COMPASS USER GUIDE

By

The Office of Architectural, Engineering and Construction Applications
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Section 1 Introduction to COMPASS

The objective of the COMPASS project is to provide CTDOT with project management processes that work in conjunction with a cloud-based digital Transportation Management Solution, utilizing Microsoft Commercial Off-the-Shelf Software (MCOTS) to manage the delivery of all capital projects. Specifically, this solution will provide improved quality and control over complex transportation projects by providing:

- Ball-In-Court project status
- Better collaboration and communication using SharePoint online
- Real-time project scheduling capabilities using MS Project
- Improved resource management
- Real-time project status dashboards
- Document control and content management
- Improved transparency and accountability
- Improved risk management

Section 2 Office 365 Login Instructions

COMPASS is a cloud-based application built on Microsoft SharePoint ages. Thus, users require an Office 365 (O365) account to access the site. This account provides access to COMPASS as well as many other useful Office 365 applications. CTDOT users are provided with a CTDOT O365 license. External user invitations are sent to non-CTDOT personnel – such as consultants and contractors – to grant project-specific COMPASS site access.

2.1 Office 365 Sign In

The Microsoft Online sign-in page is located at https://www.office.com, or can be found by internet searching for “Office 365 log-in.”
2.1.1 Sign-In Name
For CTDOT personnel, user sign-in names match computer sign-in names and are not the ct.gov email addresses. Sign-in names are typically in the following format:

[Full Last Name] + [First Initial] + [Middle Initial] @dot.ct.gov

Examples: LynchKL@dot.ct.gov, MurphyZ@dot.ct.gov

2.1.2 Sign-In Password
For CTDOT personnel, user sign-in passwords match computer sign-in passwords. If the computer password is changed, the Microsoft Online password is automatically changed.

Section 3 Trusted Sites
It is recommended that users add COMPASS as a web browser trusted site. This needs to be done one time per each user log-in name and per each device. If the trusted sites are not added, when a user tries to access COMPASS the following error message may appear (“Loading Projects…”):

Take the following steps to add the COMPASS trusted sites to Internet Explorer (IE).

1. Open an Internet Explorer browser window.
2. Click on the settings gear in the upper-right hand corner of the window. Select Internet Options.
3. Navigate to the Internet Options Security tab. Click Trusted Sites. Then press the Sites button.

4. In the top field labeled “Add this website to the zone,” input the following three sites:
   
   https://compassapis-prod.azurewebsites.net
   https://ctgovdot-myfiles.sharepoint.com
   https://ctgovdot.sharepoint.com
Press Add after inputting each individual site.

5. The site names will now show in the Websites section. Press Close to exit the Trusted sites window.
6. In the Internet Options window, select the Security tab. Check Enable Protected Mode.

7. Press OK to exit the Internet Options window.
8. Close Internet Explorer.

Section 4 Project Site Permissions

The Project Manager (PM) is the owner of the project site, and thus responsible for setting up and maintaining site security settings. If desired, the PM can delegate this responsibility by adding the selected team member(s) to the Site Owners Group. The majority of participants – including consultants and most CTDOT personnel attached to the project – will be granted Member access.

4.1 Permissions Groups Defined

There are four levels of access to each project: Site Owners, Site Members, Site Contractors and Site Visitors.

4.1.1 Site Owners Group

Site Owners have full control of the site. Items can be added, edited or deleted. Site Owners have the ability to grant access to the site to internal and external users.
4.1.2 Site Members Group
Site Member is the most common classification for individuals attached to a project. Site Members may add items to project libraries and folders and edit information in the Contacts menu. Individuals who need to review submittals and access document folders should be added to the Members group. Construction Contractors should be added to the Site Contractors Group. External users included in the Members group do not have access to the Landing, Dashboard and Details pages; they are only able to access the Submittals / Transmittals (S&T) page and project folders. External users invited to join a project Members group should follow instructions for Accepting an Invitation (External Users).

4.1.3 Site Contractors Group
Users in the Site Contractors permissions group have the ability to create new submittals in the COMPASS S&T application and respond to requests to revise and resubmit. Contractors cannot access any of the project folders. Contractors are limited to viewing submittals in the Submittals / Transmittals table that a member of the Contractors group created. If multiple members are included in this group, they will see each other’s submittals in the S&T table. The project Contractor(s) should be added to this group. Contractors should follow instructions for Accepting an Invitation (External Users).

4.1.4 Site Visitors Group
Site Visitors are limited to read-only access. Site Visitors can view project libraries, menu items and documents. Site Visitors cannot add, edit or delete any information from the site. By default, all CTDOT personnel who have a Department issued Office 365 license are members of the COMPASS Visitors group.

4.1.5 Site Permissions Summary Table

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>Site Owners</th>
<th>Site Members</th>
<th>Site Contractors</th>
<th>Site Visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add or remove users to site permissions groups</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create a submittal</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Replace a submittal in response to an R&amp;R</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Function as a submittal Owner as assigned in the S&amp;T Approval Matrix</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review a submittal</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access Internal Documents folder</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>View submittal documents</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

4.2 Site Permissions Groups

4.2.1 Setting up Site Permissions Groups
The Site Settings should be assigned when a COMPASS project is first created. Thereafter, the PM or delegated staff member should maintain access privileges as needed. The PM is responsible for adding and removing members of the COMPASS site permissions groups throughout the duration of the project.
To access the Site Settings menu for any COMPASS project:

1. After logging into COMPASS, a URL address can be used to assign permissions to any project. Only Owners of the specific project may modify the project-specific permission groups. Below is an example of how to enter the URL for Project No. 0134-0148. Replace the project number in the example (shown in red font) with the project number in question. All eight digits and the hyphen must be included:


2. Select the Members, Owners, Contractors or Visitors permissions group, as appropriate:

3. To add a new member to the group, press New → Add Users

4. To add CTDOT personnel, type and select the correct name into the names / email addresses field. Contact information is sourced from AD Manager. For external users, the email address needs to be inputted manually. Multiple users can be added to a specific site group at one time. By default, an email invitation will be sent to new users that includes an optional personal message typed by the Owner. To avoid sending an email notification to CTDOT personnel, click Show Options and uncheck the box “Send an email invitation.” Email invitations must be sent to external users. **Email invitations should not be forwarded between users; a separate invitation should be sent to each person who requires site access.** Once the names, email addresses, optional personal message and optional email invitation selection are complete, press Share to add individuals to the selected Group.
5. CTDOT users names will automatically populate the Site Permissions group when added. The first time an external user is invited to COMPASS, their name will not populate until the invitation is accepted.

4.2.2 Restricted Elements

Please do **not** use any of the functionality under the Settings menu.
Please do not use the menu items in the ribbon.

4.3 Accepting an Invitation (External Users)
External users (e.g., Contractors, Consultants, Stakeholders, etc.) invited to join a COMPASS project site will need to take the following steps to accept a COMPASS invitation. **External users should never forward their invitations to other users.**

If other individuals need access to a COMPASS project site, a request should be sent to the PM.

*Note: Depending on the user’s email settings, the email notification may route to the SPAM or Junk folder.*

1. The external user will receive an email invitation with a direct link to the project page.

2. On the SharePoint Online invitation acceptance page,
   a. External users with an existing work / company Office 365 account should click Organizational Account and log-in using their company Office 365 user name and password.
   b. External users with an existing personal Microsoft account as described should select “Microsoft account” and sign-in.
   c. External users without an existing Microsoft account should select “Create a Microsoft account” and follow the steps to set-up a new, free account.
Section 5  Accessing COMPASS

For CTDOT users, after following the Office 365 Login Instructions, navigate to SharePoint, then search for the COMPASS site. This location can also be reached via the following URL: https://ctgovdot.sharepoint.com. The first project shown in the list will be highlighted by a blue bar and display the Landing Page information in the center and right sections of the page.
Section 6  COMPASS Landing Page

6.1 Searching for Projects

Once within the COMPASS site, search or filter by Project Number, Project Name, Project Manager or Schedule Phase.

- When searching by Project Number, the hyphen and full eight-digit number should be used, including leading zeroes (####-####).
- Multiple Project Managers and / or Schedule Phases can be selected at the same time.
- Click Reset Filters to clear all filters and begin a new search.
• Click the Filter / Search Projects arrow to collapse or expand the filtering section.

• If a search produces multiple results, scroll between the project Landing Pages by using the up and down arrows located on the upper-right hand side of the page.

Section 7  Project Landing Page

The following resources can be accessed from each Project Landing page:

1. Project Dashboard
2. Project Details
3. Copy Project URL – Copies the project site URL to the clipboard.
4. MS Project Schedule – The MS Project schedule button will only be active if there is an associated schedule and if the user has an MS Project Online license. See Software License Requirements for details.
The following information resides on each Project Landing page:

- Project Description
- Schedule details including number of tasks remaining, overall schedule health and current Schedule Phase
- Permit and ROW status
- Location map showing the project polygon – Refresh the page to reset the map to its original position.
- Key dates for the project – Open in CORE and FDP
- Staff assigned to the project with their contact details
- Budget donut graphs – Roll over the graph sections to view monetary details
- Funding data

### Section 8  Project Dashboard

#### 8.1 Accessing the Project Dashboard

The Project Dashboard can be reached from the Project Landing page, Project Details page, or Submittals / Transmittals page by clicking the Project Dashboard button.

#### 8.2 Project Dashboard Contents

The following resources can be accessed from the Project Dashboard:
Section 9  Project Details

9.1 Accessing the Project Details Page

The Project Details page can be reached from the Project Dashboard, Project Landing page or Submittals / Transmittals page by clicking the Project Details button.
9.2 Project Details Contents

The following resources can be accessed from the Project Details page:

1. **Project Menu**
2. **MS Project Schedule** – The MS Project schedule button will only be active if there is an associated schedule and if the user has an MS Project Online license. See [Software License Requirements](#) for details.
3. Back to Project List button
4. **Staff** assigned to the project with their contact details, including the ability for Site Owners to edit. *Note: Only users in the project Site Owners permissions group will see the Edit button in the Staff section.*

The following information resides on each Project Details page:

- Town(s)
- Project Description
- Schedule details including number of tasks remaining, overall schedule health and current Schedule Phase
- MS Project schedule milestone details
- Permitting and ROW details
- Budget donut graphs – Roll over the graph sections to view monetary details
- Funding data

9.3 Staff

The Project Manager is the default Owner of a project site, and thus responsible for setting up and maintaining the project staff information. If desired, the PM can delegate this responsibility by adding the assigned team member(s) to the Site Owners Group. The staff information is shown on the right-hand side of the project landing page and the project details page. When the Staff page is correctly populated and maintained, it will provide an authoritative resource of all project staff including lead unit, support units, consultant staff, construction staff, construction consultants and contractors. Titles, units / companies, email addresses and phone numbers will be readily available to all who have access to the page.

9.3.1 Editing Project Staff

To edit the project staff:

1. Click the Project Details button to navigate to the Project Details page.

   ![Project Details button](image)

2. Click Edit in the Staff section of the Project Details page. Only users listed in the Site Owners permissions group will see and be able to utilize the Edit button.

3. Add all project staff to the page. Press Show and Hide to expand or conceal the different staff categories.
   a. Engineering Lead Unit Staff: Only one CTDOT unit is to be added to this section. Unit, title and contact information will automatically populate once a name is added.
   b. Engineering Support Unit Staff: All project CTDOT engineering support units are to be added to this section. Unit, title and contact information will automatically populate once a name is added.
   c. Consultant Staff: All project design consultant staff are to be added to this section. Since this section is comprised of external users, all information needs to be manually entered.
d. **Construction Staff**: All project CTDOT construction staff are to be added to this section. Unit, title and contact information will automatically populate once a name is added.

e. **Construction Consultant Staff**: All project construction consultant staff, such as CE&I, are to be added to this section. Since this section is comprised of external users, all information needs to be manually entered.

f. **Contractor Staff**: All project contractors are to be added to this section. Since this section is comprised of external users, all information needs to be manually entered.
9.3.2 Project Staff Features
The Staff page has several built-in, automated features, including:

- **Engineering Lead Unit Staff**: The Engineering Lead Unit Staff section will populate the lead unit header based on the personnel inputted in this section. Only CTDOT personnel from one unit should be included in this section.

- **Auto-sort by sub-section**: Project Managers are to add personnel into the appropriate category on the Edit Project Staff page. When the changes are saved, COMPASS will automatically sort personnel by sub-section in all categories except Engineering Lead Unit Staff. For Engineering Support Unit Staff, sub-groups such as Bridge State Design and Highway Consultant Design will be created. For Construction Staff, sub-groups will be created based on Construction District. For the three sections containing non-DOT users, COMPASS will sort individuals by company name.

- **Auto-sort hierarchy**: For the three categories containing CTDOT personnel, COMPASS will automatically sort individuals by rank. This is *not* a direct chain of command listing; rather, COMPASS will sort staff by title within each sub-section.

9.3.3 Contacting a Member of the Project Staff
To contact a member of the project staff, either click on the email address listed to open a new email window or utilize the phone number provided.

9.4 Project Communication
The Project Communication window operates as a message board. It is a location where members of the project team can post messages, updates or other communications to the rest of the team.

To create a new message, type in the New Communication box and click post.

To respond to a Communication thread, click the Reply button associated with the relevant communication and insert text.
Project Communication messages can be searched by typing a keyword or phrase in the Search bar.

Section 10 Project Menu

The Project Menu – located on the left side of Dashboard and Details pages – is comprised of the following sections:

- **Contacts**: The Contacts folder can be used to add contact information for project staff, stakeholders, agencies or other relevant users.
- **Internal Documents**: The Internal Documents folder is structured to mirror ProjectWise. Documents routed through the Submittal / Transmittal tool automatically save to pre-allocated Internal Documents subfolders. Users with access can also save and share documents directly through the Internal Documents folder.
- **Documents**: The Documents folder can be customized and maintained to suit each project’s needs.
- **Project Emails**: Project-related emails that need to be memorialized can be saved to the Project Emails folder. The contents of this folder are viewable to those with project site access. Highly confidential project emails that require more restricted access should not be stored in this location.
- **Report of Meetings**: The Report of Meetings tab provides a project-specific OneNote notebook. Project staff can use this OneNote to document meeting minutes, or expand its use to record other notes.
When a selection is made from the Project Menu, a new window will automatically open to provide the information. For example, if the Internal Documents item is selected, a new browser window will be created.

**Section 11 Executive Dashboard**

The Executive Dashboard provides an overall summary of all active projects. The Executive Dashboard is accessed from the COMPASS Landing Page and any Project Landing page. Select the blue button to view data.
Click on the question mark (?) option in the upper-right hand corner of each section of the Executive Dashboard to determine how each assessment is calculated. For details, see Data Sources and Computations table.

### Section 12 MS Project Schedule

All Microsoft Project schedules managed in-house are now stored in COMPASS rather than ProjectWise.

#### 12.1 Software License Requirements

Project Managers and any individuals who will be actively maintaining an MS Project schedule must have a Microsoft Project Professional desktop application license and a Microsoft Project Online Professional license. Individuals who will be viewing schedules or implementing minor edits in COMPASS require the Microsoft Project Online Essentials license only.
12.2 Existing MS Project Schedules

AEC Applications is coordinating with individual Project Managers (PMs) to migrate all active, existing MS Project schedules from ProjectWise to COMPASS. For questions on the migration process, contact Chris Smith in AEC Applications.

12.3 New MS Project Schedules

To create a new MS Project schedule, follow the instructions provided in Appendix C: Microsoft Project. When the new MS Project schedule is ready to be added to COMPASS, save it to the appropriate Internal Documents → 140_Project_Administration folder in COMPASS.
Once the schedule is prepared and saved in the 140_folder, contact Chris Smith in AEC Applications to have the file linked to the COMPASS pages.

**12.4 Working with MS Project – Desktop App**

**12.4.1 Configuring MS Project COMPASS Profile**

In order to interact directly with schedules stored in COMPASS via the MS Project Professional Desktop Application, set-up the configuration as follows:

1. Open the Microsoft Project Professional desktop application.
2. Click the File tab at the top of the screen.
3. Press Info → Manage Accounts
4. Click Add.
5. In the Account Properties window, enter the information provided below, then press OK.

1) Click here
2) Enter this information
3) Click here
4) Click here
12.4.2 Opening a Project Schedule

Schedules stored in COMPASS can be opened to view or edit via the MS Project Professional Desktop Application:

1. Open the Microsoft Project Professional desktop application.
2. Choose the COMPASS profile; press OK.

3. Choose Open Other Projects.
4. Under Project Web App, choose COMPASS.

5. Click Browse and choose the desired project schedule from the list. Note: If the Project schedule is not listed, click “Show me the list of all projects.”

6. Click Open.
12.4.3 Publishing a Schedule
To make changes visible to other users in COMPASS, the schedule must be published. To publish an MS Project schedule:

1. Click on File → Info.
2. Click the Publish button.

12.4.4 Checking in a Schedule
When closing out of a schedule or the application, the user will be prompted to check-in the MS Project file. The user must actively check-in the MS Project schedule to COMPASS before each exit.

12.5 Working with MS Project from COMPASS
Microsoft Project Professional is integrated into COMPASS. Project Managers can edit, change, publish and perform other MS Project tasks inside of MS Project from either the Project Web Application (PWA) or MS Project Professional.

12.5.1 Open MS Project from a COMPASS Project Site
To open a schedule via COMPASS, navigate to that project’s COMPASS site. On the Landing Page or Project Details page, select the MS Project Schedule button.
To edit the schedule in the Microsoft Project desktop application, navigate to the task tab, click the down arrow on the Edit button, and select In Microsoft Project. The schedule will then open in the Microsoft Project desktop application.

12.5.2 Edit an MS Project Schedule in the O365 Web App

To open an MS Project schedule in the Office 365 (O365) Web App (PWA), log-in to COMPASS and navigate to the project site. From the project page, select the MS Project button to access the schedule via the PWA. Click the edit button in the project group on the project tab or the task tab. Incorporate edits as needed.

Once edits are complete, click the close button on the Project tab. Select Check it in and then press OK.
12.5.3 Publish Updates to an MS Project Schedule

Publishing a Microsoft Project schedule makes the most current information available to others users.

When a schedule owner is finished making edits and would like the information to be available to other users:

1. Press close on the Project tab.
2. Click on Publish in the Project group on the Task Tab. This saves and publishes the changes.

12.5.4 Open MS Project from COMPASS PWA Site

Users can also manage MS Project schedules directly through the Project Web App (PWA), rather than navigating through specific project site. This can be particularly useful for users who are maintaining schedules for multiple projects.

To open an MS Project file directly via the PWA site:

1. Sign in to Office 365.
2. Click on the Project application button.
3. Locate and select the relevant schedule by project number in the Project Name column.

4. To view and edit the MS Project schedule, ensure that the “Schedule” tab is selected.
12.5.5 Reassigning MS Project Schedule Ownership

To edit an MS Project Schedule baseline (0-5), the user must be assigned as the “Owner” of the schedule. AEC assigns the correct Project Manager when a schedule is added to COMPASS. The current owner has the ability to reassign ownership if needed. If the current schedule owner is unable to perform this task, contact Chris Smith in AEC Applications.

To reassign ownership of an MS Project schedule in COMPASS, the current owner can:

1. Open the relevant MS Project schedule as described above.
2. Enter the Edit Project Details page.
3. Next to the Owner field, click Browse. Select the new schedule owner, then press OK.
4. Clock and check-in the MS Project schedule.

**1) Click Browse...**

**2) Select desired schedule owner**

**3) Select OK**

**Close the project schedule and check-in**
Section 13 Troubleshooting

13.1 Loading Projects

**Problem:** When I log-in to COMPASS, all I see is the COMPASS header and a spinning wheel that says “Loading Projects.”

![Loading Projects](loading_projects.png)

**Solution:** Add COMPASS Trusted Sites to Internet Explorer web browser.

13.2 Reset O365 Password

**Problem:** I need to reset my Office 365 sign in password.

![Enter password](enter_password.png)

**Solution:** CTDOT users cannot reset their passwords via the “reset it now” default prompt that comes with O365. See Office 365 Login Instructions for sign in name and password information.

13.3 Missing Office 365 Apps

**Problem:** When I sign in to Office 365, I do not have any apps.
Solution: Ensure the correct Office 365 Sign In credentials are inputted to access all the applications available with the CTDOT O365 license.

13.4 MS Project Button Does Not Work

Problem: When I press the MS Project button in my COMPASS project, nothing happens.

Solution: If the MS Project button does not open a schedule,

1. Confirm with the PM that an MS Project schedule is attached to the COMPASS project site. See Open MS Project from COMPASS PWA Site for instructions.
2. Confirm that the user trying to access the schedule has an MS Project Online license.

Contact Chris Smith in AEC Applications with any MS Project questions.
Section 14 Support

Please contact AEC Applications or the COMPASS HelpDesk for any support needs.

14.1 AEC Applications

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce Bourgoin</td>
<td><a href="mailto:bruce.bourgoin@ct.gov">bruce.bourgoin@ct.gov</a></td>
<td>860-594-2760</td>
</tr>
<tr>
<td>John Dudzinski</td>
<td><a href="mailto:john.dudzinski@ct.gov">john.dudzinski@ct.gov</a></td>
<td>860-594-3196</td>
</tr>
<tr>
<td>Julie Annino</td>
<td><a href="mailto:julie.annino@ct.gov">julie.annino@ct.gov</a></td>
<td>860-594-2730</td>
</tr>
<tr>
<td>Chris Smith</td>
<td><a href="mailto:christopher.d.smith@ct.gov">christopher.d.smith@ct.gov</a></td>
<td>860-594-2724</td>
</tr>
<tr>
<td>Lynne Lofberg</td>
<td><a href="mailto:lynne.lofberg@ct.gov">lynne.lofberg@ct.gov</a></td>
<td>860-594-3201</td>
</tr>
</tbody>
</table>
Appendix A: Training Resources

The following resources are available for users to enhance their knowledge in MS Project Online, SharePoint and other Office 365 products.

**MS Project Online:** [https://support.office.com/en-us/article/Projects-Tasks-b9766811-9f5f-4bca-ac9c-202a183a1656#ID0EAABAAA=Projects](https://support.office.com/en-us/article/Projects-Tasks-b9766811-9f5f-4bca-ac9c-202a183a1656#ID0EAABAAA=Projects)

**QuickHelp by Brainstorm:** [www.quickhelp.com/login](http://www.quickhelp.com/login)

*User name:* ct.gov email address

*Password:* Compass
### Appendix B: Data Sources and Computations

The following table identifies the data source and / or computation of each item listed below.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DATA SOURCE(S)</th>
<th>COMPUTATION(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town data</td>
<td>Project Asset Form – “Location Towns”</td>
<td></td>
</tr>
<tr>
<td>Project Description</td>
<td>CORE – “Project Description”</td>
<td></td>
</tr>
<tr>
<td>Project Title</td>
<td>CORE – “Project Title”</td>
<td></td>
</tr>
<tr>
<td>Tasks Count</td>
<td>MS Project Schedule – total number of tasks</td>
<td></td>
</tr>
<tr>
<td>Project Health</td>
<td>Average of Project Schedule and Budget scores</td>
<td></td>
</tr>
<tr>
<td>ROW Expenditures</td>
<td>ViewPort</td>
<td></td>
</tr>
<tr>
<td>Construction Expenditures</td>
<td>ViewPort, Site Manager</td>
<td></td>
</tr>
<tr>
<td>PE Expenditures</td>
<td>ViewPort</td>
<td></td>
</tr>
<tr>
<td>ROW Estimated Budget</td>
<td>ViewPort</td>
<td></td>
</tr>
<tr>
<td>Construction Estimate Budget</td>
<td>ViewPort</td>
<td></td>
</tr>
<tr>
<td>PE Estimated Budget</td>
<td>Obligation Plan</td>
<td></td>
</tr>
<tr>
<td>Schedule Phase</td>
<td>RPM date, Design Approval date, FDP date, CCD date</td>
<td></td>
</tr>
<tr>
<td>Schedule Milestones</td>
<td>MS Project Schedule</td>
<td></td>
</tr>
<tr>
<td>Permits</td>
<td>ESTP</td>
<td></td>
</tr>
<tr>
<td>ROW and Acquisitions Data</td>
<td>IRMS</td>
<td></td>
</tr>
</tbody>
</table>
| Overall Projects Score | Rounded average of all project health scores  
> 9 = Green / Good  
7-8.9 = Yellow / At Risk  
< 7 = Red / Poor |
| Projects Health | Average of all Project Schedule and Budget scores  
> 89% = Green / Good  
70-89% = Yellow / At Risk  
< 70% = Red / Poor |
| Budgets | Sum of outstanding projects  
> 95% = Red / Poor  
80-95% = Yellow / At Risk  
< 79% = Green / Good |
| Schedule | Average of all past due project milestones  
> 89% = Green / Good  
70-89% = Yellow / At Risk  
< 70% = Red / Poor |
Appendix C: Microsoft Project

An Engineering working group evaluated several scheduling software options to support the mission statement. Microsoft Project was selected because it offers the following features and advantages:

- Accommodates any number of milestones and tasks (e.g., easily scalable).
- Graphically displays series and parallel tasks.
- Provides baseline and tracking Gantt charts.
- Displays the critical path.
- Link notes and documents.
- Interfaces with Outlook, Excel, SharePoint (including COMPASS) and other Microsoft products.

Microsoft Project shall be used to develop design phase schedules meeting the following minimum requirements:

1. Includes all the activities identified by the Minimum Requirement Schedule Template. More detailed templates and project-specific schedules are encouraged.
2. Baseline schedule.
3. Task Indicator columns are used to link applicable instruction and reference documents.
4. Explanations for changes in task durations are added as task notes.
5. Tracking View / Gantt chart functions are used.
6. Task-level progress is tracked regularly.
7. Files are stored in COMPASS as indicated by the Digital Project Development Manual.
8. Microsoft Project files are maintained and current, with projected schedules in accord with the obligation plan.

Base templates were developed by a committee that included Engineering Management and Subject Manager Experts (SMEs) from each engineering discipline. The Office of Engineering SMEs are as follows:

- **Bridge Design** – Kevin Blasi and David Gruttadauria
- **Consultant Bridge Design** – Derick Lessard and Marc Byrnes
- **Highway Design** – Scott Bushee, Jordan Pike and Vitalij Staroverov
- **Consultant Design State Roads** – Nilesh Patel and Meredith Andrews
- **Traffic Projects Design** – Barry Schilling and Michael Chachakis
- **Traffic Studies & Safety** – Erika Lindeberg, Daniel Veronesi and Colin Baummer
- **Facilities Design** – Eric Feldblum and Jesse Benson
- **Environmental Compliance** – David Harms

The SMEs are responsible for developing and maintaining the division-specific project templates and corresponding task libraries in COMPASS. They shall be the first point of contact regarding discipline-specific template and guidance document inquiries and maintenance. The Department has begun a transition to house and maintain all active project schedules in COMPASS. See Microsoft Project in COMPASS for more information on uploading and maintaining schedules via COMPASS.
For questions, suggestions or issues pertaining to Microsoft Project and the Scheduling Directive, please contact Bruce Bourgoin (Bruce.Bourgoin@ct.gov) or John Dudzinski (John.Dudzinski@ct.gov) in AEC Applications.

The table below details the minimum tasks included in the minimum requirements template:

<table>
<thead>
<tr>
<th>Task Name</th>
<th>Project XXXX-XXXX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Initiation</strong></td>
<td></td>
</tr>
<tr>
<td>• Prepare and Submit PPI</td>
<td></td>
</tr>
<tr>
<td>• Prepare and Approve RPM</td>
<td></td>
</tr>
<tr>
<td>• Secure Funding / Authorization</td>
<td></td>
</tr>
<tr>
<td><strong>Preliminary Design</strong></td>
<td></td>
</tr>
<tr>
<td>• Survey</td>
<td></td>
</tr>
<tr>
<td>• NEPA/CEPA</td>
<td></td>
</tr>
<tr>
<td>• Develop PD through Design Approval</td>
<td></td>
</tr>
<tr>
<td>• Design Approval</td>
<td></td>
</tr>
<tr>
<td><strong>Final Design</strong></td>
<td></td>
</tr>
<tr>
<td>• Prepare Semi-Final Design Submission</td>
<td></td>
</tr>
<tr>
<td>• Prepare Final Design Submission</td>
<td></td>
</tr>
<tr>
<td><strong>ROW Coordination</strong></td>
<td></td>
</tr>
<tr>
<td>• Prepare and Submit Final Accepted Property Maps</td>
<td></td>
</tr>
<tr>
<td>• Acquire Properties</td>
<td></td>
</tr>
<tr>
<td><strong>Permit Acquisition Process</strong></td>
<td></td>
</tr>
<tr>
<td>• Permit A</td>
<td></td>
</tr>
<tr>
<td>o Prepare and Submit Permits to Regulatory Authority</td>
<td></td>
</tr>
<tr>
<td>o Regulatory Authority Review and Issuance of Permit</td>
<td></td>
</tr>
<tr>
<td>• Permit B</td>
<td></td>
</tr>
<tr>
<td>o Prepare and Submit Permits to Regulatory Authority</td>
<td></td>
</tr>
<tr>
<td>o Regulatory Authority Review and Issuance of Permit</td>
<td></td>
</tr>
<tr>
<td>• Permit C</td>
<td></td>
</tr>
<tr>
<td>o Prepare and Submit Permits to Regulatory Authority</td>
<td></td>
</tr>
<tr>
<td>o Regulatory Authority Review and Issuance of Permit</td>
<td></td>
</tr>
<tr>
<td><strong>FDP</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DCD</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ADV</strong></td>
<td></td>
</tr>
</tbody>
</table>

A. Microsoft Project File Set Up

The following steps show how to set-up a Microsoft Project file.

1. Open ProjectWise Explorer by clicking a shortcut or going to Start and searching for ProjectWise Explorer.
2. Double-click on CTDOT and sign in to ProjectWise.
3. Browse to Documents → 04.00 Engineering Libraries → Scheduling Directive. Select the applicable Scheduling Documents folder. The minimum requirement schedule template is stored in the AEC Scheduling Documents (Minimum Req) folder.
4. Right click on the desired schedule and select Copy. Save locally and prepare MS Project schedule.

5. Once the MS Project schedule is ready to transfer to COMPASS, copy the file to the appropriate project’s COMPASS Internal Documents 140_Project_Administration folder.
Press the Upload button or Drag and drop MS Project file to save to COMPASS Internal Documents
B. Basic Microsoft Project Function

This section presents the following schedule task terminology and functions:

- Scheduling Terminology
- Task Relationships (Predecessors and Successors)
- Adding, Renaming, Indenting or Deleting a Task
- Adding and Adjusting Durations
- Lead and Lag Times
- Adding Notes and Hyperlinks to a Task
- Combining Multiple Projects

i. Scheduling Terminology

The most common scheduling view is the Gantt chart view, which illustrates a project schedule using task names, durations, start and finish dates to the left of the view, and bar charts presenting this information on the right side of the view.

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Indicator Column</td>
<td>Present task Notes and Hyperlinks.</td>
</tr>
<tr>
<td>Milestone</td>
<td>A major schedule date, such as an FDP.</td>
</tr>
<tr>
<td>Parent Task</td>
<td>Shown as a grey* bar in default settings. Duration is populated by the Child Tasks.</td>
</tr>
<tr>
<td>Critical Path</td>
<td>Shown in red.* Signifies the task relationships that control major milestone dates.</td>
</tr>
<tr>
<td>Non-Critical Task</td>
<td>Shown in blue.* Signifies sub-tasks that do not control major milestone dates.</td>
</tr>
</tbody>
</table>

*Colors identified in this table and in subsequent sections refer to the default MS Project format selections.

ii. Task Relationships (Predecessors and Successors)

A predecessor is a task which has a start or finish date that impacts the start or finish date of another task.

A successor is a task which has a start or finish date that is dependent on another task.
There are different ways of defining task relationships. These are:

- **Finish-to-Start:** This is the default dependency in Microsoft Project in which the successor cannot begin until the predecessor is complete. A Finish-to-Start task relationship is denoted by FS, or as the predecessor’s Task ID. A Task ID is found in the column to the far left of the Gantt chart.

- **Start-to-Start:** In this relationship the successor cannot begin until the predecessor begins. The successor task can start at any time after the predecessor begins. A Start-to-Start relationship is designated by SS.

- **Finish-to-Finish:** In this relationship the successor cannot be completed until the predecessor is completed. The successor can be completed at any time after the predecessor is completed. A Finish-to-Finish task relationship is denoted by FF.

- **Start-to-Finish:** In this relationship the successor cannot be completed until the predecessor begins. The successor can be completed any time after the predecessor has started. The Start-to-Finish task relationship is denoted by SF.

The schedule should have a Predecessors column where task relationships can be defined. To define a task relationship, enter the Task ID and the Task Relationship in the associated task’s predecessor cell.
For example, in the figure below, the PPI is the predecessor to the RPM task. The PPI must finish before the RPM can start. This relationship is denoted in the RPM process row’s predecessor’s cell as the number 2. The number 2 represents the predecessor’s Task ID. The absence of a task relationship abbreviation means that the relation is Finish-to-Start (FS). Since Finish-to-Start is the default task relationship, an abbreviation is not presented unless there is a lead or lag times.

If the Predecessors column is not shown in the template, double click in the Add New Column cell and scroll down to or start typing “predecessor.” If Add New Column is not shown, right click on any column label and select Insert Column, then select Predecessors.

**iii. Adding, Renaming, Indenting or Deleting a Task**

**a. Adding a Task**

To add a task, right click on the task which will follow the new task and select Insert Task. For example, to add a new task between NEPA/CEPA and Survey, right click NEPA/CEPA and select Insert Task, as shown below:
b. Renaming a Task

Tasks can be renamed by double-clicking on the task to be edited. In the pop-up window, select the General tab, then edit the task name. **Note: Do not rename the base template tasks shown in bold.**
c. Outdenting and Indenting

Outdenting and indenting provide schedule customization. Outdenting moves a task to the left of the task column, while indenting moves a task to the right. Indenting a task makes it a child of the preceding, outdenting parent task. Parent task durations are populated by their accumulative child task durations. Therefore, parent task durations should **not** be manually entered. To set your task as a child or sub-task, select the row you would like to modify and click the Indent Buttons in the main toolbar area as shown below:

![Outdent & Indent Buttons](image)

---

d. Deleting a Task

A user may delete a task if it is irrelevant. MS Project views any tasks entered with a duration of zero as a milestone. Thus, it is recommended that project managers manually delete and revise predecessor and successor relationships as shown below. To delete a task, right click and select Delete Task. **Note: Do not delete the base template tasks shown in bold.**

![Delete Task](image)
When a schedule is started, the user should remove irrelevant tasks and estimate all other pertinent task durations. **It is critical to note if the task being deleted is a predecessor.** This can be determined by following the lines stemming from a task in the Gantt chart. If a task is erroneous and must be deleted, but it is also a predecessor for other tasks that should not be deleted, then the successor task must be corrected. Failing to update a new predecessor will likely disrupt task connectivity.

For example, if a project does not require a Preliminary Hydraulic Analysis, the task should be deleted. However, the Hydraulics Analysis is a predecessor for the ABC analysis. Therefore, the ABC Analysis’ predecessor task should be updated. In this case, the Utility Coordination task would be the new predecessor.

**Before Task is Deleted**

Before deleting a task, ensure that the correct new predecessor is identified. In this example, if the Preliminary Hydraulic Analysis task is deleted, the new predecessor would be the Utility Coordination task.

**After Task is Deleted**

After removing the Preliminary Hydraulic Analysis task, the Utility Coordination task becomes the new predecessor for the ABC Analysis task.
After the Hydraulic Analysis has been deleted and the new predecessor has been assigned, MS Project automatically reconfigures the schedule to show the new critical path. The critical path is shown in red and highlights the task relationships that determine a project’s finish date.

**iv. Adding and Adjusting Durations**

All tasks require duration estimates that may vary as a project progresses. To set a duration, click the Duration cell to the right of the task and enter the task’s estimated period and the applicable unit of time, whose abbreviations are listed below:

- Mons: months
- Wks: weeks
- Days: days
- Hrs: hours
- Mins: minutes

If the duration unit is already entered, then the duration value may be directly entered, without including the unit. Do not modify durations for parent tasks. Parent tasks are signified by a grey bar in the Gantt chart with a maximize / minimize arrow. Parent task durations are automatically calculated by their subtask durations. If a parent task duration is manually entered, select the parent task, then press the Auto Schedule button.
v. Lead and Lag Times

In defining a task relationship, a task may have to be delayed or started early.

- The **Lead** time will extend the duration and is signified with a *plus* sign.
- The **Lag** time will shorten the duration and is signified with a *minus* sign.

To add a Lead or Lag time:

1. Type in the task relation type
2. Type the predecessor task number
3. Include a plus or minus sign
4. Input the amount of delay or early start
Lead time and lag time can also be set by right clicking on a task and selecting Information. On the Predecessors tab, enter the predecessor ID or Task Name, the relationship type and a positive duration for lead time or a negative duration for lag time in the Lag column.

**vi. Adding Notes and Hyperlinks to a Task**

**a. Adding Task Notes**

As stated in the Directive: “Explanations for changes in task durations are added as task notes.” Notes are reserved to clearly indicate when a specific project task duration is adjusted from the baseline. The note should be placed in the respective task’s indicator column. The note should state:

- The date of the entry.
The Recipient Notification List is subject to the project manager’s discretion. The purpose is to outline a step where project team members who may be interested or are directly impacted by a duration change are notified. Once a note is drafted and the duration is adjusted, it is recommended that a notification email be sent to the relevant recipients and that the correspondence is saved to the project’s 140_Project Administration folder in ProjectWise. The recipients may typically include:

- AEC’s project management unit: Bruce.Bourgoin@ct.gov and John.Dudzinski@ct.gov.
- Finance, such as the Office of Capital Planning.
- Design engineers in the project manager’s division.
- The group involved with the duration change or the group affected by the change. For example, if the six month estimated duration for a project survey needs to be pushed back, the survey supervisor involved with the task should be included as a recipient in the notification email.

The purpose of the recipient list is to improve communication between units and to harvest project data. AEC will collect a repository of duration change notes in order to continuously reevaluate and improve schedule templates.

To add a note, right click on a task and select Notes. Then insert the notes in the pop-up window. Another option is to access the Notes window by double clicking on the task. Then in the Task Information window, select the Notes tab.
b. Adding Hyperlinks to a Task

As stated in the Directive: “Task Indicator columns are used to link applicable instructional and reference documents.” For all templates, hyperlinks shall be used to link a task to a division-specific Schedule Task Library folder located in the Scheduling Directive folder.

For example, a permit task should provide a link to a corresponding ProjectWise folder that contains the permit’s regulatory document, suggested points of contact or experts, pre-written memorandums, etc. These documents must be added and actively maintained. Division SMEs and AEC Applications shall be the active maintainers of the division library modifications. It is critical that users report when a document is incorrect or has been superseded so that documents can be properly updated. While it is suggested that users coordinate with SMEs to hyperlink documents, the procedure is also provided below:

1. To add a hyperlink, right click to which a link needs to be added and select **Hyperlink**.

2. In the Insert Hyperlink window that appears, insert the web address or navigate to the correct file.

3. To remove a link, right click on the link, then select Task → Hyperlink → Edit Hyperlink → Remove Link.
4. To access a hyperlink hold the CTRL key and left click the hyperlink icon located in the Indicator column.

C. Tracking the Project

i. Baselining the Project

Each MS Project file must have a baseline set at the start of Preliminary Design. The baseline is essentially a stamp of the schedule at the start of the Preliminary Design phase. The purpose of the baseline is to gauge how much a schedule varies from the initial baseline. Projects shall not be re-baselined unless there is a major scope change. Re-baselining requires Engineering Administrator approval.

To set the baseline:

1. Under the Project tab, select Set Baseline button, then Set Baseline from the drop-down.

2. In the dialog box, keep the default values for Set baseline and Entire project. Then click OK.
a. Re-baselining

If re-baselining is needed and is approved by the Engineering Administrator, the baseline can be set using the following steps:

1. Go to Project → Set Baseline → Set Baseline
2. In the Set Baseline window that appears, select Set interim plan. From the copy drop-down menu, select Baseline. From the Into drop-down menu, select Baseline10. Ensure that the Entire Project button is selected. Then press OK.
3. Go to Project → Set Baseline → Set Baseline. Keep the default values and select OK.
4. A pop-up window will appear asking, “Are you sure you want to overwrite the data in this baseline?” Click Yes.

5. After the project has been re-baselined, add a note to the top left identifier cell located in the project number row. The note should include the details outlined in the Adding Notes and Hyperlinks to a Task section. The recipient list should include all parties affected by the baseline adjustment.

6. After the project has been re-baselined, change to the Tracking Gantt view. To do this, right click in the grey Gantt Chart bar on the left side of the screen, then select Tracking Gantt.
7. The Gantt chart will show two bars stacked on top of each other. The grey bar is the baseline and the bar on top is the actual duration. If there is a slip in a task's schedule it will be shown as an offset.
8. To change the table of tasks to the tracking mode, click on the upper left corner cell to select the entire schedule, then right click and select Tracking. The table of tasks will be in tracking mode. Click save.

![Image of Microsoft Project interface]

**ii. Recording Task Progress**

The project manager will be required to record the project progress by keeping an up-to-date record of the percent complete for each task in the project. This shall be recorded in 25% increments. The following provides guidance on how to record a task’s progress:

1. Click on a task.
2. In the task menu, select the appropriate percent complete. **Note:** When the task is completed, do not select 100% complete. Rather, type in the actual finish date for that task. If the 100% complete option is selected, Microsoft Project will calculate the finish date instead of recording the actual date when the task was completed.
In the tracking Gantt, the task will show the percent complete of each task:

When a task is not started or finished on schedule, it will show as a slipping bar in the Gantt chart:
D. Generating Reports and Summaries

Microsoft Project has three reporting options:

- Standard reports
- Custom reports
- Visual reports.

i. Standard Reports

Standard Reports are reports predefined by Microsoft and include report types such as overview, current, costs, assignments and workload. To access these report options, select Project → Reports, then choose the correct report type.

Under Overview, the following is reported:

- Project summary
- Top-level tasks
- Critical tasks
- Milestones
- Working days

Under Current, the following is reported:

- Un-started tasks
- Tasks starting soon
- Tasks in progress
- Completed tasks
• Should have started tasks
• Slipping tasks.

Under Cost, the following is reported:

• Cash flow
• Budget
• Over-budget tasks
• Over-budget resources
• Earned value

Under Assignments, the following is reported:

• Who does what
• Who does what when
• To-do list
• Over-allocated resources

Under Workload the following is reported:

• Task usage
• Resource usage
ii. **Custom Reports**

Users can create customized reports based on templates from the following categories:

- Task
- Resource
- Monthly calendar
- Crosstab

To create a custom report:

1. Go to Projects ➔ Reports. Then double-click on the Custom button.

2. Select a report type from the list provided. Click Edit. A Task Report dialog box will appear. Modify report settings as needed.
iii. Visual Reports

In contrast to the standard and custom reports, visual reports present information graphically. Visual reports are pre-formatted Excel pivot-tables and pivot-charts, as well as Visio pivot-diagrams.

To create a visual report:

1. Go to Projects → Visual Reports.
2. Select the preferred report type tab, then choose from the list of available templates. Click View once selection is complete.