Task Details Form in the bottom pane:



22. Apply the **Gantt Chart** view and remove the split
23. Save your **OzBuild Bid** project.

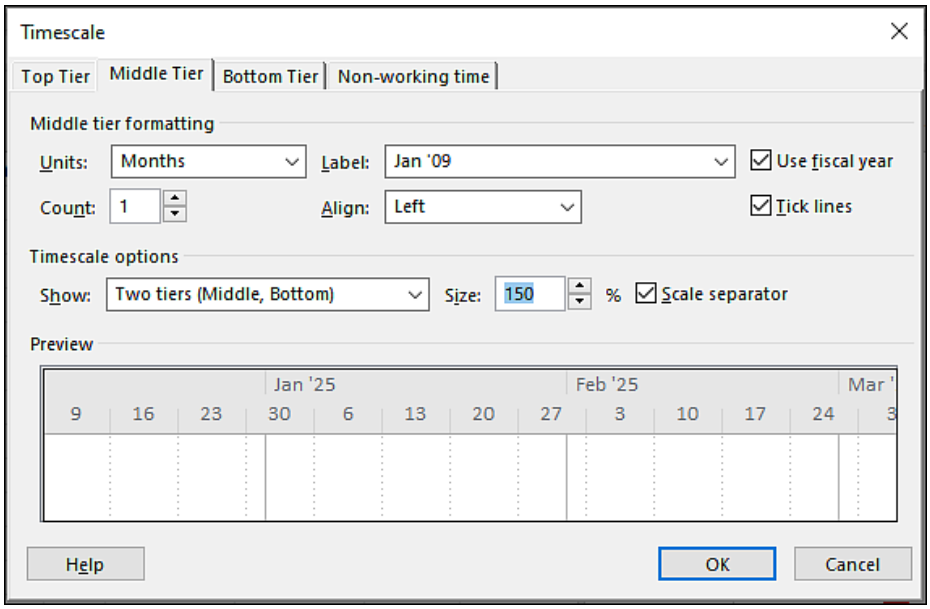
15.8 Workshop 13 – Printing

Background

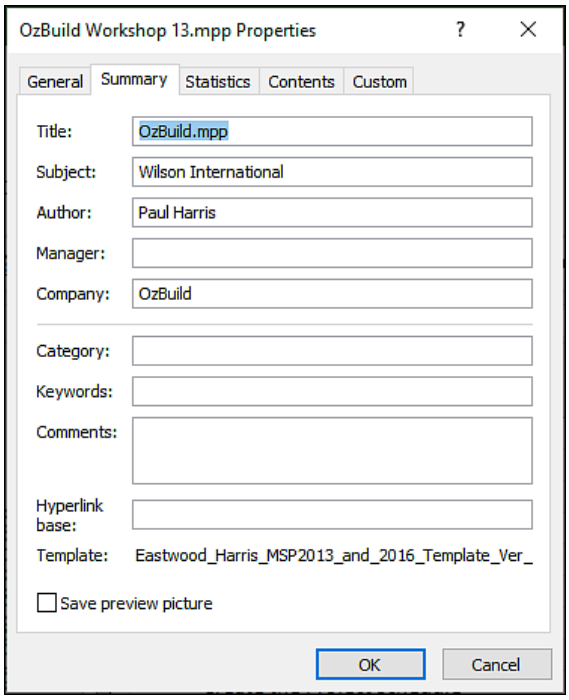
We want to issue a report for comment by management.

Assignment

1. We will baseline and progress the project in the next workshop, but we will require an unprogressed copy of your schedule for the resources workshops.
   - Save your OzBuild project as **OzBuild With Resources**.
   - Close the project and
   - Reopen your **OzBuild** project.
2. Apply the **Gantt Chart Inc Total and Neg Float** view.
3. Select the **Entry** Table.
4. Ensure there is no filter applied.
5. Display only the Task ID, Indicators, Name, Duration, Start Date, Finish Date, Total Slack and Predecessors columns.
6. Adjust the columns to the best fit.
7. To fit all the tasks on one A4 or Letter size landscape page adjust the **Middle Tier** unit of timescale to **Months** with **Label** of **Jan '09** and **Bottom Tier** to **Weeks** with **Count:** of 1, **Label** of **26,2…** and **Size** of **150%**.



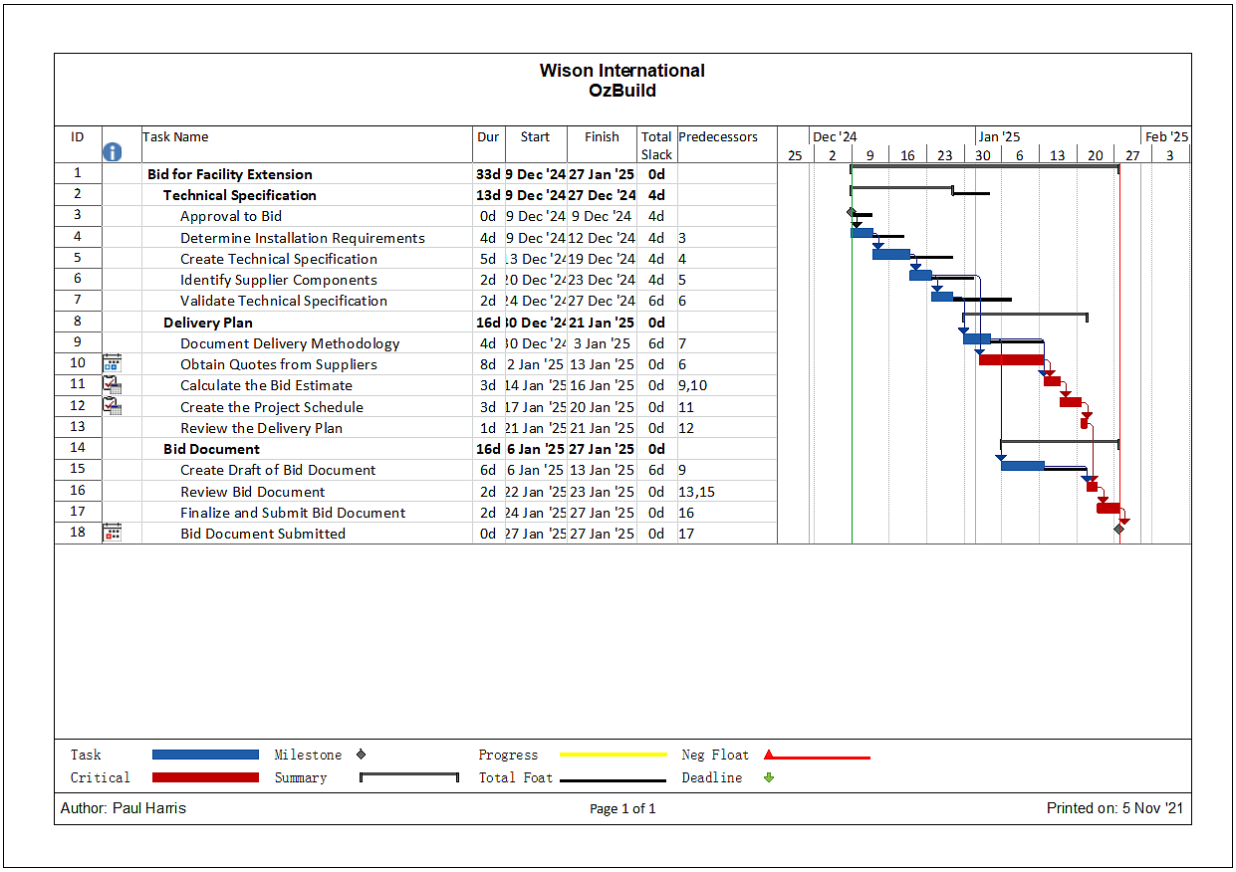
8. Check you have the following information in the **Project Properties** form:



9. Select **File**, **Print**:
   - ➢ Select your printer
   - ➢ Select Paper Size of A4 or Letter,
   - ➢ Sometime it will try to print on two pages, with one being blank, in the **Page Setup**, **View** tab try unchecking the **Print blank pages,**
   - ➢ In the **Page Setup**, **View** tab check the **Print all sheet columns,**

     Close the form,

10. Select **OK** then back to **Print Preview**:



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OzBuild

ID	Task Name	Dur	Start	Finish	Total Slack	Predecessors
1	**Bid for Facility Extension**	**33d**	**9 Dec '24**	**27 Jan '25**	**0d**	
2	**Technical Specification**	**13d**	**9 Dec '24**	**27 Dec '24**	**4d**	
3	Approval to Bid	0d	9 Dec '24	9 Dec '24	4d	
4	Determine Installation Requirements	4d	9 Dec '24	12 Dec '24	4d	3
5	Create Technical Specification	5d	13 Dec '24	19 Dec '24	4d	4
6	Identify Supplier Components	2d	20 Dec '24	23 Dec '24	4d	5
7	Validate Technical Specification	2d	24 Dec '24	27 Dec '24	6d	6
8	**Delivery Plan**	**16d**	**30 Dec '24**	**21 Jan '25**	**0d**	
9	Document Delivery Methodology	4d	30 Dec '24	3 Jan '25	6d	7
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d	6
11	Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d	9,10
12	Create the Project Schedule	3d	17 Jan '25	20 Jan '25	0d	11
13	Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	0d	12
14	**Bid Document**	**16d**	**6 Jan '25**	**27 Jan '25**	**0d**	
15	Create Draft of Bid Document	6d	6 Jan '25	13 Jan '25	6d	9
16	Review Bid Document	2d	22 Jan '25	23 Jan '25	0d	13,15
17	Finalize and Submit Bid Document	2d	24 Jan '25	27 Jan '25	0d	16
18	Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d	17

11. Save your **OzBuild project**.

16.10 Workshop 14 - Updating the Schedule and Baseline Comparison

Background

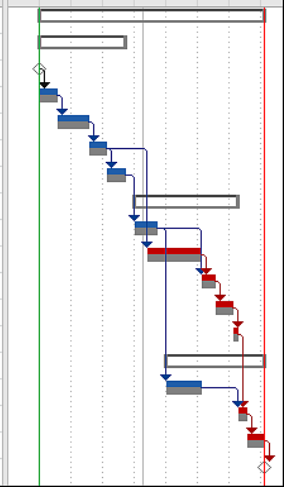
At the end of the first week, you have to update the schedule and report progress and slippage.

Assignment

Open your **OzBuild Bid** project file and complete the following steps:

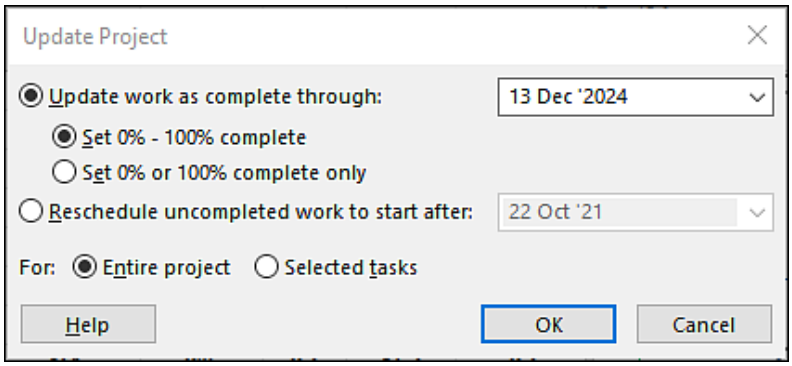
1. Ensure you have saved a copy of your project as **OzBuild With Resources** for use in the resources workshop and reopen your **OzBuild Bid** project.
2. Apply the **Gantt Chart** view.
3. Set the Baseline for all the tasks on your project using the **Project, Schedule** group, **Set Baseline, Set Baseline…** command and use the defaults.
4. Display the baseline bar by selecting **Gant Chart Format**, **Bar Styles** group **Baseline** and select **Baseline (last saved on *the date you saved the Baseline)***. The Baseline bar will be displayed as the lower grey bar.
5. Right click on the **Select All** button and apply the **Tracking** table.
6. You will see a **Status Check** column, which is part of the Eastwood Harris template to assist in updating a schedule properly.
   - This column **ONLY** works when the **Status Date** has been set, and
   - Ignore Summary Task comments as it **DOES NOT** calculate correctly on **Summary Tasks**.
7. Set the timescale as per the picture below, with week and months.
8. Hide the **Physical % Complete**, **Actual Costs** and **Actual Work** columns.
9. Add the **Finish Variance** column on the right.

	Task Name	Status Check (ignore Summary Task comments)	Act. Start	Act. Finish	% Comp.	Act. Dur.	Rem. Dur.	Finish Variance
1	**Bid for Facility Ex**		**NA**	**NA**	**0%**	**0d**	**33d**	**0d**
2	**Technical Spec**		**NA**	**NA**	**0%**	**0d**	**13d**	**0d**
3	Approval to	Incomplete task in p	NA	NA	0%	0d	0d	0d
4	Determine	Incomplete task in p	NA	NA	0%	0d	4d	0d
5	Create Tech	Incomplete task in p	NA	NA	0%	0d	5d	0d
6	Identify Sup	Incomplete task in p	NA	NA	0%	0d	2d	0d
7	Validate Te	Incomplete task in p	NA	NA	0%	0d	2d	0d
8	**Delivery Plan**		**NA**	**NA**	**0%**	**0d**	**16d**	**0d**
9	Document I	Incomplete task in p	NA	NA	0%	0d	4d	0d
10	Obtain Quo	Incomplete task in p	NA	NA	0%	0d	8d	0d
11	Calculate th	Incomplete task in p	NA	NA	0%	0d	3d	0d
12	Create the I	Incomplete task in p	NA	NA	0%	0d	3d	0d
13	Review the	Incomplete task in p	NA	NA	0%	0d	1d	0d
14	**Bid Document**		**NA**	**NA**	**0%**	**0d**	**16d**	**0d**
15	Create Draf	Incomplete task in p	NA	NA	0%	0d	6d	0d
16	Review Bid	Incomplete task in p	NA	NA	0%	0d	2d	0d
17	Finalize and	Incomplete task in p	NA	NA	0%	0d	2d	0d
18	Bid Docume	Incomplete task in p	NA	NA	0%	0d	0d	0d



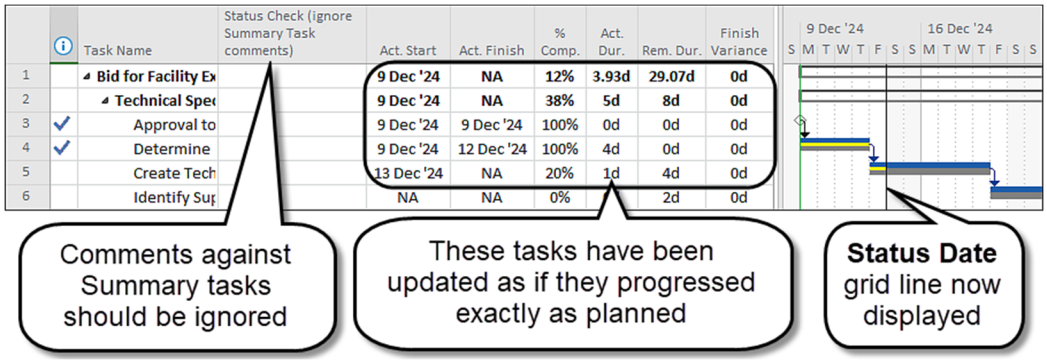
NOTE: The **Status Date** gridline will not display until the **Status Date** has been set.

10. Use **Project**, **Status** group, **Update Project…** to update progress to 13 Dec 24.
    NOTE: The **Status Date** time will be set at 5:00pm or 17:00 hrs on the Friday.



11. Check the **Status date** in the **Project**, **Properties** group, **Project Information** form; it should be 13 Dec 24 and the black **Status Date** line should now be displayed.

12. Expand the time scale to days using the **Zoom** icon, you should also adjust the **Size** in the **Timescale** form to 50%.



13. Update the following tasks using the table below to represent when the tasks were actually started and finished.

14. When you update tasks manually, you should enter the data in the exact order below, against the detail tasks only.

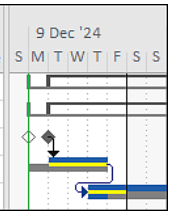
- **Complete Milestones** should have the Actual Start and then 100 % assigned to the % Complete. Do not enter an Actual Finish against Milestones as they will change to tasks. Task 3 will just need the Actual Start changed to 10 Dec 24.
- **Complete Tasks** should have Actual Start and then Actual Finish updated. Task 4 will need both the Actual Start and Actual Finish adjusted.
- **In-progress Tasks** should have Actual Start entered first, then Actual Duration so the Actual Duration meets the **Status Date** and then the Remaining Duration. There are other options outlined in this book for updating in-progress tasks. Task 5 requires the Actual Start, Actual Duration and then Remaining Duration adjusted.

		Task Name	Act. Start	Act. Finish	Act. Dur.	Rem. Dur.
3	✓	Approval to Bid	10 Dec '24	10 Dec '24	0d	0d
4	✓	Determine Installation Requirements	10 Dec '24	12 Dec '24	3d	0d
5		Create Technical Specification	12 Dec '24	NA	2d	6d

15. You should notice that the **Status Check** column changes as you updated the **Create Technical Specification** task.

16. Your updated tasks should look like this:

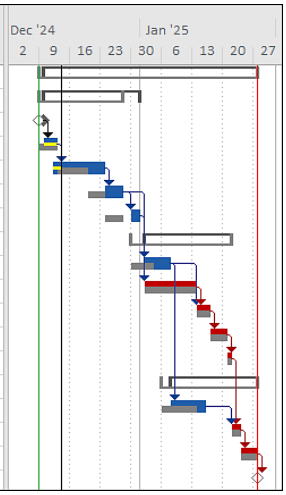
	Task Name	Status Check (ignore Summary Task comments)	Act. Start	Act. Finish	Act. Dur.	Rem. Dur.	% Comp.	Finish Variance
1	**Bid for Facility Extension**		**10 Dec '24**	**NA**	**3.64d**	**28.36d**	**11%**	**0d**
2	**Technical Specification**		**10 Dec '24**	**NA**	**4.67d**	**9.33d**	**33%**	**2d**
3	Approval to Bid		10 Dec '24	10 Dec '24	0d	0d	100%	1d
4	Determine Installation		10 Dec '24	12 Dec '24	3d	0d	100%	0d
5	Create Technical Specif		12 Dec '24	NA	2d	6d	25%	2d



17. Change the timescale back to the previous settings of month and week and 10%

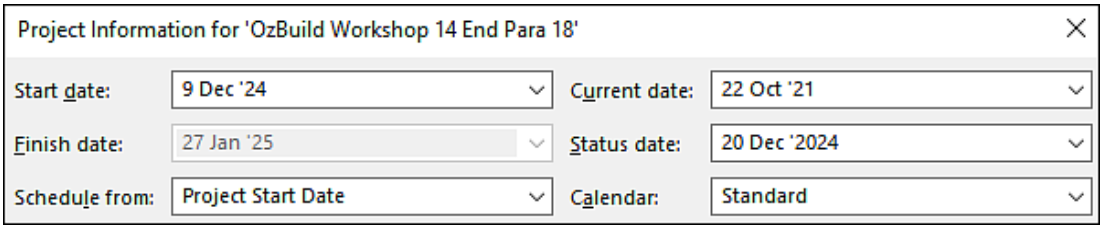
18. Your schedule should look like the picture below:

	Task Name	Status Check (ignore Summary Task comments)	Act. Start	Act. Finish	Act. Dur.	Rem. Dur.	% Comp.	Finish Variance
1	**Bid for Facility Extension**		**10 Dec '24**	**NA**	**3.64d**	**28.36d**	**11%**	**0d**
2	**Technical Specification**		**10 Dec '24**	**NA**	**4.67d**	**9.33d**	**33%**	**2d**
3	Approval to Bid		10 Dec '24	10 Dec '24	0d	0d	100%	1d
4	Determine Installation		10 Dec '24	12 Dec '24	3d	0d	100%	0d
5	Create Technical Specif		12 Dec '24	NA	2d	6d	25%	2d
6	Identify Supplier Comp		NA	NA	0d	2d	0%	2d
7	Validate Technical Spe		NA	NA	0d	2d	0%	2d
8	**Delivery Plan**		**NA**	**NA**	**0d**	**14d**	**0%**	**0d**
9	Document Delivery Me		NA	NA	0d	4d	0%	2d
10	Obtain Quotes from Su		NA	NA	0d	8d	0%	0d
11	Calculate the Bid Estim		NA	NA	0d	3d	0%	0d
12	Create the Project Sche		NA	NA	0d	3d	0%	0d
13	Review the Delivery Pl		NA	NA	0d	1d	0%	0d
14	**Bid Document**		**NA**	**NA**	**0d**	**14d**	**0%**	**0d**
15	Create Draft of Bid Doc		NA	NA	0d	6d	0%	2d
16	Review Bid Document		NA	NA	0d	2d	0%	0d
17	Finalize and Submit Bic		NA	NA	0d	2d	0%	0d
18	Bid Document Submitt		NA	NA	0d	0d	0%	0d



19. **NOTE:** there is no change in the end date of the project as there is sufficient Float to absorb the delay. We will now update the schedule without using the **Update Progress** function.

20. Move the **Status Date** to 20 Dec 24 by selecting **Project**, **Properties** group, **Project Information**.



21. The **Status Check** column for task 5 indicates an error and makes a suggestion on how to fix this issue.

22. Update the project detail tasks only with the following information. Enter the data in the exact order below against the detail tasks only. **NOTE:** Do not edit the % Comp, the software will calculate this:

    - **Completed Tasks** enter the Actual Start and Actual Finish for, e.g. Task 5.
    - **In-progress Tasks** enter the Actual Start, Actual Duration, so the Actual Duration meets the **Status Date** and then the Remaining Duration, Tasks 6 and 7.
    - The % Complete of in-progress tasks will calculate automatically.

		Task Name	Act. Start	Act. Finish	Act. Dur.	Rem. Dur.
5	✓	Create Technical Specification	12 Dec '24	20 Dec '24	7d	0d
6		Identify Supplier Components	19 Dec '24	NA	2d	4d
7		Validate Technical Specification	20 Dec '24	NA	1d	9d

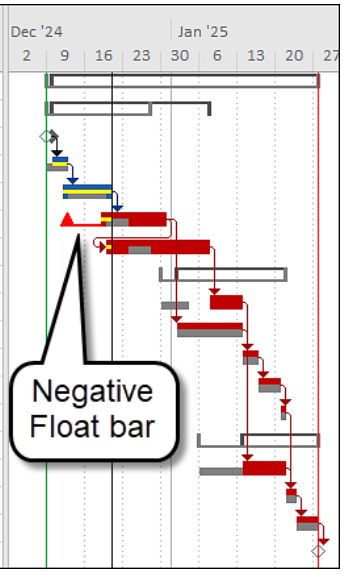
23. Add the **Total Float** (Total Slack) column.

24. Your project should look like the following pictures, without a delay to the end of the project as there is sufficient Float to absorb the delay:

		Task Name	Status Check (ignore Summary Task comments)	Act. Start	Act. Finish	Act. Dur.	Rem. Dur.	% Comp.	Finish Variance	Total Slack
1		**Bid for Facility Extension**		**10 Dec '24**	**NA**	**7.56d**	**24.44d**	**24%**	**0d**	**0d**
2		**Technical Specification**		**10 Dec '24**	**NA**	**9d**	**9d**	**50%**	**6d**	**0d**
3	✓	Approval to Bid		10 Dec '24	10 Dec '24	0d	0d	100%	1d	0d
4	✓	Determine Installation Requ		10 Dec '24	12 Dec '24	3d	0d	100%	0d	0d
5	✓	Create Technical Specificati		12 Dec '24	20 Dec '24	7d	0d	100%	1d	0d
6		Identify Supplier Componer		19 Dec '24	NA	2d	4d	33%	3d	-4d
7		Validate Technical Specifica		20 Dec '24	NA	1d	9d	10%	6d	0d
8		**Delivery Plan**		**NA**	**NA**	**0d**	**14d**	**0%**	**0d**	**0d**
9		Document Delivery Method		NA	NA	0d	4d	0%	6d	0d
10		Obtain Quotes from Supplie		NA	NA	0d	8d	0%	0d	0d
11		Calculate the Bid Estimate		NA	NA	0d	3d	0%	0d	0d
12		Create the Project Schedule		NA	NA	0d	3d	0%	0d	0d
13		Review the Delivery Plan		NA	NA	0d	1d	0%	0d	0d
14		**Bid Document**		**NA**	**NA**	**0d**	**10d**	**0%**	**0d**	**0d**
15		Create Draft of Bid Docume		NA	NA	0d	6d	0%	6d	0d
16		Review Bid Document		NA	NA	0d	2d	0%	0d	0d
17		Finalize and Submit Bid Doc		NA	NA	0d	2d	0%	0d	0d
18		Bid Document Submitted		NA	NA	0d	0d	0%	0d	0d

25. Task 6 has negative Total Float because Task 7 (its successor) has started before Task 6 has finished. If you apply the **Gantt Chart Inc Total and Neg Float** View, display the **Baseline** bar and the **Entry** table you will see the **Negative Float** bar:

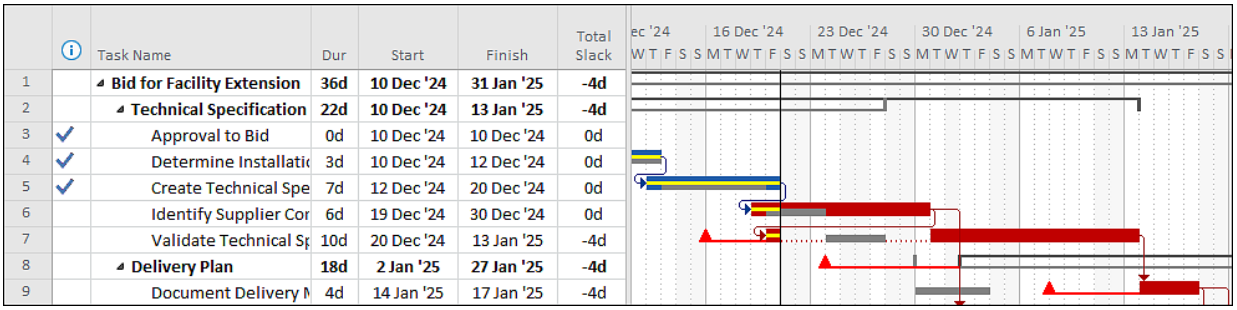
		Task Name	Dur	Start	Finish	Total Slack
1		**Bid for Facility Extension**	**32d**	**10 Dec '24**	**27 Jan '25**	**0d**
2		**Technical Specification**	**18d**	**10 Dec '24**	**7 Jan '25**	**0d**
3	✓	Approval to Bid	0d	10 Dec '24	10 Dec '24	0d
4	✓	Determine Installation Requirements	3d	10 Dec '24	12 Dec '24	0d
5	✓	Create Technical Specification	7d	12 Dec '24	20 Dec '24	0d
6		Identify Supplier Components	6d	19 Dec '24	30 Dec '24	-4d
7		Validate Technical Specification	10d	20 Dec '24	7 Jan '25	0d
8		**Delivery Plan**	**14d**	**2 Jan '25**	**21 Jan '25**	**0d**
9		Document Delivery Methodology	4d	8 Jan '25	13 Jan '25	0d
10		Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d
11		Calculate the Bid Estimate	3d	14 Jan '25	16 Jan '25	0d
12		Create the Project Schedule	3d	17 Jan '25	20 Jan '25	0d
13		Review the Delivery Plan	1d	21 Jan '25	21 Jan '25	0d
14		**Bid Document**	**10d**	**14 Jan '25**	**27 Jan '25**	**0d**
15		Create Draft of Bid Document	6d	14 Jan '25	21 Jan '25	0d
16		Review Bid Document	2d	22 Jan '25	23 Jan '25	0d
17		Finalize and Submit Bid Document	2d	24 Jan '25	27 Jan '25	0d
18		Bid Document Submitted	0d	27 Jan '25	27 Jan '25	0d



26. Increase the timescale to daily and set the **Size** in the **Timescale** form to 70%.

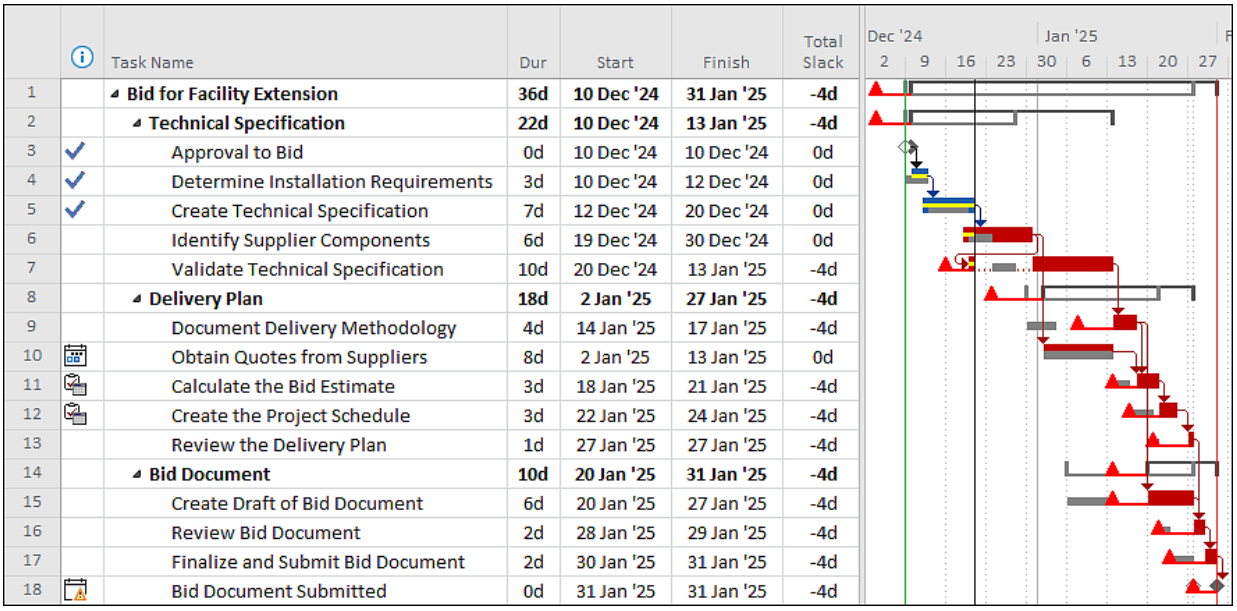
27. Select **File**, **Options**, **Schedule**, **Scheduling options for this project:** and check the **Split in-progress tasks** box:

28. Task 7 has **Split** as the Remaining Duration is acknowledging the predecessor and Non Work time over the Christmas holidays.



	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**36d**	**10 Dec '24**	**31 Jan '25**	**-4d**
2	**Technical Specification**	**22d**	**10 Dec '24**	**13 Jan '25**	**-4d**
3	Approval to Bid	0d	10 Dec '24	10 Dec '24	0d
4	Determine Installatic	3d	10 Dec '24	12 Dec '24	0d
5	Create Technical Spe	7d	12 Dec '24	20 Dec '24	0d
6	Identify Supplier Cor	6d	19 Dec '24	30 Dec '24	0d
7	Validate Technical Sp	10d	20 Dec '24	13 Jan '25	-4d
8	**Delivery Plan**	**18d**	**2 Jan '25**	**27 Jan '25**	**-4d**
9	Document Delivery M	4d	14 Jan '25	17 Jan '25	-4d

29. Apply the **Entry** Table



	Task Name	Dur	Start	Finish	Total Slack
1	**Bid for Facility Extension**	**36d**	**10 Dec '24**	**31 Jan '25**	**-4d**
2	**Technical Specification**	**22d**	**10 Dec '24**	**13 Jan '25**	**-4d**
3	Approval to Bid	0d	10 Dec '24	10 Dec '24	0d
4	Determine Installation Requirements	3d	10 Dec '24	12 Dec '24	0d
5	Create Technical Specification	7d	12 Dec '24	20 Dec '24	0d
6	Identify Supplier Components	6d	19 Dec '24	30 Dec '24	0d
7	Validate Technical Specification	10d	20 Dec '24	13 Jan '25	-4d
8	**Delivery Plan**	**18d**	**2 Jan '25**	**27 Jan '25**	**-4d**
9	Document Delivery Methodology	4d	14 Jan '25	17 Jan '25	-4d
10	Obtain Quotes from Suppliers	8d	2 Jan '25	13 Jan '25	0d
11	Calculate the Bid Estimate	3d	18 Jan '25	21 Jan '25	-4d
12	Create the Project Schedule	3d	22 Jan '25	24 Jan '25	-4d
13	Review the Delivery Plan	1d	27 Jan '25	27 Jan '25	-4d
14	**Bid Document**	**10d**	**20 Jan '25**	**31 Jan '25**	**-4d**
15	Create Draft of Bid Document	6d	20 Jan '25	27 Jan '25	-4d
16	Review Bid Document	2d	28 Jan '25	29 Jan '25	-4d
17	Finalize and Submit Bid Document	2d	30 Jan '25	31 Jan '25	-4d
18	Bid Document Submitted	0d	31 Jan '25	31 Jan '25	-4d

30. The project is now four days late and represented by the Negative Float of four days and the Finish Variance of four days.

31. What options do you have to bring the project back on schedule? Use your option to remove the negative float.

32. Save your **OzBuild Bid** project.

17.5 Workshop 15 - Defining Resources

Background

The resources must now be added to this schedule. Since we have updated our project, we need to revert to the original schedule that we saved prior to updating the current schedule.

Assignment

1. Save and close your current project.
2. Open the **OzBuild With Resources**.
3. Select **File**, **Options** from the menu and from the **Schedule** tab, set **Show assignment unit as a: Decimal**. Click "OK"
4. Open the **Resource Sheet** view, by right-clicking in the band on the left-hand side of the screen, and add the resources displayed in the picture below to the project, leaving **Cost/Use** and **Ovt.Rate** (Overtime Rate) as zero and **Accrue At** as **Prorated**.
5. The **Project Support** resource will be assigned to tasks that are on a 6-Day Working Week calendar, so these resources should be assigned a 6-Day Working Week calendar, so the schedule calculates the same dates with or without a resource assignment.
6. Open the **Calendar** form and check the Resource Calendar working hours/days and holidays
7. **NOTE:** The $ is displayed as currency in these workshops, but you will display your default currency.

	Resource Name	Type	Mater Label	Initials	Group	Max. Units	Std. Rate	Accrue At	Base Calendar
1	Project Manager	Work		PM	Office	1	$120.00/h	Prorated	Standard
2	Systems Engineer	Work		SE	Office	1	$90.00/h	Prorated	Standard
3	Project Support	Work		PS	Site	1	$80.00/h	Prorated	6 Day Week
4	Purchasing Officer	Work		PO	Office	1	$70.00/h	Prorated	Standard
5	Clerical Support	Work		CS	Office	1	$50.00/h	Prorated	Standard
6	Specialist Consultant	Cost		SC	Contractor			Prorated	
7	Report Binding	Material	Each	RB	Material		$100.00	Prorated	

6. Now select **View**, **Data** group, **Group by: Resource Group** to see the resource grouping function:

	Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Accrue At	Base Calendar
	Group: Contractor				**Contractor**			**Prorated**	
6	Specialist Consultant	Cost		SC	Contractor			Prorated	
	Group: Material				**Material**			**Prorated**	
7	Report Binding	Material	Each	RB	Material		$100.00	Prorated	
	Group: Office				**Office**	**4**			
1	Project Manager	Work		PM	Office	1	$120.00/h	Prorated	Standard
2	Systems Engineer	Work		SE	Office	1	$90.00/h	Prorated	Standard
4	Purchasing Officer	Work		PO	Office	1	$70.00/h	Prorated	Standard
5	Clerical Support	Work		CS	Office	1	$50.00/h	Prorated	Standard
	Group: Site				**Site**	**1**		**Prorated**	
3	Project Support	Work		PS	Site	1	$80.00/h	Prorated	6 Day Week

7. Open the **Gantt Chart** view.
8. Save your **OzBuild With Resources** project.

18.14 Workshop 16 - Assigning Resources to Tasks

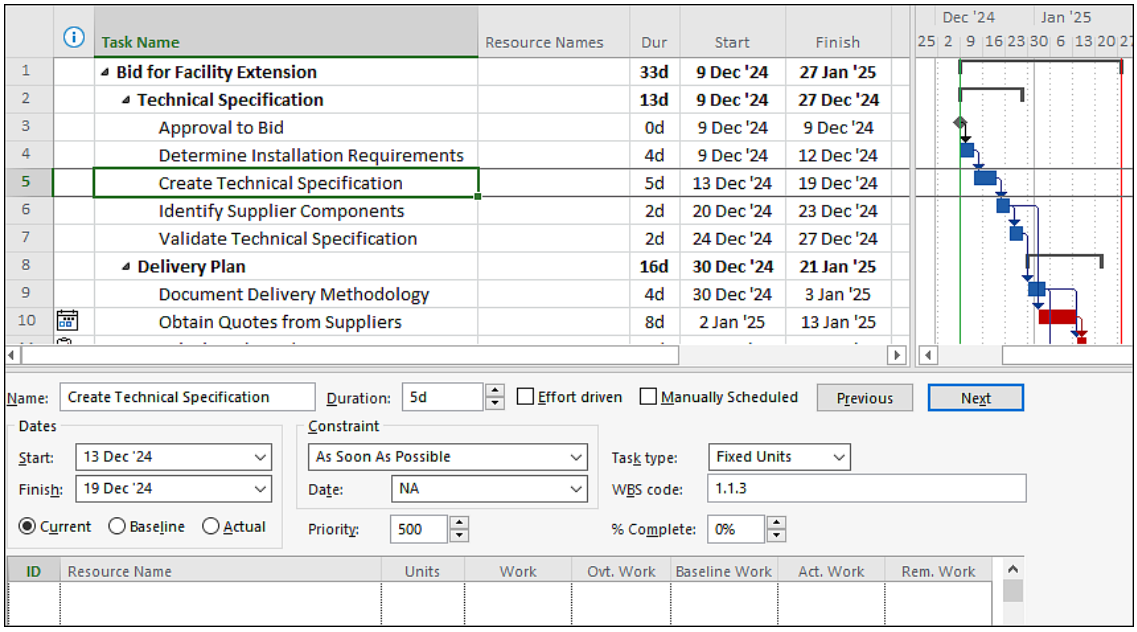
Background

The resources must now be assigned to their specific tasks.

Assignment

Open the **OzBuild With Resources** project and complete the following steps:

1. Select the **Gantt Chart** view and **Entry** table.
2. Insert the **Resource Names** column to the right of the **Task Name** and align the data to the left.
3. Split the pane by right-clicking in the Gantt Chart and selecting **Show Split**.
4. Display the **Task Details Form** in the bottom pane window.
5. Right-click in the **Task Details Form** and choose **Work** from the menu.
6. Ensure all Detail Tasks are **NOT Effort Driven** and are **Fixed Units.**



7. Assign the Resources as per table below the using any suitable method including:
   - The **Task Details Form** in the bottom window or
   - The **Assign Resources** form by clicking on the icon or
   - The drop down box in the **Resource Names** column.

NOTES: Once you have entered the **Resource Name** in the **Task Details** form and assigned the **Units**, Microsoft Project will calculate the worked hours automatically after you click out of the form or press the enter key. Ensure the tasks are **NOT Effort-Driven** as you enter resources, otherwise the Total Work may stay constant and the duration change as you add additional resources.

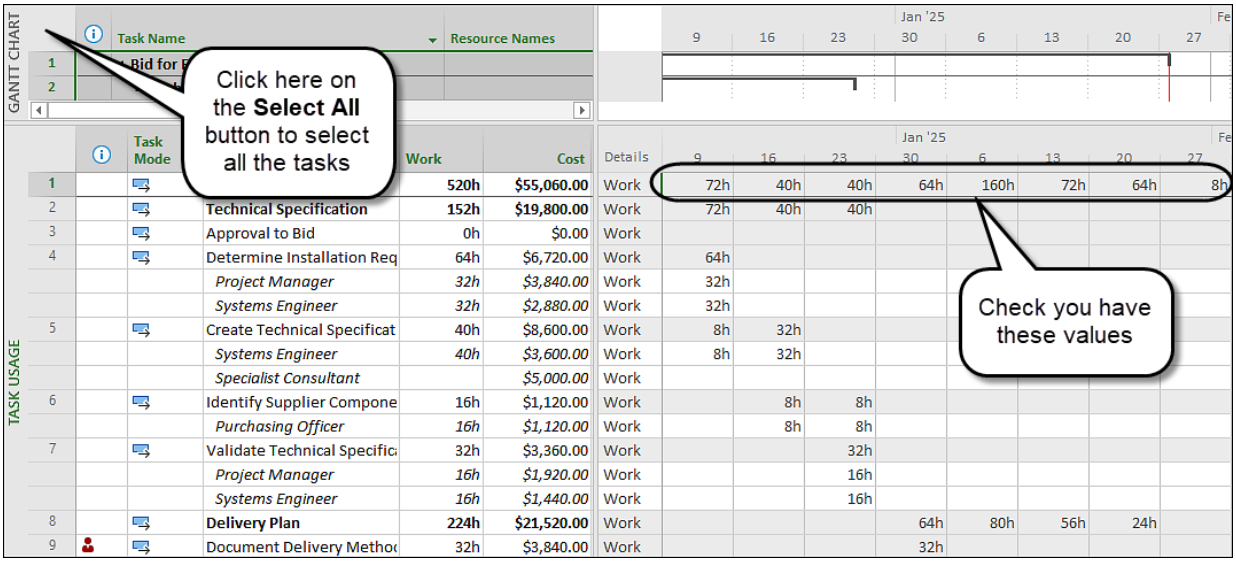
As resources are assigned to tasks 10 and 11 the task calendars will be ignored but as the resource has been assigned a 6-Day Working Week calendar these tasks will be scheduled with the same dates.

ID	Task Name	Resources
4	Determine Installation Requirements	Project Manager, Systems Engineer
5	Create Technical Specification	Systems Engineer, Specialists Consultant and assign a cost of $5,000.00
6	Identify Supplier Components	Purchasing Officer
7	Validate Technical Specification	Project Manager, Systems Engineer
9	Document Delivery Methodology	Project Manager
10	Obtain Quotes from Suppliers	Purchasing Officer, Project Manager
11	Calculate the Bid Estimate	Project Support
12	Create the Project Schedule	Project Support
13	Review the Delivery Plan	Project Manager, Systems Engineer
15	Create Draft of Bid Document	Clerical Support, Project Manager
16	Review Bid Document	Systems Engineer, Project Manager
17	Finalize and Submit Bid Document	Project Manager, Report Binding [3 each]

8. Format your columns as per below to check your answer:

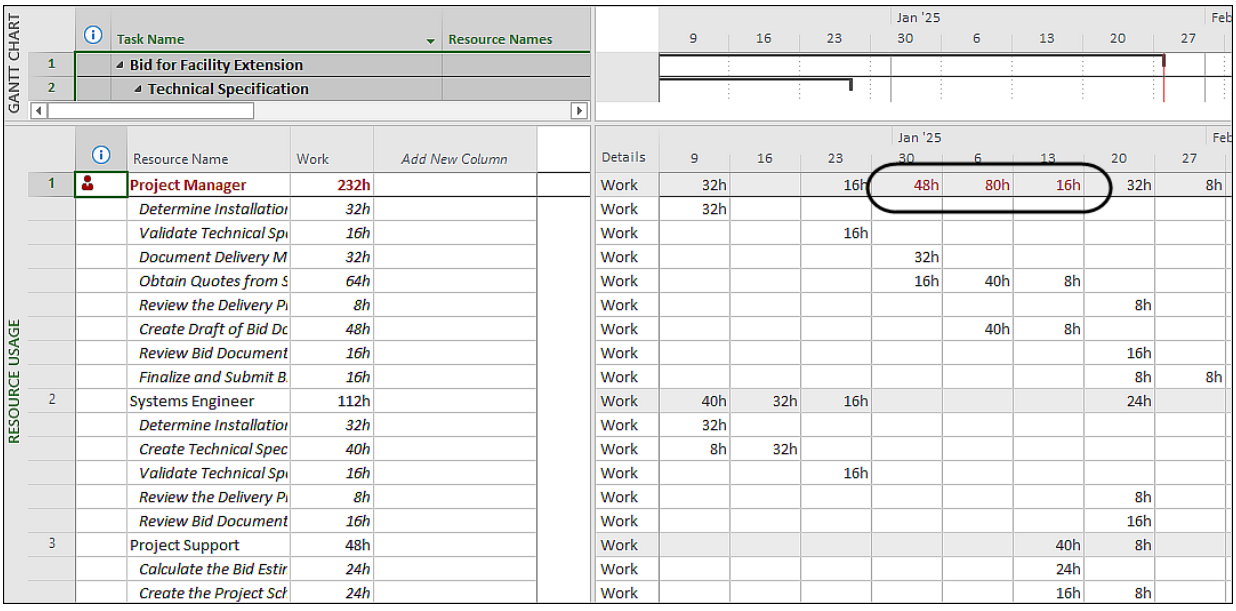
	Task Name	Resource Names	Work	Cost
1	**Bid for Facility Extension**		**520h**	**$55,060.00**
2	**Technical Specification**		**152h**	**$19,800.00**
3	Approval to Bid		0h	$0.00
4	Determine Installation Requ	Project Manager,Systems Engineer	64h	$6,720.00
5	Create Technical Specificati	Systems Engineer,Specialist Consultant[$5,000.00]	40h	$8,600.00
6	Identify Supplier Componei	Purchasing Officer	16h	$1,120.00
7	Validate Technical Specifica	Project Manager,Systems Engineer	32h	$3,360.00
8	**Delivery Plan**		**224h**	**$21,520.00**
9	Document Delivery Method	Project Manager	32h	$3,840.00
10	Obtain Quotes from Supplie	Purchasing Officer,Project Manager	128h	$12,160.00
11	Calculate the Bid Estimate	Project Support	24h	$1,920.00
12	Create the Project Schedule	Project Support	24h	$1,920.00
13	Review the Delivery Plan	Project Manager,Systems Engineer	16h	$1,680.00
14	**Bid Document**		**144h**	**$13,740.00**
15	Create Draft of Bid Docume	Clerical Support,Project Manager	96h	$8,160.00
16	Review Bid Document	Systems Engineer,Project Manager	32h	$3,360.00
17	Finalize and Submit Bid Doc	Project Manager,Report Binding[3 Each]	16h	$2,220.00
18	Bid Document Submitted		0h	$0.00

9. Now display the **Task Usage** view in the Bottom Pane. This displays the Tasks and the Resources assigned to the tasks.
10. Display the columns shown below by adding the **Cost** column,
11. Set the Timescale to weeks,
12. Select all the tasks in the top pane by clicking on the **Select All** button and check that your data matches the table:



	Task Mode	Task Name	Work	Cost	Details	9	16	23	30	6	13	20	27
1		**Bid for Facility Extension**	**520h**	**$55,060.00**	Work	72h	40h	40h	64h	160h	72h	64h	8h
2		**Technical Specification**	**152h**	**$19,800.00**	Work	72h	40h	40h					
3		Approval to Bid	0h	$0.00	Work								
4		Determine Installation Req	64h	$6,720.00	Work	64h							
		Project Manager	*32h*	*$3,840.00*	Work	32h							
		Systems Engineer	*32h*	*$2,880.00*	Work	32h							
5		Create Technical Specificat	40h	$8,600.00	Work	8h	32h						
		Systems Engineer	*40h*	*$3,600.00*	Work	8h	32h						
		Specialist Consultant		*$5,000.00*	Work								
6		Identify Supplier Compone	16h	$1,120.00	Work		8h	8h					
		Purchasing Officer	*16h*	*$1,120.00*	Work		8h	8h					
7		Validate Technical Specific	32h	$3,360.00	Work			32h					
		Project Manager	*16h*	*$1,920.00*	Work			16h					
		Systems Engineer	*16h*	*$1,440.00*	Work			16h					
8		**Delivery Plan**	**224h**	**$21,520.00**	Work				64h	80h	56h	24h	
9		Document Delivery Metho	32h	$3,840.00	Work				32h				

13. Now display the **Resource Usage** view in the Bottom Pane. This displays the resources and the tasks assignment for each resource.
14. Display the columns shown below by adding the Costs column,
15. Select all the tasks in the top pane and check that your data matches the table.
16. The Project Manager is overloaded where the values are in red.



	Resource Name	Work	Add New Column	Details	9	16	23	30	6	13	20	27
1	**Project Manager**	**232h**		Work	32h		16h	48h	80h	16h	32h	8h
	Determine Installatio	*32h*		Work	32h							
	Validate Technical Sp	*16h*		Work			16h					
	Document Delivery M	*32h*		Work				32h				
	Obtain Quotes from S	*64h*		Work				16h	40h	8h		
	Review the Delivery P	*8h*		Work							8h	
	Create Draft of Bid Dc	*48h*		Work					40h	8h		
	Review Bid Document	*16h*		Work							16h	
	Finalize and Submit B	*16h*		Work							8h	8h
2	Systems Engineer	112h		Work	40h	32h	16h				24h	
	Determine Installatio	*32h*		Work	32h							
	Create Technical Spec	*40h*		Work	8h	32h						
	Validate Technical Sp	*16h*		Work			16h					
	Review the Delivery P	*8h*		Work							8h	
	Review Bid Document	*16h*		Work							16h	
3	Project Support	48h		Work						40h	8h	
	Calculate the Bid Estir	*24h*		Work						24h		
	Create the Project Sch	*24h*		Work						16h	8h	

17. Remove the Split and remove all the resources column.
18. Save your **OzBuild Bid** project.

19.10 Workshop 17 – Resource Graphs and Tables

Background

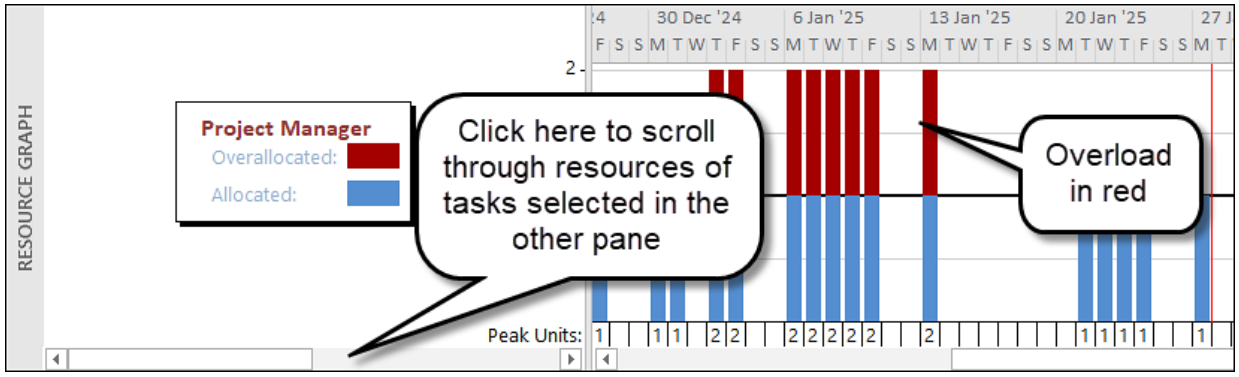
We will create a copy of our current project file for this workshop, then use Usage Views and Graphs to isolate the resources that are over allocated and level the schedule.

Assignment

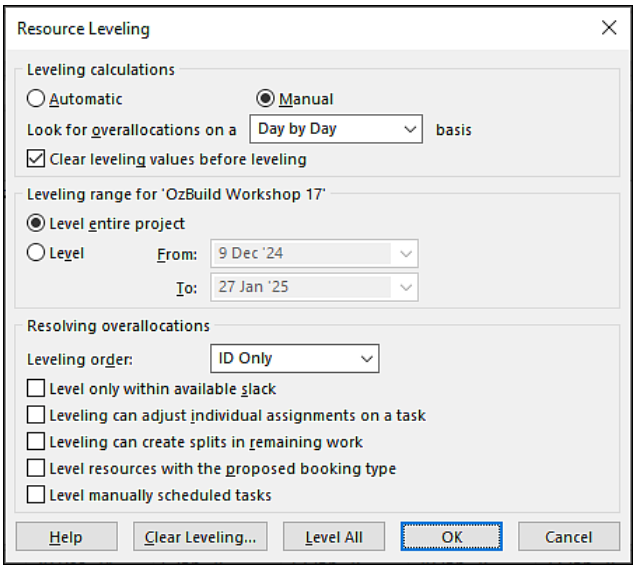
1. Save your **OzBuild Bid** project file and then resave as **OzBuild Leveling**.
2. Display the **Gantt Chart Inc Total and Neg Float** view and **Entry** table in the top pane, the **Resource Usage** view in the bottom pane and adjust the timescale to show days only as per the picture below.
3. Click on **Select All button** to in the upper pane to display all resources. The overloaded resources are highlighted in red.
4. Set the Timescale to daily. You may also wish to adjust the size % to fit more on the page. **NOTE:** The schedule below has been set to 60% size.
5. Right-click in the bottom pane right hand side and display both the Work and Over-allocation resources. The over-allocated resources are highlighted in red and the over-allocated lines of data show by how much:

	Resource Name	Work	Details	30 Dec '24 M	T	W	T	F	S	S	6 Jan '25 M	T	W	T	F	S	S	13 Jan '25 M	T
1	Project Manager	232h	Work	8h	8h		16h	16h			16h	16h	16h	16h	16h			16h	
	Determine Installatio	32h	Work																
	Validate Technical Sp	16h	Work																
	Document Delivery M	32h	Work	8h	8h		8h	8h											
	Obtain Quotes from S	64h	Work				8h	8h			8h	8h	8h	8h	8h			8h	
	Review the Delivery Pl	8h	Work																
	Create Draft of Bid Dc	48h	Work								8h	8h	8h	8h	8h			8h	
	Review Bid Document	16h	Work																
	Finalize and Submit B	16h	Work																

6. Display the **Resource Graph** form in the bottom pane and check the Histograms for the resources. Note again the overallocated resources, this has been resized to 25% to show more of the Gantt chart :

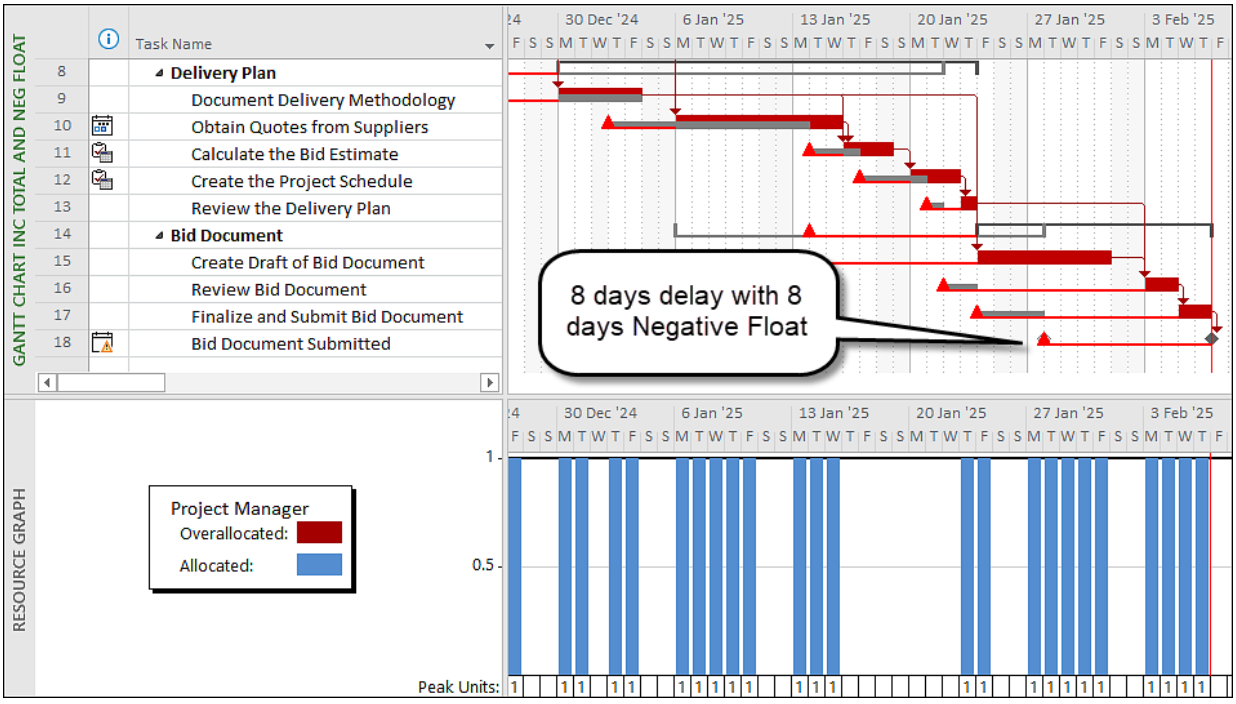


7. Set the Baseline and display the Baseline bars.
8. Now level the schedule, select **Resource**, **Leveling Options** to open the **Resource Leveling** form:
9. Set the options as per below and click on Level All:



10. Your answer should look like this, with task 15 delayed and the end date also delayed:

The author found that sometimes the leveling options did not calculate correctly unless they were changed and then changed back to the required setting.



11. Now clear the leveling and try levelling with different options.

20.9 Workshop 18 - Updating a Resourced Schedule

Background

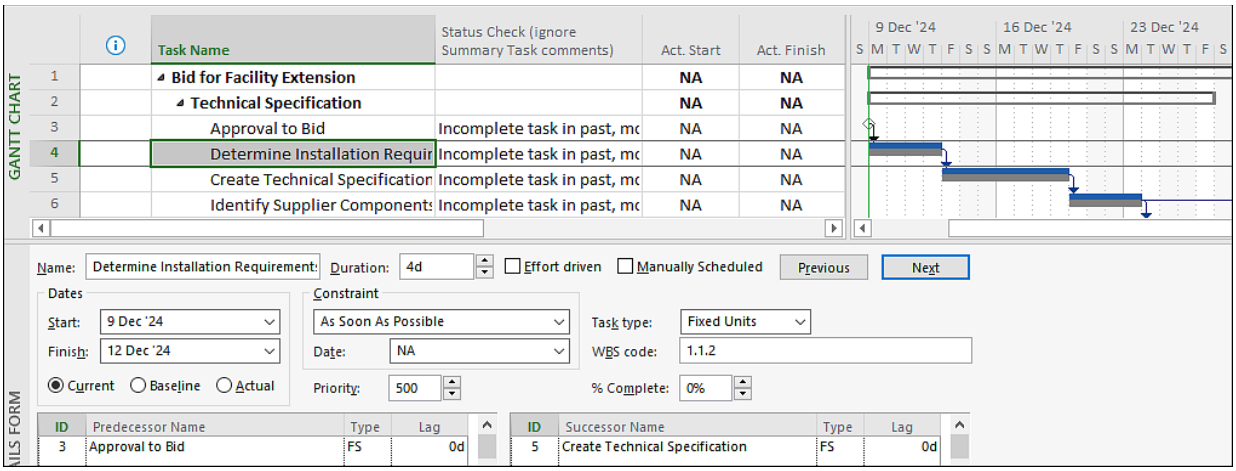
We need to update the tasks and resources.

Assignment

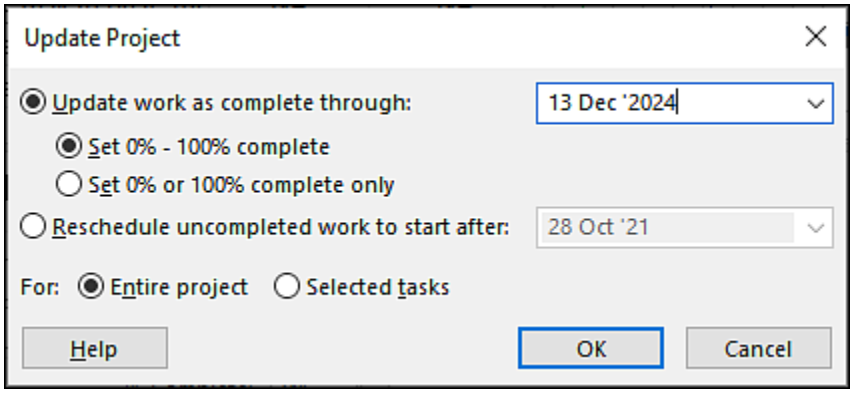
NOTE: If your settings are not exactly the same as the computer on which this exercise was undertaken or you enter data in a different order you may end up with different results.

1. Close the Leveling workshop file and open your OzBuild with Resources project file.
2. We will initially allow Microsoft Project to calculate costs and hours from the % Complete. Adjust the options using **File**, **Options**, **Schedule** tab, **Calculation options for this project:** to:
   - **CHECK** the **Updating task status updates resource status** option. This will link % Complete and Actual Work. (This option also needs to be checked to allow Summary % Completes to be spread correctly to detail tasks.)
   - **CHECK** the **Actual costs are always calculated by Microsoft Project** option. With this option checked the resource Actual Cost is calculated by Microsoft Project from the resource Work and Rates.
3. Ensure the **Split in-progress tasks** option in the **File**, **Options**, **Schedule** tab, **Scheduling options for this project:** section is **UNCHECKED**.
4. Split the screen.
   - Display the **Gantt Chart View** in the upper screen,
   - Apply the **Tracking Table**.
   - The **Task Details Form** with **Resource Work** details form in the **Bottom Pane**.
   - Format the Timescale to days and scale to about 50%
5. Save the Baseline using **Project**, **Schedule** group, **Set Baseline** and accept the defaults and set the baseline.
6. Display the **Baseline** bars using **Gant Chart Format**, **Bar Styles**, **Baseline** and select **Baseline**.
7. Check the **Status Date** is displayed as a solid black by selecting **Gant Chart Format**, **Format** group, **Gridlines**.

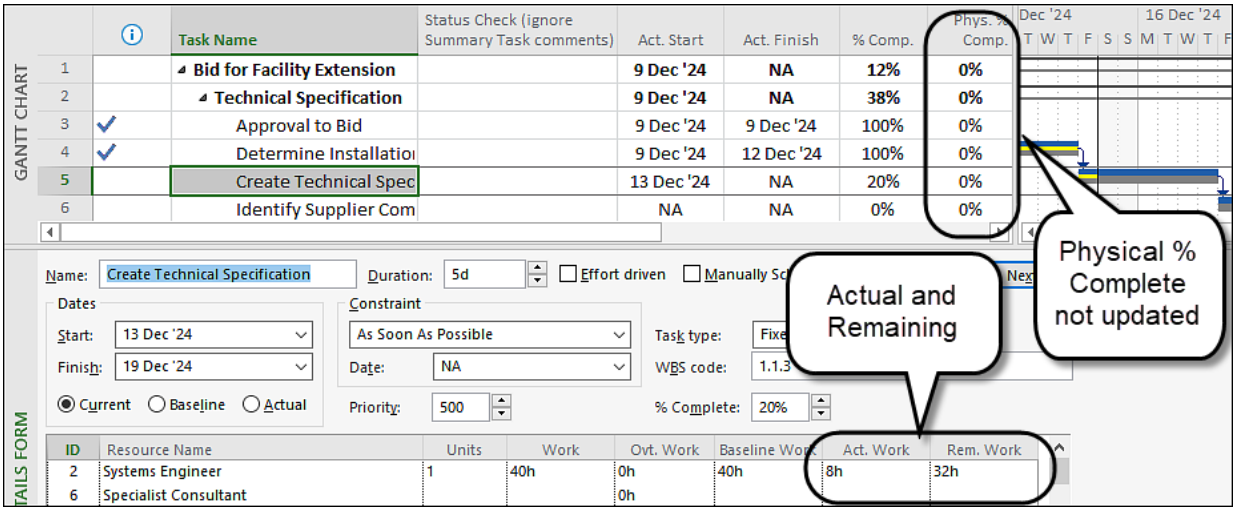
8. You screen should look like this:



9. We are recording progress as of the end of the second week in December, so we will set the **Status Date** as Friday 13 Dec 24. The time will default to the end of the work day:
   - Update the project using **Project**, **Status** group, **Update Project**, as per the picture below:

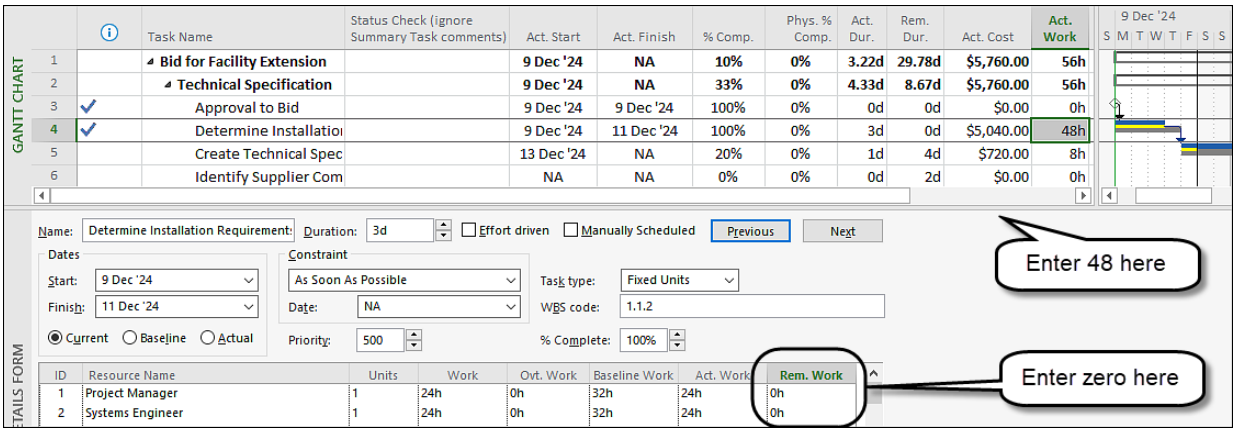


   - Check the **Status Date** in the **Project**, **Properties** group, **Project Information** form. It should be 13 Dec 24 and the **Status Date** should be displayed on the Gantt Chart.
   - The **Physical % Complete** has not been updated. This optional field may be used for entering the progress. It is not linked to the durations and may be used for calculating the Earned Value.
   - Hide the **Physical % Complete** column if displayed.



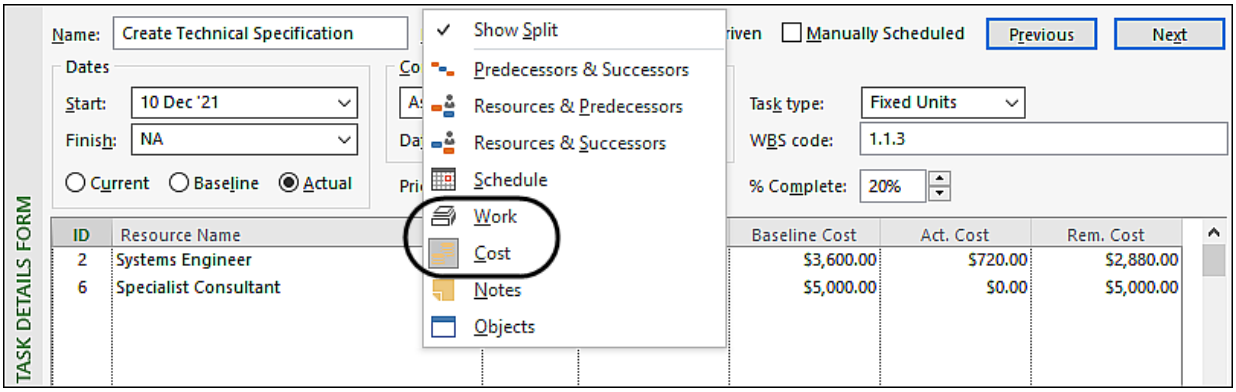
10. Update task **4 Determine Installation Requirements**

- Enter 48 hours in the **Actual Work** column cell of task **4 Determine Installation Requirements**. **NOTE:** The Actual Finish date has now been removed and there is remaining work assigned to the task.
- Ensure the **Remaining Work** remains zero by typing zero against the resources in the **Task Details** form. Press F9 if required.
- The duration shortens as the task is **Fixed Units** and the cost will change.
- The **Actual Costs** have been recalculated, see the **Resource Costs** tab in the bottom pane. Right click to display the menu to open this form.
- Also, a new **Actual Finish** has been set without warning.



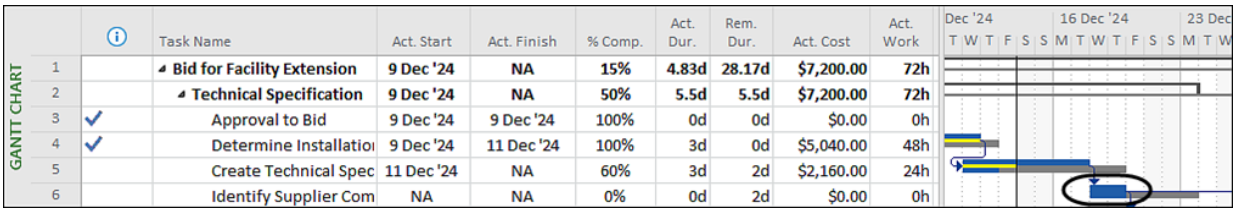
11. Updating **5 Create Technical Specification**

- Select task **5 Create Technical Specification** and look at the **Task Details Form**, **Work** and then **Cost** forms in the bottom pane, right click to display the menu to open these forms.
- Observe how the Systems Engineer's work and costs have been updated but the Specialists Consultant costs have not been updated. The Specialists Consultant cost could be manually updated if a cost had been incurred.



- Enter an **Actual Start** date of 11 Dec 24 and there will an error message in the **Status Check** column indicating **Incomplete work in the past**.
- Enter 60% Complete against task **5 Create Technical Specification** or click on the **Mark on Track** icon. This should take the **Actual Duration** up to the **Status Date** and remove any **Status Check** column error message and the schedule is now properly updated.

- Task **6 Identify Supplier Components** should also start earlier as its predecessor is scheduled to finish earlier. Press F9 if required.

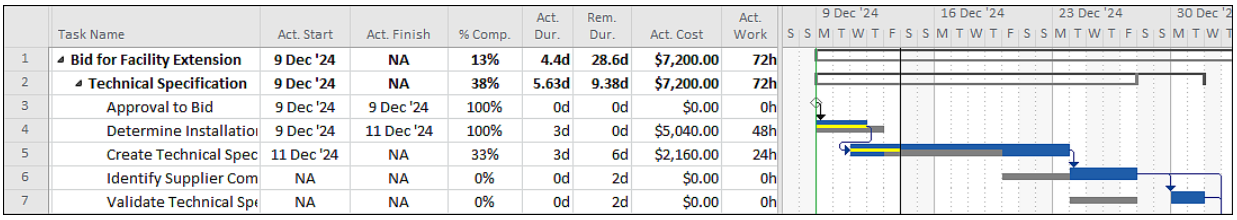


		Task Name	Act. Start	Act. Finish	% Comp.	Act. Dur.	Rem. Dur.	Act. Cost	Act. Work
1		**Bid for Facility Extension**	**9 Dec '24**	**NA**	**15%**	**4.83d**	**28.17d**	**$7,200.00**	**72h**
2		**Technical Specification**	**9 Dec '24**	**NA**	**50%**	**5.5d**	**5.5d**	**$7,200.00**	**72h**
3	✓	Approval to Bid	9 Dec '24	9 Dec '24	100%	0d	0d	$0.00	0h
4	✓	Determine Installatio	9 Dec '24	11 Dec '24	100%	3d	0d	$5,040.00	48h
5		Create Technical Spec	11 Dec '24	NA	60%	3d	2d	$2,160.00	24h
6		Identify Supplier Com	NA	NA	0%	0d	2d	$0.00	0h

GANTT CHART

12. Enter 6d Remaining Duration against task **5 Create Technical Specification**, the % Comp should equal 33% and notice in the **Task Details** form that the remaining costs and remaining hours have increased.

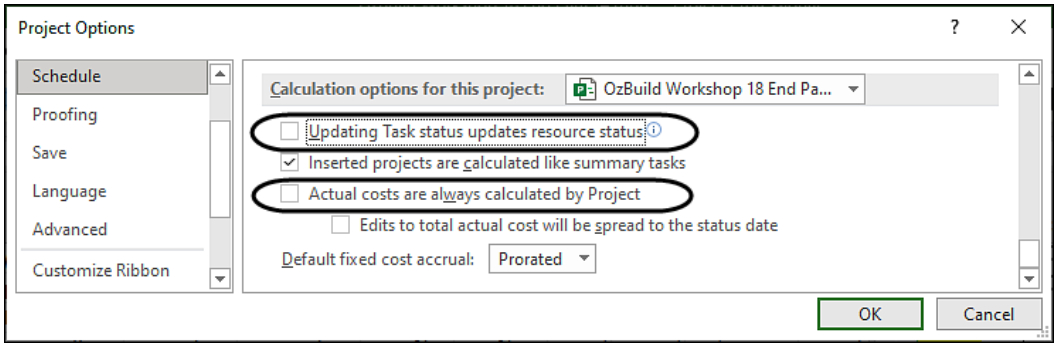
- Press F9 to recalculate and your schedule should look like this:



	Task Name	Act. Start	Act. Finish	% Comp.	Act. Dur.	Rem. Dur.	Act. Cost	Act. Work
1	**Bid for Facility Extension**	**9 Dec '24**	**NA**	**13%**	**4.4d**	**28.6d**	**$7,200.00**	**72h**
2	**Technical Specification**	**9 Dec '24**	**NA**	**38%**	**5.63d**	**9.38d**	**$7,200.00**	**72h**
3	Approval to Bid	9 Dec '24	9 Dec '24	100%	0d	0d	$0.00	0h
4	Determine Installatio	9 Dec '24	11 Dec '24	100%	3d	0d	$5,040.00	48h
5	Create Technical Spec	11 Dec '24	NA	33%	3d	6d	$2,160.00	24h
6	Identify Supplier Com	NA	NA	0%	0d	2d	$0.00	0h
7	Validate Technical Spe	NA	NA	0%	0d	2d	$0.00	0h

13. Now we will enter the hours and costs to date and hours to go. To prevent Microsoft Project from calculating the actual costs from the actual hours, open the **File**, **Options** form, **Schedule** tab, **Calculation options for this project** and:

- **UNCHECK** the **Updating task status updates resource status**. This option is to prevent the updated % Complete from calculating **Actual Work** and **Remaining Work** by unlinking the % Complete from the % Work fields.
- **UNCHECK** the **Actual costs are always calculated by Project**. This option is to prevent Microsoft Project from calculating the **Actual Costs** from the **Actual Work**.

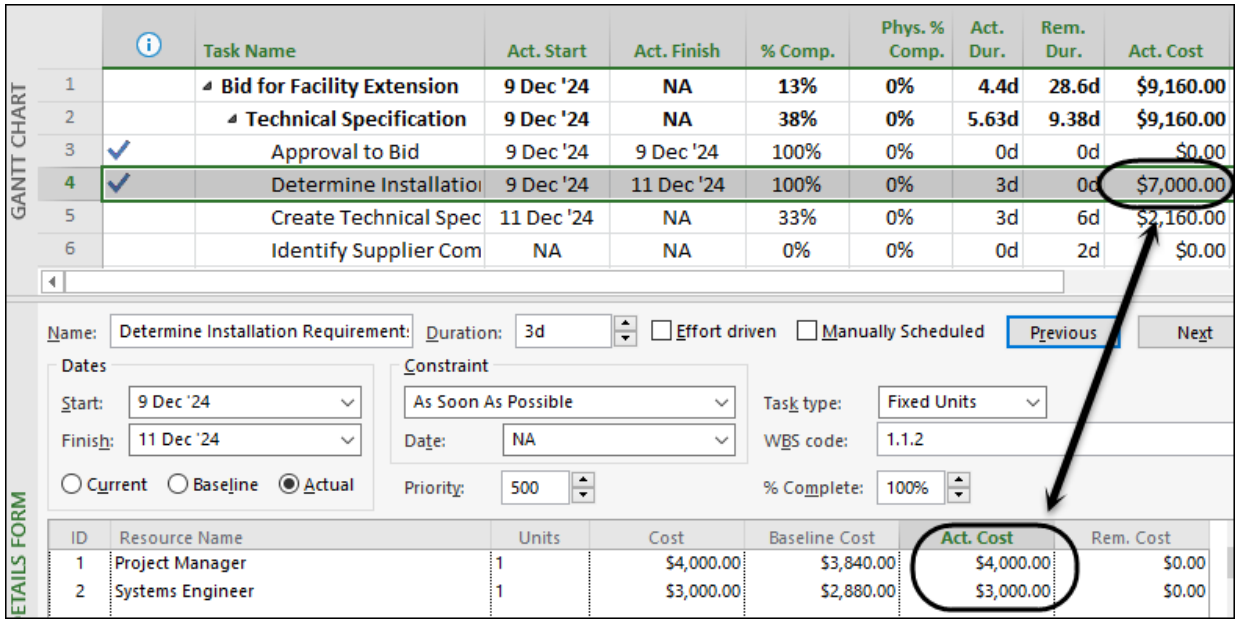


Microsoft Project 2013 and later calculate differently to earlier versions when the option **Actual costs are always calculated by Project** is unchecked when the activity is 100%.

- In earlier versions the **Actual Cost** were unchanged, but could be manually changed that point on,
- In Microsoft Project 2013 and later the software changes the **Actual Costs** to zero when unchecked, which would normally be less desirable, and then **Actual Costs** must then be manually re-entered.

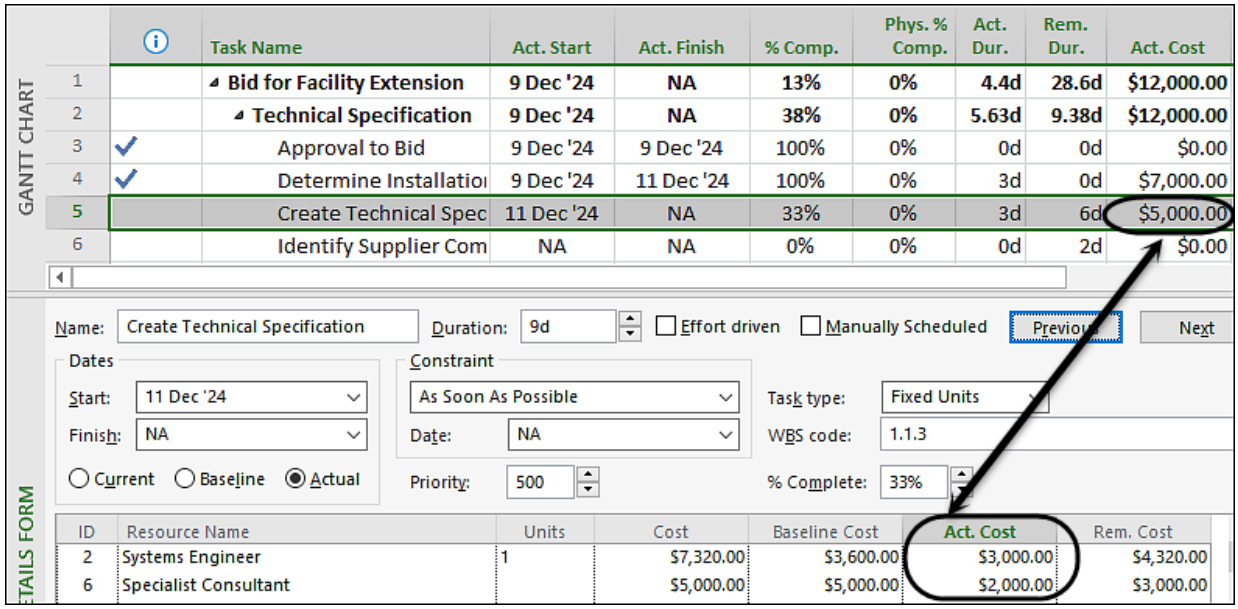
14. Task **4 Determine Installation Requirements** will have the costs set to zero. Assign the following Actual Costs to the resources and click OK:

- $4,000.00 to the Project Manager and
- $3,000.00 to the Systems Engineer



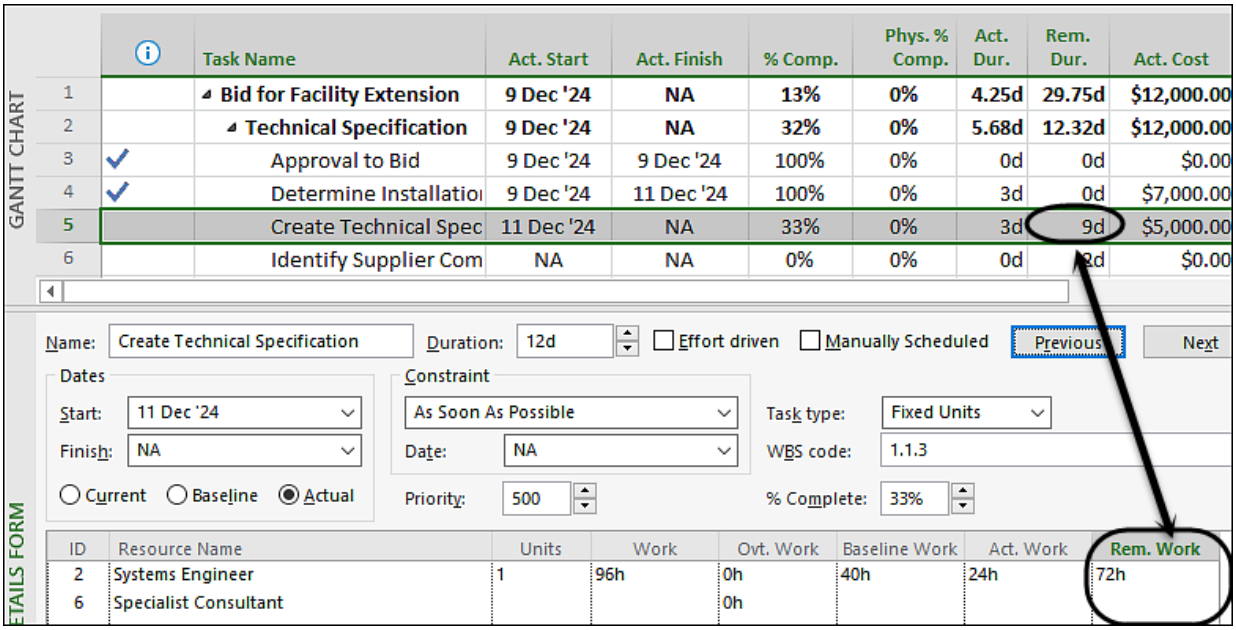
15. Update task **5 Create Technical Specification** with the following Actual Costs:

- **Actual Cost** of $3,000.00 against the **Systems Engineer**, and
- **Actual Cost** of $2,000.00 against the **Specialists Consultant**,
- Click the **OK** button to accept the changes. Press F9 if required.

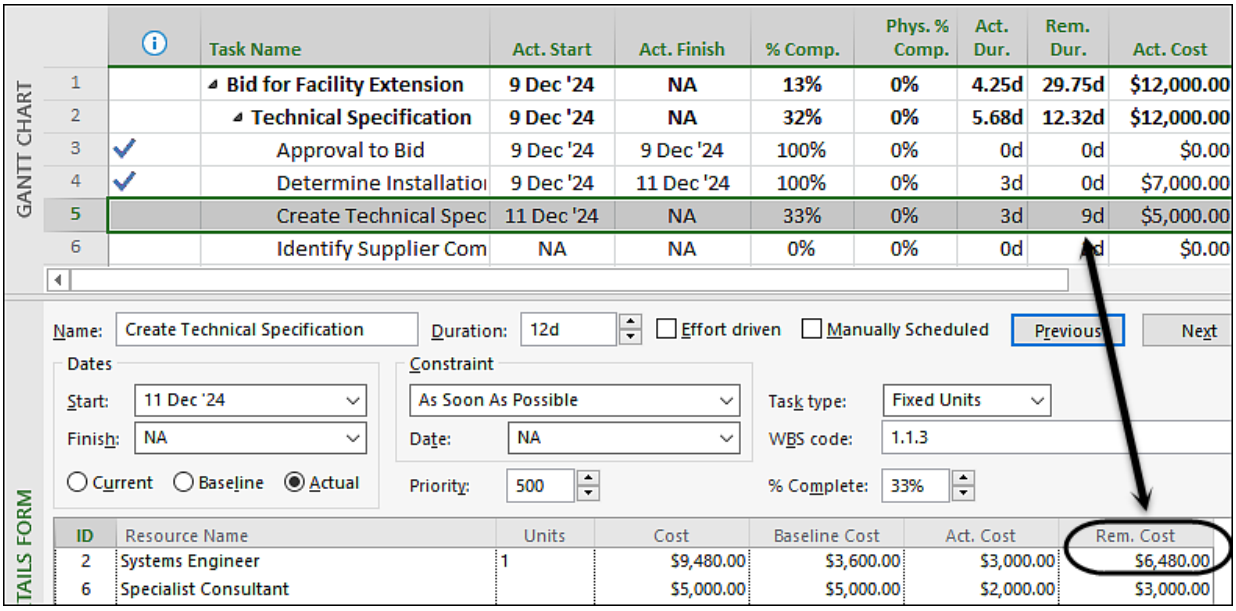


16. We will now update task **5 Create Technical Specification - Remain Work**

- **Right-**click in the **Task Details Form** and display the **Work** tab, then
- Update task **5 Create Technical Specification**, with 72 hours of **Remaining Work** against the **Systems Engineer**,
- Click the OK to accept the changes.
- **NOTE:** The task remaining duration extends from 6 days to 9 days. This is because the task is **Fixed Units**, so the **Units** stayed the same and duration was extended.



- Apply the Cost details form in the bottom pane,
- The **Systems Engineer** Remaining Costs will recalculate based on the Remaining Work and Resource Unit Rate,
- Your schedule should look like this:



17. To see what the final forecast costs are, you may display the **Cost** table, the **Fixed Costs** and **Fixed Costs Accrual** columns have been hidden in the picture below:

	Task Name	Total Cost	Baseline	Variance	Actual	Remaining
1	**Bid for Facility Extension**	**$61,220.00**	**$55,060.00**	**$6,160.00**	**$12,000.00**	**$49,220.00**
2	**Technical Specificatio**	**$25,960.00**	**$19,800.00**	**$6,160.00**	**$12,000.00**	**$13,960.00**
3	Approval to Bid	$0.00	$0.00	$0.00	$0.00	$0.00
4	Determine Installat	$7,000.00	$6,720.00	$280.00	$7,000.00	$0.00
5	Create Technical Sp	$14,480.00	$8,600.00	$5,880.00	$5,000.00	$9,480.00
6	Identify Supplier Cc	$1,120.00	$1,120.00	$0.00	$0.00	$1,120.00
7	Validate Technical S	$3,360.00	$3,360.00	$0.00	$0.00	$3,360.00
8	**Delivery Plan**	**$21,520.00**	**$21,520.00**	**$0.00**	**$0.00**	**$21,520.00**
9	Document Delivery	$3,840.00	$3,840.00	$0.00	$0.00	$3,840.00
10	Obtain Quotes from	$12,160.00	$12,160.00	$0.00	$0.00	$12,160.00
11	Calculate the Bid Es	$1,920.00	$1,920.00	$0.00	$0.00	$1,920.00
12	Create the Project S	$1,920.00	$1,920.00	$0.00	$0.00	$1,920.00
13	Review the Deliver	$1,680.00	$1,680.00	$0.00	$0.00	$1,680.00
14	**Bid Document**	**$13,740.00**	**$13,740.00**	**$0.00**	**$0.00**	**$13,740.00**
15	Create Draft of Bid I	$8,160.00	$8,160.00	$0.00	$0.00	$8,160.00
16	Review Bid Docume	$3,360.00	$3,360.00	$0.00	$0.00	$3,360.00
17	Finalize and Submit	$2,220.00	$2,220.00	$0.00	$0.00	$2,220.00
18	Bid Document Subn	$0.00	$0.00	$0.00	$0.00	$0.00

18. To see how the consumption of hours is going you may display to **Work** table:

	Task Name	Work	Baseline	Variance	Actual	Remaining	% W. Comp.
1	**Bid for Facility Extension**	**560h**	**520h**	**40h**	**72h**	**488h**	**13%**
2	**Technical Specificatio**	**192h**	**152h**	**40h**	**72h**	**120h**	**38%**
3	Approval to Bid	0h	0h	0h	0h	0h	100%
4	Determine Installat	48h	64h	-16h	48h	0h	100%
5	Create Technical Sp	96h	40h	56h	24h	72h	25%
6	Identify Supplier Cc	16h	16h	0h	0h	16h	0%
7	Validate Technical S	32h	32h	0h	0h	32h	0%
8	**Delivery Plan**	**224h**	**224h**	**0h**	**0h**	**224h**	**0%**
9	Document Delivery	32h	32h	0h	0h	32h	0%
10	Obtain Quotes from	128h	128h	0h	0h	128h	0%
11	Calculate the Bid Es	24h	24h	0h	0h	24h	0%
12	Create the Project S	24h	24h	0h	0h	24h	0%
13	Review the Deliver	16h	16h	0h	0h	16h	0%
14	**Bid Document**	**144h**	**144h**	**0h**	**0h**	**144h**	**0%**
15	Create Draft of Bid I	96h	96h	0h	0h	96h	0%
16	Review Bid Docume	32h	32h	0h	0h	32h	0%
17	Finalize and Submit	16h	16h	0h	0h	16h	0%
18	Bid Document Subn	0h	0h	0h	0h	0h	0%

19. Now apply the **Earned Value** table, you may need to select the **More Tables** option to find this table. The VAC column does not calculate vertically. Microsoft Project calculates the EAC horizontally using the formula EAC = ACWP + (Baseline cost X - BCWP) / CPI which is not the same value as calculating vertically:

	Task Name	Planned Value - PV (BCWS)	Earned Value - EV (BCWP)	AC (ACWP)	SV	CV	EAC	BAC	VAC
1	**Bid for Facility Extension**	**$7,440.00**	**$9,558.00**	**$10,000.00**	**$1,118.00**	**-$442.00**	**$69,625.70**	**$55,060.00**	**-$14,565.70**
2	**Technical Specificatio**	**$7,440.00**	**$9,558.00**	**$10,000.00**	**$1,118.00**	**-$442.00**	**$25,037.94**	**$19,800.00**	**-$5,237.94**
3	Approval to Bid	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
4	Determine Installat	$6,720.00	$6,720.00	$7,000.00	$0.00	-$280.00	$7,000.00	$6,720.00	-$280.00
5	Create Technical Sp	$720.00	$2,838.00	$3,000.00	$1,118.00	-$162.00	$21,717.17	$8,600.00	-$13,117.17
6	Identify Supplier Cc	$0.00	$0.00	$0.00	$0.00	$0.00	$1,120.00	$1,120.00	$0.00
7	Validate Technical S	$0.00	$0.00	$0.00	$0.00	$0.00	$3,360.00	$3,360.00	$0.00
8	**Delivery Plan**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$21,520.00**	**$21,520.00**	**$0.00**
9	Document Delivery	$0.00	$0.00	$0.00	$0.00	$0.00	$3,840.00	$3,840.00	$0.00
10	Obtain Quotes from	$0.00	$0.00	$0.00	$0.00	$0.00	$12,160.00	$12,160.00	$0.00
11	Calculate the Bid Es	$0.00	$0.00	$0.00	$0.00	$0.00	$1,920.00	$1,920.00	$0.00
12	Create the Project S	$0.00	$0.00	$0.00	$0.00	$0.00	$1,920.00	$1,920.00	$0.00
13	Review the Deliver	$0.00	$0.00	$0.00	$0.00	$0.00	$1,680.00	$1,680.00	$0.00
14	**Bid Document**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$13,740.00**	**$13,740.00**	**$0.00**
15	Create Draft of Bid I	$0.00	$0.00	$0.00	$0.00	$0.00	$8,160.00	$8,160.00	$0.00
16	Review Bid Docume	$0.00	$0.00	$0.00	$0.00	$0.00	$3,360.00	$3,360.00	$0.00
17	Finalize and Submit	$0.00	$0.00	$0.00	$0.00	$0.00	$2,220.00	$2,220.00	$0.00
18	Bid Document Subn	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00