

# GUIDELINES FOR DEVELOPMENT AND MAINTENANCE OF PROJECT DESIGN SCHEDULES (PDS)

**MS PROJECT VERSION 2010 AND HIGHER** 



### Inapplicable Scope

In the event that the template includes a scope element that is not applicable to the project, the relevant WBS nodes, activities and milestones <u>should not be deleted</u>. For the activities that are not applicable to your project, enter zero duration, add the note "Not applicable" or "N/A" in the Task Name, and uncheck them from being milestones. Also, if a non-applicable task has an associated relationship with a lag than the lag duration should be removed (set to zero).

### Logic

<u>The activity logic</u> in MassDOT Design Schedule templates has been carefully developed to be in line with typical projects and <u>should not be modified</u>. In the event that a project is significantly different and the relationships between activities need to be modified to indicate how the design development will proceed, the MassDOT PM's approval will be required in advance.

### **WBS Structure**

The WBS Structure has been carefully developed to reflect the Area of Work and the Division/Subdivision of Work as defined in the Scoping Workbook. The WBS Structure should not be modified under any circumstances.

### **Durations**

All MassDOT PDS templates include task durations that are in line with typical Projects. The Designer should revise the durations only for the "Consultants.DES" responsibility tasks unless approved by the MassDOT Project Manager. <u>The</u> <u>MassDOT responsibility tasks should not be modified without MassDOT PM approval</u>.

### Guidelines

Review the guidelines for specific file naming conventions, Baseline and Progress Schedule Submittal Requirements, settings, and tips on how to update the schedule.

# **DON'Ts Summary** (Please contact the MassDOT PM in the event that modifications are required)

- Do not modify the logic incorporated in the templates (predecessors/successors)
- Do not delete activities
- Do not modify the tasks that are MassDOT's responsibility
- Do not modify the WBS Structure
- Do not enter activity constraints
- Do not change the pre-established MassDOT views



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# **1.0 INTRODUCTION**

# **1.1 OBJECTIVE**

In an effort to assist design consultants provide a consistent and accurate schedule, MassDOT has created this Scheduling Guidelines document as part of the Design Phase Scheduling Tool Kit. These guidelines provide step-by-step instructions for creating the Project Design Schedule (PDS) Baseline and subsequent Progress Schedules. Consistency is highly valued for this schedule as the intent is to use schedule information for planning, controlling and reporting purposes. This full toolkit contains:

- Schedule Templates for Microsoft Project 2010 and higher
- Guidelines for PDS Development

Of special note; broad deviations or changes to the schedule information including activity IDs, naming, attributes and other Schedule information from that stipulated in the schedule requirements and guideline is highly discouraged. In addition, changes to logic that is specific to MassDOT, or other agency processes as well as durations is prohibited unless otherwise requested by the MassDOT Project Manager.

Please note: It remains the designer's responsibility to ensure that their schedule submittals correlate with all project submittals and that they are consistent with actual project progress achieved.

# 2.0 ADAPTING/VERIFYING THE FILE AND PROJECT SETTINGS

The PDS templates were developed using Microsoft Project in order to serve as a platform for the designer's development of a project-specific schedule, subject to approval by MassDOT. This guideline details how to use these MassDOT Project Design Schedule (PDS) templates and create a project specific schedule that will meet MassDOT's reporting needs.

Please note: For consistency purposes this document will use MS Project terminology.

### 2.1 ADAPTING THE FILE NAMING AND PROPERTIES

### 2.1.1 ADAPTING THE PROJECT FILE NAME:

In order to use a template the designer will need to save a copy of the \*.mpp file under a new name. Electronic files submitted to the MassDOT project manager shall be named as follows:

<Project #> < Document Name (Town Name)> <Submittal Date>

For example: 607673Warren012018.mpp.

In the example shown *607673* is the six-digit MassDOT Project Number, Warren is the project's town name, 012018 is the date that the file was submitted to MassDOT in MMYYYY format, and *mpp* is the file extension for MS Project.

The MassDOT Project Number, Project Name, Contract Number, Designer's name and Status Date shall be part of the schedule coding to facilitate project identification in layouts and reports. The summary tab located in *Menu: File\Info\Project Information\Advanced Properties* must be filled out as shown below (Figure 2.1.2A) in order to make the data available to reports.

REV 2 Complex	Bridge Design Schedule.mpp Properties 🛛 💦
General Sum	mary Statistics Contents Custom
Title:	<massdot info="" number="" project=""></massdot>
Subject:	<short -="" city="" description="" names<="" project="" td=""></short>
Author:	<design consultant's="" name=""></design>
Manager:	<massdot manager="" name="" project=""></massdot>
Company:	Massachusetts Department of Transportation
Category:	Bridges and Structures
Keywords:	Contract #: <contract #=""> / Assignement #: <assign< td=""></assign<></contract>
Comments:	<project description=""></project>
Hyperlink base:	
Template:	
Save prev	view picture
	OK Cancel

#### Figure 2.1.2A: Project Properties

# 2.2 VERIFYING GENERAL PROJECT SETTINGS

Standardized schedule settings across all projects are provided in the templates for consistency. These settings should not be changed. The following section will guide you through how to verify that the PDS project file settings are correct and in line with MassDOT requirements.

It is crucial that all project schedule forecasts are calculated in the same way in order to ensure that program reports are correctly interpreted by their users. Additionally, reports will need to be able to pull the project start date. To verify that the template settings are in line with these guidelines, begin by going to *Menu: Project \Project Information*. A dialog box similar to the one shown below will pop up (Figure 2.2.1A).

Project Informa	tion for 'Typical Bridge Design Sche	dule	.mpp'		×
Start <u>d</u> ate:	Tue 1/14/14	•	Current date:	Fri 1/17/14	•
Einish date:	Mon 2/13/17	×	Status date:	Tue 1/14/14	•
Schedule from:	Project Start Date	•	C <u>a</u> lendar:	MassDOT Highway Division Working (	Ca 👻
All t	asks begin as soon as possible.		Priority:	500	
Enterprise Custo	m Fields				
Depar <u>t</u> ment:		-			
Custom Field N	Name			Value	
					Ŧ
Help	Statistics			OK Cance	el

Figure 2.2.1A: Project Information

Next fill out the following accordingly:

- 1. Adjust the 'Start date' for the project to coincide with the design Assignment Notice to Proceed (NTP) date. This date will be used in reports.
- 2. Ensure that '*Project Start Date*' is selected from the '*Schedule from*' pull down menu. This selection will tell the software to calculate forecast dates starting from the project start date.
- 3. For the first schedule submittal adjust the 'Status date' to match the 'Start date '. The Status date will then change on a monthly basis. This date is the date from which the application calculates forecasts for activities that have not started or are in progress.
- 4. Ensure that '*MassDOT Highway Division Working Calendar*' is selected from the '*Calendar*' pull down menu. The calendar was adopted by MassDOT for all projects to allow for consistency in reporting.

### TIP # 2.2.1

The Finish Date in the Project information screen is a calculated value based on the schedule. <u>Do not</u> enter a date in the Finish Date field.

To verify that the project display settings are in line, go to *Menu: File\Options* and select the 'Display' tab. A dialog box similar to that shown below (Figure 2.2.2A) will pop up.

Ensure that the settings in the figure below match those in the Microsoft project file.

Project Options		? 💌		
General	Change how Project content is displayed on the screen.			
Display				
Schedule	Calendar			
Proofing	Calendar Type: Gregorian Calendar 💌			
Save	Currency options for this project: Typical Bridge Design Sche			
Language	Symbol: S Decimal digits: 2			
Advanced	Placement: \$1			
Customize Ribbon				
Quick Access Toolbar	Show indicators and options buttons for:			
Add-Ins	Resource assignments     Edits to work, units, or duration <u>Edits to start and finish dates</u> Deletions in the Name columns			
Trust Center	Show these elements:			
	Entry <u>b</u> ar			
L	ОК	Cancel		
	Figure 2.2.2A: Options – Display			

# 2.2.3 VERIFYING PROJECT SCHEDULE SETTINGS

### • Calendar Options

The default work period for the template should be week starts on Monday, work period is 8:00 am until 5:00 pm with 40 hours per week. See *Menu: File\Options\Schedule* to review these settings. The following dialog box (Figure 2.2.3A) shows the template's default settings. Ensure that the setting in the figure below match those in the Microsoft project file. In rare cases a Project may require different calendar settings. Deviations from the settings shown below should be made only per MassDOT's direction. Calendar dictionaries will be covered later in this guideline in Section 2.3.

### Scheduling Options

The scheduling options for the templates should be as shown in the dialog box below (Figure 2.2.3A). See *Menu: File Options Schedule* to confirm. Ensure that the settings in the figure match those in the Microsoft project file.

### • Calculation Options

MS Project allows for many different ways to calculate forecast dates. Since MassDOT will be reporting across multiple projects at once it becomes extremely important that all of the schedules are calculated using the same standards. The following settings shown in Figure 2.2.3A should be used when developing the baseline schedule and for subsequent updates. Ensure that the calculation settings in the schedule are consistent with the required settings by going to *Menu: File\Options\Schedule*.

Project Options	? <b>×</b>
General	Change options related to scheduling, calendars, and calculations.
Display	
Schedule	Calendar options for this project: 🕘 Typical Bridge Design Sche 💌
Proofing	Week starts on: Monday
Save	Eiscal year starts in: July
Language	Use starting year for FY numbering Default start time: 8:00 AM These times are assigned to tasks when you enter a start or finish
Advanced	Default end time: 5:00 PM
Customize Ribbon	command on the Project tab in the ribbon.
Quick Access Toolbar	Hours per week: 40
Add-Ins	Days per <u>m</u> onth: 20
Trust Center	Schedule
	Show scheduling messages ()
	Show <u>a</u> ssignment units as a: Decimal 💌
	Scheduling options for this project: 🚇 Typical Bridge Design Sche 💌
	New tasks created: Auto Scheduled 💌
	Auto scheduled tasks scheduled on: Project Start Date 💌
	Duration is entered in:
	Work is entered in:
	Default task type: Fixed Duration
	New tasks are effort driven      Tasks will always honor their contraint dates      Autolink inserted or moved tasks      V Show that scheduled tasks have estimated durations
	Split in-progress tasks ① Vew scheduled tasks have estimated durations
	Update Manually Scheduled tasks when Except tasks on <u>n</u> earest working day when changing to Automatically Scheduled mode
	Schedule Alerts Options: Dypical Bridge Design Sche
	Show task schedule warnings Show task schedule suggestions
	Calculation
	Calculate project after each edit: © On or
	© 0Įt
	Calculation options for this project: P Typical Bridge Design Sche 💌
	Updating Task status updates resource status ()
	Inserted projects are calculated like summary tasks Actual costs are always calculated by Project
	Edits to total actual cost will be spread to the status date
	Default fixed cost accrual: Prorated 💌
I	OK Cancel
	14

Figure 2.2.3A: Options – Schedule

# 2.2.4 VERIFYING ADVANCED SETTINGS

The advanced settings for the templates should be shown as below. Ensure that the settings in the dialog boxes below (Figure 2.2.4A and Figure 2.2.4B) match those in the Microsoft project file. See *Menu: File\Options\Advanced* to confirm.

P	roject Options		? 🗙
	General	Advanced options for working with Project.	*
	Display		
	Schedule	General	
	Proofing	Set AutoFilter on for new projects       Open last file on startup         Prompt for project info for new projects       Undo levels:       20	
	Language	Show add-in <u>u</u> ser interface errors	
	Advanced	Project Web App	
	Customize Ribbon	Allow team members to reassign tasks	
	Quick Access Toolbar	Planning Wizard	
	Add-Ins	<ul> <li>Advice from Planning Wizard</li> <li>Advice about using Project</li> </ul>	
	Trust Center	<ul> <li>Advice about scheduling</li> <li>Advice about errors</li> </ul>	E
		General options for this project: 📳 Typical Bridge Design Sche 💌	
		Image: Constraint of the second se	
		Edit	
		✓ Allow cell drag and drop       ✓ Ask to update automatic links         ✓ Move selection after enter       ✓ Edit directly in cell	
		Display	
		Show this number of recent documents:       17       ✓       Show scroll bars         ✓       Show status bar       ✓       Show QLE links indicators         ✓       Show windows in Taskbar       ✓       Show bars and shapes in Gantt views in 3-D         ✓       Use internal IDs to match different-language or renamed Organizer items between projects ①         ✓       Automatically add new views, tables, filters, and groups to the global ①	
		Display options for this project: 👜 Typical Bridge Design Sche 🔻	_
		Minutes: min Verks: wk Verks: wk Verks: hr Months: mo Verks: mo	
		Days: d Years: y V	
		<ul> <li>Add space before label</li> <li>Show project summary task</li> <li>✓ Underline hyperlinks</li> </ul>	
		Hyperlink <u>c</u> olor: <u>A</u> • <u>F</u> ollowed hyperlink color: <u>A</u> •	Ŧ
		ОК	Cancel

Figure 2.2.4A: Options - Advanced

Project Options		? <mark>×</mark>
General		•
Display	Cross project linking options for this project: 📳 Typical Bridge Design Sche 💌	
Schedule	Show external successors       Show 'Links Between Projects' dialog box on open         Show external predecessors       Automatically accept new external data	
Proofing		
Save	Earned Value options for this project: Itypical Bridge Design Sche	
Language	Default task Earned Value method: % Complete 🔹 🕡	
Advanced	Baseline for Earned Value calculation: Baseline 💽 🕧	
Customize Ribbon	Calculation options for this project:	
Quick Access Toolbar	Move end of completed parts after status date back to status date	
Add-Ins	And move start of remaining parts back to status date	
Trust Center	Wove start of remaining parts before status date forward to status date	
	And move end of completed parts forward to status date Edits to total task % complete will be spread to the status date	=
	Calculate multiple critical paths 0	
	Tasks are critical if slack is less than or equal to 10 🚔 days	
		~
	ОК	Cancel

Figure 2.2.4B: Options - Advanced

The following statements should have a check mark next to them:

Move end of completed parts after status date back to status date
 And move start of remaining parts back to status date
 Move start of remaining parts before status date forward to status date

The following settings assure some integrity in historical date recording and forecast calculation based on actual progress by ensuring that no in progress or completed work shows actual dates beyond the Status Date; and that forecasts for incomplete work are calculated from the Status Date.

# TIP # 2.2.4

If any errors are observed check that the Status Date is correct, and that recorded actual dates for activities are consistent with the recording period and try matching the schedule settings to those shown in Figure 2.2.4B.

### 2.3 VERIFYING SCHEDULE STRUCTURE

The structure of the MassDOT PDS templates were developed with the contract schedule specifications and the program reporting needs in mind. The Work Breakdown Structure (WBS) and activity codes contained in the templates are the standard settings for the program and should not be changed.

# 2.3.1 VERIFYING THE ACTIVITY CODES DICTIONARY

The following activity codes or Outline Codes (Figure 2.3.1A) are included in the MassDOT PDS templates and should be used to facilitate program level reporting. These code values are assigned to tasks. Existing activity code assignments should not be changed.

Activity Code Category	General Purpose
Responsibility	This code identifies who is responsible for conducting the work. (See Appendix C for dictionary)
Area of Work	This code identifies the type of work being done. (See Appendix D for dictionary)
	Figure 2.3.1A: Activity Codes

To review the existing outline codes go to *Menu: Project Custom Fields* then select '*Outline Code*' from the 'Type' selection menu.

Custom Fields	;				×
Eield					
Task	Resource	Project	Type:	Outline Code	$\overline{}$
	nsibility				
Field Area of Worl	k (Outline Code 1)				
Outline Code	2				
· ·	y (Outline Code3) hts (Outline Code4)				
Outline Code					
Outline Code					
Outline Code					-
Rename	Delete	Add Field to	Enterprise	Import Field	l
Custom attribu	tes				
🔘 None 🔘	Lookup	Formula			
Calculation for	task and group sum	mary rows			
None	Rollup:	Ψ.	🔘 Use form	ula	
Calculation for	assignment rows				
None	) Roll down unless m	anually entered			
Values to displa	зу				
) Data	Graphical Indic	ators			
Help			ОК	Cancel	

Figure 2.3.1A: Custom Fields

To review the available values for a particular code, select it and click the '*Lookup*' button. The following should pop up if the 'Responsibility' code was selected:

	Edit L	Edit Lookup Table for Responsibility			
Agencies         Row       Value       Description         10       Consultants         11       DES       Design Engineer         12       Other       Other Consultant         13       MassDOT       Bridge         14       BRD       Bridge         15       FAPO       FAPO         16       CON       Construction         17       BNV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display igdenting in lookup table	+	ode mask (optional)			
Agencies         Row       Value       Description         10       Consultants         11       DES       Design Engineer         12       Other       Other Consultant         13       MassDOT       Bridge         15       FAPO       FAPO         16       CON       Construction         17       BNV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display igdenting in lookup table		ookun table			
Agencies         Row       Value       Description         10       Consultants       Design Engineer         11       DES       Design Engineer         12       Other       Other Consultant         14       BRD       Bridge         15       FAPO       FAPO         16       CON       Construction         17       ENV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display igdenting in lookup table					
Row     Value     Description       10     Consultants     Design Engineer       11     DES     Design Engineer       12     Other     Other Consultant       13     HassDOT     Bridge       14     BRD     Bridge       15     FAPO     FAPO       16     CON     Construction       17     ENV     Environmental       18     GEO     Geotechnical       19     HW     Highway       20     PC     Project Controls       21     PM     Project Controls       21     PM     Project Controls       21     PM     Project Management       22     ROW     Right of Way       Display igdenting in lookup table	X	🗈 🗈 😤			
10       Consultants         11       DES         12       Other         13       MassDOT         14       BRD         15       FAPO         16       CON         17       ENV         18       GEO         19       HW         19       HW         20       PC         21       PM         22       ROW         Right of Way       ▼         □ Display igdenting in lookup table         Use a value from the table as the default entry for the field         Set Default       (Click button after selecting a value above)               Display order for lookup table		-		*	
11       DES       Design Engineer         12       Other       Other Consultant         13       HassDOT       Bridge         14       BRD       Bridge         15       FAPO       FAPO         16       CON       Construction         17       ENV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display igdenting in lookup table       Use a value from the table as the default entry for the field         Que to perform the table as the default entry for the field       Set Default         Quite the table as the default entry for the field       Set Default         (Click button after selecting a value above)       +         +       Data entry options			Description		
12       Other       Other Consultant         13       MassDOT       Bridge         14       BRD       Bridge         15       FAPO       Move         16       CON       Construction         17       ENV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Controls         21       PM       Project Controls         21       PM       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display indenting in lookup table					
13       MassDOT         14       BRD       Bridge         15       FAPO       FAPO         16       CON       Construction         17       ENV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display indenting in lookup table					
14       BRD       Bridge         15       FAPO       FAPO         16       CON       Construction         17       ENV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display igdenting in lookup table			Other Consultant		
15       FAPO       FAPO       Move         16       CON       Construction       Image: Construction       Image: Construction         17       ENV       Environmental       Environmental       Image: Construction         18       EEO       Geotechnical       Image: Construction       Image: Construction         19       HW       Highway       Image: Construction       Image: Construction         20       PC       Project Controls       Image: Construction       Image: Construction         21       PM       Project Management       Image: Construction       Image: Construction         22       ROW       Right of Way       Image: Construction       Image: Construction       Image: Construction         21       PM       Project Controls       Image: Construction       Image: Construction       Image: Construction       Image: Construction         22       ROW       Right of Way       Image: Construction       Image: Construction       Image: Construction       Image: Construction         Image: Use a value from the table as the default entry for the field       Image: Construction					
16       CON       Construction         17       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Controls         21       PM       Project Controls         22       ROW       Right of Way         Display indenting in lookup table			-		L
17       ENV       Environmental         18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Controls         22       ROW       Right of Way         Display indenting in lookup table       Use a value from the table as the default entry for the field         Set Default       (Click button after selecting a value above)         +       Display order for lookup table         +       Data entry options					Move
18       GEO       Geotechnical         19       HW       Highway         20       PC       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display indenting in lookup table					
19       HW       Highway         20       PC       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display indenting in lookup table					
20       PC       Project Controls         21       PM       Project Management         22       ROW       Right of Way         Display indenting in lookup table					
21       PM       Project Management         22       ROW       Right of Way         Display indenting in lookup table					
22       ROW       Right of Way       •         Display indenting in lookup table       Use a value from the table as the default entry for the field       •         Set Default       (Click button after selecting a value above)       • <ul> <li>Display order for lookup table</li> <li>Data entry options</li> <li>•</li> <li>Data entry options</li> <li>•</li>       &lt;</ul>					
Display igdenting in lookup table Use a value from the table as the default entry for the field Set Default (Click button after selecting a value above) Display order for lookup table Data entry options				-	
Use a value from the table as the default entry for the field  Set Default (Click button after selecting a value above)  Disglay order for lookup table  Data entry options	Dis	play indenting in lookup table			
Display order for lookup table     Data entry options			fault entry for the field		
Display order for lookup table     Data entry options		Set Default (Click button after	selecting a value above)		
Data entry options					
	+	isplay order for lookup table			
Help [Import Lookup Table] Close	+ D	ata entry options			
Help [Import Lookup Table] Close					
Teh		Halp		loco	
		<u>Tich</u>		iose	

Figure 2.3.1B: Custom Field Lookup Table

The Outline Codes specified must be consistent with the scheduling requirements set by MassDOT and may not be edited or modified.

Additional Outline Codes may be required for particular projects at the discretion of the MassDOT Project Manager and a separate dictionary and values would need to be added to accommodate this. As an example, if a code value for deliverable names is required, an Outline Code named Deliverables may be added in an unused Outline Code such as Code 5 or 6. This new Outline code would have a blank dictionary to which values for it may be added.

# 2.3.2 VERIFYING THE CALENDAR DICTIONARY

The following calendar dictionary has been established in the MassDOT templates. These calendars should not be edited. To verify the calendars go to *Menu: Project\Change Working Time*. The following screen (Figure 2.3.2A) will appear.

		Change Working Time					
For calendar: MassDOT Highway Division Wo	rking Ca	endai	r (P) -	-	Create <u>N</u> ew Calendar		
Calendar 'MassDOT Highway D' is a base calen	ıdar.						
Legend: Click on a day to	see its <u>v</u>	<u>v</u> orkin	g time	es:			
:: : Working	ry 2014			<b>^</b>	Working times for January 17, 2014:		
	Th F 2 3	5 4	5 5		<ul> <li>8:00 AM to 12:00 PM</li> <li>1:00 PM to 5:00 PM</li> </ul>		
31 Edited working 6 7 8	9 10	11	12	1			
	16 17	18	19		Based on:		
	23 24	25	26	1	Default work week on calendar 'MassDOT		
27 28 29 3	30 31			1	Highway D'.		
31 Nondefault work week				÷			
Exceptions Work Weeks							
Name		Star	t		Finish Details		
					Delete		
		:					
Help					Options OK Cancel		

Figure 2.3.2A: Change Working Time

It is understood that various calendars may be needed in order to model and report the progression of work. Therefore, the MassDOT templates have predefined calendars for the designer's use:

- MassDOT Highway Division Working Calendar a seven day working calendar to represent calendar days
- Tuesday Calendar a Tuesday calendar to represent the MassDOT document submittal for advertising
- Advertising Calendar a Saturday calendar to represent MassDOT advertising dates
- Monday Calendar a Monday calendar to represent the PM's submission of PSE to FAPRO
- Wednesday Calendar a Wednesday calendar to represent the preparation and release of Bid Documents
- Friday Calendar a Friday calendar to represent the submission of PSE to Specs
- Standard Calendar a 5 day calendar to represent working days

If a calendar beyond those in the template is needed to meet specific project requirements, the MassDOT project manager will provide it upon request.

# 2.4 SETTING UP VIEWS AND TABLES

# TIP #2.4

The standard schedule views and reports are not to be altered under any circumstances 4

It should be noted that altering them is simple and may be done accidentally. Should these views or reports be modified it is necessary that they get restored. Please refer to the guidelines to set the files back to the default.

# 2.4.1 BACKING UP VIEWS, TABLES FILTERS, AND CALENDARS

Views, tables, filters, and calendars should be backed up <u>one time</u> per machine and periodically in case of modifications required by MassDOT. This will allow for restoring these elements in case of accidental changes.

From time to time, report setting, views, filters may be added, replaced or retired; please ensure that you back up these new elements.

Go to *Menu: View\Other Views\More Views* and click the *Organizer* button. The following screen will appear:

Organizer			×
Views Reports Modules Tables Filters Cal	endars   Maps   Fields	Groups	
'Global.MPT': OO Resource Sanbox OO Schedule Sandox OO Task Entry Bar Rollup BL Milestone and Tracking Report BL Network Diagram BL PDS Report BL PDS Report BL Resource and Cashflow Calendar Descriptive Network Diagram Detail Gantt	▲ <u>C</u> opy >> Close Re <u>n</u> ame <u>D</u> elete	'Typical Bridge Design Schedule.mpp': 00 Resource Sanbox 00 Schedule Sandox 00 Task Entry Bar Rollup BL Milestone and Tracking Report BL Network Diagram BL PDS Report BL PDS Schedule BL Resource and Cashflow Calendar Descriptive Network Diagram Detail Gantt	A III
Views available in:		Views availa <u>b</u> le in:	
Global.MPT	•	Typical Bridge Design Schedule.mpp	•

For each of the tabs titled below, ensure that the respective elements are copied from the project template to the 'Global.MPT'.

#### • Views

View	
BL PDS Schedule Grouped by Area of Work	
BL PDS Schedule in Chronological Order	
Milestones for High Level Reporting	
UD PDS Schedule	

### • Tables

Table
BL PDS Schedule Grouped By Area of Work Table
BL PDS Schedule in Chronological Order Table
UD PDS Schedule Table

#### • Calendars

Calendar
Advertising Calendar
MassDOT Highway Division Working Calendar
Tuesday Calendar

#### • Fields

Field
Are of Work (Outline Code 1)
Responsibility (Outline Code 3)

### 2.4.2 RESTORING VIEWS, TABLES FILTERS, AND CALENDARS

In the event that any reports, their associated tables, filters, etc. are changed, as with backing up go to *Menu: View\Other Views\More Views* and click the *Organizer* button.

In this case, for each tab, copy the respective elements shown in the tables above in section 2.4.1 of this document from the 'Global.MPT' to the project template or the schedule you are currently using.

# 3.0 DEVELOPING THE PROJECT DESIGN SCHEDULE

It is the designer's responsibility to ensure that the contractual scope of work is completely shown in the schedule. The PDS is required to include all tasks to be performed on the project by MassDOT, the designer, environmental agencies and other significant stakeholders involved in the project from the design notice to proceed through completion of the project. The PDS should include tasks pertaining to design development and submissions, permitting, right-of-way acquisition, project meetings and critical action items.

Since each project is different, occasionally scope items found in the template may not be applicable and/or items not in the template should be added. Additionally, the timeline for each project will need to be adjusted. This section explains how to customize the template to the needs of the project.

# **3.1 ADDING APPLICABLE PROJECT SCOPE**

In the event that the template does not include a major scope element, summary (WBS) activities, tasks, and milestones, may be added as appropriate. With the MassDOT project manager's approval, the standards and nomenclature for these new items are presented below. Additional Task Names and IDs should be added in the manner described below and those activities should be added within the WBS structure so that the WBS node is consistent with the scoping workbook numbering structure.

# 3.1.1 ADDING A WBS NODE

Any WBS element added to the schedule should represent a major effort and identify its deliverables. Added elements should be incorporated under an existing WBS element, when applicable. Furthermore, its name shall be descriptive and have an ID that complies with the following format (Figure 3.1.1A):

WBS Level	WBS ID sample	Nomenclature meaning
1	ENV	Discipline of Work
2	MS or 152	Milestone or division of work
2	IVIS OF 152	from Scoping Workbook
2	060	Unique Identifier-Next
3	060	Sequential Number
4	1	Revision (when required)
	Eigure 3 1 1A	M/BC

Figure 3.1.1A: WBS

### **3.1.2 ADDING ACTIVITIES**

Any task added to the schedule should be related to a major deliverable and placed under the relevant WBS. All activities must be assigned to a WBS and have a task name that is descriptive of the work being performed and the WBS ID formatted as follows:

### ENV.152.060

In the example shown above ENV is the discipline of work, 152 the division of work, and 060 a unique identifier (next sequential number) to represent the New Activity. A fourth level may be used to designate revisions to existing activities with "ENV.152.060.1" being Revision 1 to activity ENV.152.060.

Please refer to section 3.3 on setting and modifying activity attributes including Outline Codes and Calendars.

### 3.1.3 ADDING MILESTONES

Any milestones added to the schedule should represent the start and/or culmination of a major deliverable(s) and have a name that is descriptive of the work being performed. Furthermore, the milestone should be placed under the relevant WBS with the appropriate activity code (see instructions above) and activity ID formatted as follows.

### ENV.MS.030

In the example shown above ENV is the discipline of work, MS stands for milestone, and 030 is a unique identifier.

# TIP # 3.1A

A recommended working view in MS Project is either the 'UD PDS Schedule' (used when updating approved schedules) view or the 'BL PDS Schedule Grouped by Area of Work' (used when working on developing baselines) view. You may select the view by going to *Menu: View\Other Views\More Views* and selecting the appropriate view.

### 3.1.4 ADDING REVISIONS TO A SUBMITTAL

Any submittal task requiring a revision and resubmission should be documented in the schedule. In order to properly document this within the schedule, the designer is asked to insert new tasks into the schedule to represent the preparation, review, and submission of the submittal with an associated review number assigned.

WBS	3								2024
	1		Task Name 👻	Start 👻	Finish 👻	Duration 👻	Responsibility 👻	Total Slack 👻	Feb Mar Apr May Jun Jul Aug Sep Oct
HWY.300		36	▲ 25% Highway Design Submission	Sat 4/1/23	Mon 4/22/24	388d?		267d?	25% Highway Design Submission
HWY.300.01	0	37	Prepare 25% Highway Design Submission	Sat 10/21/23	Tue 12/19/23	60d	Consultants.DES	64d	
HWY.300.02	20	38	Submit 25% Design Submission	Sat 2/17/24	Sat 2/17/24	0d	Consultants.DES	4d	Submit 25% Design Submission
HWY.300.04	10	39	Review 25% Highway Design Submission	Sun 2/18/24	Mon 3/18/24	30d	MassDOT.HW	4d	
HWY.300.*		40	<new task=""></new>	Sat 4/1/23	Sat 4/1/23	1d?		1288d?	
HWY.300.*		41	<new task=""></new>	Sat 4/1/23	Sat 4/1/23	1d?		1288d?	
HWY.300.*		42	<new task=""></new>	Sat 4/1/23	Sat 4/1/23	1d?		1288d?	
HWY.300.05	60	43	All Sections 25% Highway Design Comments sent to DE	Mon 3/18/24	Mon 3/18/24	0d	MassDOT.PM	4d	All Sections 25% Highway Design Comments sent to DE

							2024
0 🗸	Task Name 👻	Start 👻	Finish 👻	Duration 👻	Responsibility 👻	Total Slack 👻	Feb Mar Apr May Jun Jul Aug Sep Oct
36	# 25% Highway Design Submission	Sat 10/21/23	Wed 4/24/24	187d?		2d?	25% Highway Design Submission
37	Prepare 25% Highway Design Submission	Sat 10/21/23	Tue 12/19/23	60d	Consultants.DES	62d	
38	Submit 25% Design Submission	Sat 2/17/24	Sat 2/17/24	0d	Consultants.DES	2d	<ul> <li>Submit 25% Design Submission</li> </ul>
39	Review 25% Highway Design Submission	Sun 2/18/24	Mon 3/18/24	30d	MassDOT.HW	2d	
40	Prepare 25% Highway Design Submission Rev1	Tue 3/19/24	Tue 3/19/24	1d?		2d?	Let a second
41	Submit 25% Highway Design Submission Rev1	Tue 3/19/24	Tue 3/19/24	1d?		2d?	I I I I I I I I I I I I I I I I I I I
42	Review 25% Highway Design Submission Rev1	Wed 3/20/24	Wed 3/20/24	1d?		2d?	
43	All Sections 25% Highway Design Comments sent to DE	Wed 3/20/24	Wed 3/20/24	0d	MassDOT.PM	2d	All Sections 25% Highway Design Comments sent to DE
	36 37 38 39 40 41 42	36         4 25% Highway Design Submission           37         Prepare 25% Highway Design Submission           38         Submit 25% Design Submission           39         Review 25% Highway Design Submission           40         Prepare 25% Highway Design Submission Rev1           41         Submit 25% Highway Design Submission Rev1           42         Review 25% Highway Design Submission Rev1	36         4 25% Highway Design Submission         Sat 10/21/23           37         Prepare 25% Highway Design Submission         Sat 10/21/23           38         Submit 25% Design Submission         Sat 2/17/24           39         Review 25% Highway Design Submission         Su 2/18/24           40         Prepare 25% Highway Design Submission Rev1         Tue 3/19/24           41         Submit 25% Highway Design Submission Rev1         Tue 3/19/24           42         Review 25% Highway Design Submission Rev1         Wed 3/20/24	36         4 25% Highway Design Submission         Sat 10/21/23         Wed 4/24/24           37         Prepare 25% Highway Design Submission         Sat 10/21/23         Tue 12/19/23           38         Submit 25% Design Submission         Sat 2/17/24         Sat 2/17/24           39         Review 25% Highway Design Submission         Sut 2/17/24         Sat 2/17/24           40         Prepare 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24           41         Submit 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24           42         Review 25% Highway Design Submission Rev1         Wed 3/20/24         Wed 3/20/24	36         # 25% Highway Design Submission         Sat 10/21/23         Wed 4/24/24         187d?           37         Prepare 25% Highway Design Submission         Sat 10/21/23         Tue 12/19/23         60d           38         Submit 25% Design Submission         Sat 2/17/24         Sat 2/17/24         0d           39         Review 25% Highway Design Submission         Sun 2/18/24         Mon 3/18/24         30d           40         Prepare 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24         1d?           41         Submit 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24         1d?           42         Review 25% Highway Design Submission Rev1         Wed 3/20/24         Wed 3/20/24         1d?	36         # 25% Highway Design Submission         Sat 10/21/23         Wed 4/24/24         187d?           37         Prepare 25% Highway Design Submission         Sat 10/21/23         Tue 12/19/23         60d         Consultants.DES           38         Submit 25% Design Submission         Sat 2/17/24         Sat 2/17/24         0d         Consultants.DES           39         Review 25% Highway Design Submission         Sun 2/18/24         Mon 3/18/24         30d         MassDOT.HW           40         Prepare 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24         1d?           41         Submit 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24         1d?           42         Review 25% Highway Design Submission Rev1         Wed 3/20/24         Wed 3/20/24         1d?	36         # 25% Highway Design Submission         Sat 10/21/23         Wed 4/24/24         187d?         2d?           37         Prepare 25% Highway Design Submission         Sat 10/21/23         Tue 12/19/23         60d         Consultants.DES         62d           38         Submit 25% Design Submission         Sat 2/17/24         Sat 2/17/24         0d         Consultants.DES         2d2           39         Review 25% Highway Design Submission         Sun 2/18/24         Mon 3/18/24         30d         MassDOT.HW         2d           40         Prepare 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24         1d?         2d7           41         Submit 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24         1d?         2d7           42         Review 25% Highway Design Submission Rev1         Tue 3/19/24         Tue 3/19/24         1d?         2d7           42         Review 25% Highway Design Submission Rev1         Wed 3/20/24         Wed 3/20/24         1d?         2d7

Second, the designer is to assign the appropriate durations, relationships, calendars, and responsibility codes to the newly added tasks.

WBS									2024
	D 🕶	Task Name 👻	Start 👻	Finish 👻	Duration 👻	Task Calendar 🗸 🗸	Responsibility 👻	Total Slack 👻	Feb Mar Apr May Jun Jul Aug Sep Oct Nov De
HWY.300	36	▲ 25% Highway Design Submission	Sat 10/21/23	Fri 6/21/24	245d	MassDOT Highway Division Workin		0d	25% Highway Design Submission
HWY.300.010	37	Prepare 25% Highway Design Submission	Sat 10/21/23	Tue 12/19/23	60d	MassDOT Highway Division Working Ca	Consultants.DES	60d	
HWY.300.020	38	Submit 25% Design Submission	Sat 2/17/24	Sat 2/17/24	00	MassDOT Highway Division Working Ca	Consultants.DES	0d	<ul> <li>Submit 25% Design Submission</li> </ul>
HWY.300.040	39	Review 25% Highway Design Submission	Sun 2/18/24	Mon 3/18/24	30d	MassDOT Highway Division Working Ca	MassDOT.HW	0d	
HWY.300.*	40	Prepare 25% Highway Design Submission Rev1	Tue 3/19/24	Wed 4/17/24	30d	MassDOT Highway Division Working Ca	Consultants.DES	0d	
HWY.300.*	41	Submit 25% Highway Design Submission Rev1	Wed 4/17/24	Wed 4/17/24	0d	MassDOT Highway Division Working Ca	Consultants.DES	0d	Submit 25% Highway Design Submission Rev1
HWY.300.*	42	Review 25% Highway Design Submission Rev1	Thu 4/18/24	Fri 5/17/24	30d	MassDOT Highway Division Working Ca	MassDOT.HW	0d	
HWY.300.050	43	All Sections 25% Highway Design Comments sent to DE	Fri 5/17/24	Fri 5/17/24	00	MassDUT Highway Division Working Ca	MassUUT.PM	b0	All Sections 25% Highway Design Comments sent to DE

Lastly, the designer is to update the WBS of the submittal tasks added. The WBS of the tasks should follow the same root code (discipline of work description, division of work number, and unique identifier as the preceding submittal task). A fourth level should be added to represent the revision number being added (i.e. "HWY.300.010.1" being Revision 1 to task HWY.300.010).

WBS										2024
	0.*	Task Name 👻	Start 👻	Finish 👻	Duration 👻	Task Calendar 👻	Responsibility 👻	Total Slack 👻	A	Apr May Jun Jul Aug Sep Oct Nov Dec
HWY.300	36	▲ 25% Highway Design Submission	Sat 10/21/23	Fri 6/21/24	245d	MassDOT Highway Division Workin		0d	T	25% Highway Design Submission
HWY.300.010	37	Prepare 25% Highway Design Submission	Sat 10/21/23	Tue 12/19/23	60d	MassDOT Highway Division Working Ca	Consultants.DES	60d		
HWY.300.020	38	Submit 25% Design Submission	Sat 2/17/24	Sat 2/17/24	0d	MassDOT Highway Division Working Ca	Consultants.DES	0d	8	% Design Submission
HWY.300.040	39	Review 25% Highway Design Submission	Sun 2/18/24	Mon 3/18/24	30d	MassDOT Highway Division Working Ca	MassDOT.HW	b0		
HWY.300.010.1	40	Prepare 25% High way Design Submission Rev1	Tue 3/19/24	Wed 4/17/24	30d	MassDOT Highway Division Working Ca	Consultants.DES	0d		
HWY.300.020.1	41	Submit 25% Highway Design Submission Rev1	Wed 4/17/24	Wed 4/17/24	0d	MassDOT Highway Division Working Ca	Consultants.DES	0d		Submit 25% Highway Design Submission Rev1
HWY.300.040.1	42	Review 25% Highway Design Submission Rev1	Thu 4/18/24	Fri 5/17/24	30d	MassDOT Highway Division Working Ca	MassDOT.HW	0d		
HWY.300.050	43	All Sections 25% Highway Design Comments sent to DE	Fri 5/17/24	Fri 5/17/24	0d	MassDOT Highway Division Working Ca	MassDOT.PM	0d		All Sections 25% Highway Design Comments sent to DE

# **3.2 INAPPLICABLE PROJECT SCOPE**

The most common major scope elements have been incorporated into the MassDOT PDS templates. The activities in the schedule should be sufficient to provide a reasonable level of detail and properly illustrate how the work will be performed. The MassDOT PDS template includes activity IDs and names for those efforts most common to projects. When applicable to the scope of work, these activities must be in the schedule.

### TIP #3.2A

In the event that the template includes a scope element that is not applicable to the project, the relevant WBS nodes, activities and milestones **should not be deleted**.

For the activities that are not applicable to your project, enter zero duration, add the note "Not applicable" or "N/A" in the Task Name as shown below and uncheck them from being milestones (Figure 3.2A).

e Task	B • Cantt Char Resource Project View Acrobat Forma		bridge state in	011 03 01 4 2.	5-2014.1.mpp - Micr	o sont i rojett						: • • • • •
tt Paste	Antal 10 T Est Sot F5t Sot B I U Δ · Δ · Ξφ φ= φφ ∞ φφ ∈	Mark on Track Respect Links → Inactivate	Manually Schedule S	Auto	Move - Task	Summary Milestone Deliverable Insert	1.1	mation	😨 to	13	2 ·	
WBS	Task Name	Start 🖕	Finish _	Duration _	Responsibility _	Total _	3rd Quar	ter 1	st Quarter	r Bri	d Quarter	r 1st Qu
	•	•		•	•	Slack	Jan	Apr	Jul 0	let .	lan A	pr Jul
NT.MS.050	Bid Opening	Wed 1/6/16	Wed 1/6/16	00	MassDOT.PM	00				- ÷	Bid Ope	ining
NT.MS.060	Issue Construction Contract NTP	Sun 3/6/16	Sun 3/6/16	0.0	MassDOT.PM	00					↓ Iss	sue Const
NT.MS.070	Scope of Service Complete	Mon 3/6/17	Mon 3/6/17	0d	MassDOT.PM	0d						
NT.100	Project Development	Tue 1/14/14	Sat 2/7/15	390d		758d	Pro Pro	oject De	evelopm	ent		
NT.100.010	Finalize Project Plan and Design Schedule	Tue 1/14/14	Wed 2/12/14	304	Consultants.DES	758d						
NT.100.020	Project Design Schedule Updates	Thu 2/13/14	Sat 2/7/15	360d	Consultants.DES	7584	ь –					
WY .	- Highway Design	Tue 1/14/14	Sun 7/12/15	545d		6d	<u> </u>	_	Highwa	ay Des	ign	
fWY.200	E Functional Design Report (Not applicable)	Tue 1/14/14	Tue 9/2/14	232d		36d	nal Des	ign Rep	port (Not	applic	able)	
WY.200.010	Prepare Functional Design Report (Not applicable)	Tue 1/14/14	Tue 1/14/14	0.0	Consultants.DES	2384	an Repo	rt (Not	applicab	le)		
WY.200.020	Submit Functional Design Report (Not applicable)	Tue 9/2/14	Tue 9/2/14	0.0	Consultants DES	364	Functio	nal De	sign Rep	ort (No	t applic	able)
WY.200.030	Review Functional Design Report (Not applibale)	Tue 9/2/14	Tue 9/2/14	0.0	MassDOT.HW	364	Functio	nal De	sign Rep	ort (Ne	at applib	ale)
WY.200.040	Approval of Functional Design Report (Not applicable)	Tue 9/2/14	Tue 9/2/14	0d	MassDOT.HW	364	al of Fu	nctiona	Design	Repor	t (Not ap	pplicable)
fWY.303	- Conduct Survey	Tue 1/14/14	Wed 3/26/14	72d		6d			-	-1		
fWY.303.010	Conduct Survey (MassDOT)	Tue 1/14/14	Wed 3/26/14	726	MassDOT.HW							
		Tue 1/14/14	Wed 3/26/14	726	Consultants DES	64						

Figure 3.2A

In order to avoid zero duration activities becoming Milestones, you should follow the next steps:

- Double-click on the non-applicable activity
- Go to the Advanced Tab
- Uncheck the "Mark Task as Milestone" checkbox (Figure 3.2B)
- Click OK

ame: Prepare Fur	nctional De	sign Report (Not appli	cable)		Duration:	od	🗧 📃 Estimati
onstrain task			,				
Deadjne:	NA			•			
Constraint type:	As Soon	As Possible	•	Constraint date:	NA		•
Task type:	Fixed D	uration	•	Effort driven			
Calendar:	MassDO	T Highway Division W	orkinç 👻	C Scheduling ign	ores resouro	e calendars	
WBS code:	HWY.20	0.010					
Earned value meth	od:	% Complete	-				
Mark task as miles	tone						

Figure 3.2B

# TIP #3.2

The latest approved Work Breakdown Structure (WBS) was used in the development of the MassDOT PDS templates. Designers should not modify the structure of the WBS as it will affect the Agency's ability to report (See Appendix B: WBS Structure for the most current MassDOT approved WBS.)

### **3.3 SETTING AND MODIFYING ACTIVITY ATTRIBUTES**

### 3.3.1 SETTING ACTIVITY OUTLINE CODES

Areas of Work and Responsibility codes have been pre-assigned to applicable tasks in the template. All new tasks also need a value assigned if applicable. To assign an activity code to a particular task double click on the task and the dialog box below will appear (Figure 3.3.1A). Go to the **'Custom Fields'** tab and select the applicable value for each code being assigned.

Newly added tasks should be appropriately coded per MassDOT direction. In rare situations, the responsibility code for a particular task may need to be changed on a particular project. This change should only be performed with prior MassDOT approval.

eneral Predecesso	rs Resources Advanced No	es Custom Fields		
ame: Prepare Fun	ctional Design Report		Duration: 8d	🕂 🔳 Estimated
ustom Fields				
	Outline Code 1)			
Custom Field Name		Value		
rea of Work (Outlin	e Code 1)	HWD		
esponsibility (Outlin	e Code3)		tants.DES	
	ne Code4)			
VBS		HWY.2	00.010	
				-

Figure 3.3.1A: Task Information Custom Fields

# 3.3.2 SETTING ACTIVITY CALENDARS

Each activity in the schedule should have an appropriate calendar assigned to it. In most cases, the MassDOT Highway Division Working Calendar which is a 7 day calendar will be the appropriate calendar. This facilitates reading report durations and logic. Some exceptions, such as advertising tasks have a different calendar assigned.

Newly added activities should have the appropriate calendar assigned. To assign a calendar to a particular task - double click on the task, the dialog box below will appear (Figure 3.3.2A). Go to the '*Advanced*' tab and select the appropriate calendar.

Task Informatio	n							<b>-</b> ×-
General Prede	cessors	Resource	Advanced	Notes Cu	stom Fields			
Name: Prepar	Name: Prepare Functional Design Report				Duration:	8d	<u>E</u> stimated	
Deadline:		NA			•			
Constraint typ	<u>e</u> :	As Soon As	s Possible	-	Constraint date:	NA		•
Task type:		Fixed Dura	ition	-	Effort driven			
C <u>a</u> lendar:		MassDOT I	Highway Divisio	n Workin <u>c</u> 👻	🔽 Schedulin <u>a</u> ign	ores resourc	e calendars	
WBS code:		HWY.200.	010					
Earned <u>v</u> alue	method	:	% Complete	•	]			
🔲 <u>M</u> ark task as	milesto	ne						
<u>H</u> elp							ОК	Cancel

Figure 3.3.2A: Task Information Advanced Settings

# **3.4 SCHEDULE ACTIVITY LOGIC**

## TIP #3.4

The activity logic in MassDOT Design Schedule templates has been carefully developed to be in line with typical projects and should not be modified. In the event that a project is significantly different and the relationships between activities need to be modified to indicate how the design development will proceed, the MassDOT PM's approval is required in advance.

If scope is added in the schedule, relationships may need to be added to avoid "open activities". The MassDOT PM will provide the required predecessors and successors upon request.

### 3.4.1 REVIEWING/ADJUSTING ACTIVITY RELATIONSHIPS

In order to ensure that schedule quality and forecast reliability is maintained, all tasks must have a predecessor and a successor except for: start milestones, which must have at least one successor; finish milestones, which must have at least one predecessor; and WBS / Summary tasks which should have no relationships.

A quick review of the schedule logic can be performed by scrolling through the schedule to identify any missing or unsuitable relationships. To review the relationships go to *Menu: View\Other Views\More Views*, select '*Task Entry*' and click *Apply*. The task form box should appear below the task list. In the event that the task form box shows the 'Resource Cost' form, right-clicking anywhere on the form will allow you to select 'predecessors and successors'.

Test       Resource       Pright       Yerred       A crobat       Format       Or O       O <tho< th=""> <tho< th="">       O</tho<></tho<>	P	9	• (01 -	<del>-</del>				Gantt C	hart Tools Ty	/pical Bridge Des	ign Schedu	ule.m	pp - Microsoft Proje	ct	r	_ 0
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Figure 3.4.1A: Reviewing Activity Relationships

The PDS logic should align with MassDOT's and the Designer's approach to implementing the work. Activities should have all appropriate interdependencies and the sequence of work to illustrate how the start of a given activity depends on the completion of preceding activities, as well as how the completion of an activity may restrain the start of subsequent activities.

Significant changes to the schedule logic are not allowed. MassDOT may direct the Designer to perform changes to logic as necessary but the intent is that the schedule remains reflective of MassDOT processes and how the design development phase is to be implemented.

# 3.5 ADJUSTING THE PROJECT TIMELINE

# 3.5.1 ADJUSTING TASK DURATIONS

# TIP #3.5.1

All MassDOT PDS templates include task durations that are in line with typical Projects. However, the unique scope and needs of each project requires that the duration of tasks that are the responsibility of the designer be revisited to ensure that it is indicative of the effort needed (Consultants.DES responsibility). The MassDOT responsibility tasks should not be modified. The only modification allowed is the adjustment of the Review durations based on the "target" advertising date (i.e. 30 days, 60 days, 120 days).

Design schedules must be developed to accurately reflect the true durations of design tasks for each project. To review task durations and adjust accordingly, the column for 'Duration' should be reviewed and the 'Duration' value may be edited with MassDOT PM approval.

WBS	Name	Start 🗸	Finish 👻	Duration	Late Start -	Late Finish
HWY.303.010	Conduct Survey (MassDOT)	Tue 1/14/14	Wed 3/26/14	72d	Fri 1/17/14	Sat 3/29/14
HWY.303.020	Conduct Survey	Tue 1/14/14	Wed 3/26/14	72d	Fri 1/17/14	Sat 3/29/14
HWY.300	25% Highway Design Submission	Wed 3/26/14	Fri 6/27/14	93d	Sun 3/30/14	Mon 7/28/14
HWY.300.010	Prepare 25% Highway Design Submission	Wed 3/26/14	Sun 5/25/14	60d	Sun 3/30/14	Wed 5/28/14
HWY.300.020	Submit 25% Design Submission	Wed 5/28/14	Wed 5/28/14	0d	Thu 5/29/14	Thu 5/29/14
HWY.300.030	Review 25% Highway Design Submission	Thu 5/29/14	Fri 6/27/14	30d	Sat 6/28/14	Sun 7/27/14
HWY.300.011	Prepare 25% Highway Design Submission Rev1	Fri 6/27/14	Fri 6/27/14	b0	Mon 7/28/14	Mon 7/28/14
HWY.300.021	Submit 25% Highway Design Submission Rev1	Fri 6/27/14	Fri 6/27/14	b0	Mon 7/28/14	Mon 7/28/14
HWY.300.031	Review 25% Highway Design Submission Rev1	Fri 6/27/14	Fri 6/27/14	b0	Mon 7/28/14	Mon 7/28/14
HWY.350	Design Public Hearing	Mon 7/28/14	Tue 10/7/14	72d	Mon 7/28/14	Sat 10/17/15
HWY.350.010	Schedule Design Public Hearing	Mon 7/28/14	Sun 9/7/14	42d	Mon 7/28/14	Sun 9/7/14
HWY.350.020	Respond to Comments (Public Hearing)	Mon 9/8/14	Tue 10/7/14	30d	Fri 9/18/15	Sat 10/17/15
HWY.400	75% Highway Design Submission	Mon 9/8/14	Thu 4/23/15	228d	Sat 2/21/15	Fri 5/22/15
HWY.400.010	Prepare 75% Highway Design Submission	Mon 9/8/14	Thu 11/6/14	60d	Sat 2/21/15	Tue 4/21/15
HWY.400.020	Submit 75% Design Submission	Tue 3/24/15	Tue 3/24/15	0d	Wed 4/22/15	Wed 4/22/15
HWY.400.030	Review 75% Highway Design Submission	Wed 3/25/15	Thu 4/23/15	30d	Wed 4/22/15	Thu 5/21/15
HWY.400.011	Prepare 75% Highway Design Submission Rev1	Thu 4/23/15	Thu 4/23/15	0d	Fri 5/22/15	Fri 5/22/15
HWY.400.021	Submit 75% Highway Design Submission Rev1	Thu 4/23/15	Thu 4/23/15	0d	Fri 5/22/15	Fri 5/22/15
HWY.400.031	Review 75% Highway Design Submission Rev1	Thu 4/23/15	Thu 4/23/15	0d	Fri 5/22/15	Fri 5/22/15
HWY.450	= 100% Highway Design Submission	Fri 4/24/15	Wed 7/22/15	90d	Fri 5/22/15	Thu 8/20/15
HWY.450.010	Prepare 100% Highway Design Submission	Fri 4/24/15	Mon 6/22/15	60d	Fri 5/22/15	Mon 7/20/15
HWY.450.020	Submit 100% Design Submission	Mon 6/22/15	Mon 6/22/15	0d	Tue 7/21/15	Tue 7/21/15
HWY.450.030	Review 100% Highway Design Submission	Tue 6/23/15	Wed 7/22/15	30d	Tue 7/21/15	Wed 8/19/15
HWY.450.011	Prepare 100% Highway Design Submission Rev1	Wed 7/22/15	Wed 7/22/15	0d	Thu 8/20/15	Thu 8/20/15
						-

Figure 3.5.1A: Duration Column

# 3.5.2 CALCULATING THE SCHEDULE

Calculating your Project is only necessary if you have turned off Calculations in the Project Options dialog box. In this event, be sure that the Schedule's Status Date and NTP Date match and are consistent with the Assignment NTP date (see section 2.2.1 of this document) then go to *Menu: Project Options* and click on *Calculate Project*.

Project Options			? 🔀
General	<u>^</u>	Show task schedule suggestions	*
Display	E	Calculation	
Schedule		Calculate project after each edit:	
Proofing		0 <u>O</u> n	
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Language	~	Calculation options for this project: 📳 2010-Typical Bridge Design 💌	-
		ОК	Cancel

#### Figure 3.5.2A: Calculations On

# 3.5.3 CONSTRAINTS

Constraints, with the exception of contractually imposed dates such as the Design NTP, are not allowed as they can supersede the logic of the schedule and cause slack calculations to be misleading. 'Start No Earlier Than' constraints automatically applied through the recalculation process are the only exceptions to that rule.

# TIP # 3.5.3

<u>DO NOT</u> input dates in activity 'Start' or 'Finish' fields – this will automatically create a start or finish constraint on the activity. It is not recommended to use Constraints in lieu of schedule activity logic.

To ensure that no constraints have been applied, insert columns for 'Constraint Type' and 'Constraint Date' as shown below (Figure 3.5.3A). Tasks with constraints on them will have a constraint type other than 'As Soon As Possible' and a date value in the 'Constraint Date' field. To remove a constraint double click on the task as described above to review the Constraint and set the constraint type to 'As Soon as Possible'.

WBS	Constraint _ Date	Constraint Type 🚽	Task Name 👻	Start 🚽	Finish 🚽
CNT	NA	As Soon As Possible	Contract/Project Management	Tue 1/14/14	Mon 2/13/17
CNT.MS	NA	As Soon As Possible	Project Milestones	Tue 1/14/14	Mon 2/13/17
CNT.MS.010	NA	As Soon As Possible	Issue Design Contract NTP	Tue 1/14/14	Tue 1/14/14
CNT.MS.020	NA	As Soon As Possible	PM Submits Documents for Advertising	Fri 10/9/15	Fri 10/9/15
CNT.MS.030	NA	As Soon As Possible	Prepare for Advertise	Sat 10/10/15	Sat 10/17/15
CNT.MS.040	Sat 1/17/15	Finish No Earlier Than	Advertise Construction Contract	Sat 10/17/15	Sat 10/17/15
CNT.MS.050	NA	As Soon As Possible	Bid Opening	Wed 12/16/15	Wed 12/16/15
CNT.MS.060	NA	As Soon As Possible	Issue Construction Contract NTP	Sun 2/14/16	Sun 2/14/16
CNT.MS.070	NA	As Soon As Possible	Scope of Service Complete	Mon 2/13/17	Mon 2/13/17
CNT.100	NA	As Soon As Possible	Project Development	Tue 1/14/14	Sat 2/7/15
CNT.100.010	NA	As Soon As Possible	Finalize Project Plan and Design Schedule	Tue 1/14/14	Wed 2/12/14
CNT.100.020	NA	As Soon As Possible	Project Design Schedule Updates	Thu 2/13/14	Sat 2/7/15
HWY	NA	As Soon As Possible	<ul> <li>Highway Design</li> </ul>	Tue 1/14/14	Fri 9/11/15

Figure 3.5.3A: Constraints

# 3.5.4 REVIEWING THE CRITICAL PATH

When reviewing the schedule logic, special attention should be paid to the critical path. The critical path is the longest sequence of activities in the project. Delays to activities on the longest path will delay the project completion. The Designer should ensure that the critical path shown, along with the sequence of activities in it, is in line with the intended approach to implementing the project. As task relationships are adjusted, the critical path may change. Once the logic is set, task durations may need to be readjusted (see section 3.5) in order to reflect the level of effort needed and comply with project targets. Multiple iterations may be needed to develop a satisfactory schedule.

File       Task       Resource       Project       View       Acrobat       Format         Subprojet       Project       Custom Links Between       WBS       Change       Calculate       Set       Move       Project       Status Date:       Update       Sync to       Visual       Reports       Compare       Spelling         Insert       WBS       Task Name       Calculate       Set       Move       Orf 2, 2015       Orf 4, 2015       Orf 4, 2015       Orf 2, 2016       Orf 2, 2017       Off 2, 2017	R 🚽 🎝 • 🕲 - 📑	·*  =	Gantt Chart Tools REV 2 Complex Bridge Design Schedule.mpp - Microsoft Project	_ 0 %
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Figure 3.5.4A: Critical Path

In the view shown above, the critical path is shown in red (this is the default setting in MS Project). Additionally, a 'Critical' column may be added to facilitate the identification of those items on the critical path.

# 3.6 SETTING BASELINE PROJECT DESIGN SCHEDULE

The project-specific PDS, developed as described earlier in this section, must be submitted to the project manager for review and approval along with a schedule narrative within thirty (30) Calendar Days of the issuance of the design Assignment NTP.

Once the MassDOT project manager has approved the PDS, the designer must set it as the Baseline. The Baseline will be the basis for comparison of the Schedule progress. Once the Baseline is set the actual progress of the schedule can be easily compared against it.

To establish the approved PDS as the Baseline, open the approved \*.mpp file then go to *Menu: Project\Set Baseline\Set Baseline*. The following dialog box will appear. Match the settings shown in the image below (Figure 3.6A) and click 'OK'. Lastly, make sure to save the\*.mpp file as it will be used for the first progress update.

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	To all summary tasks
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	Set as <u>D</u> efault
<u>H</u> elp	OK Cancel

Figure 3.6A: Set Baseline

Please note: MS project sets the baseline, but no indication will be visible in the Gantt chart unless you view variances.

### **3.7 GENERATING THE FIRST RUN BASELINE SCHEDULE SUBMITTALS**

For the Baseline Submittal, the Designer is required to submit the following to the MassDOT project manager:

- (a) A Baseline PDS electronic file (.mpp) saved in MS Project 2010 or higher format. The file should be named per the MassDOT naming conventions as explained in Section 2.1 of this document.
- (b) A Baseline PDS Schedule saved in pdf. The pdf schedule must be produced using the "BL PDS Schedule Grouped by Area of Work" View (including the Gantt chart) illustrating the activities sequenced by ID and reproduced on 11" x 17" \*.pdf. To view this report, go to *Menu: View\Other Views\More Views* select *BL PDS Schedule Grouped by Area of Work* and click *Apply.*
- (c) If a narrative report providing a description of the Designer's approach to the implementation of the work, has not already been provided to the MassDOT PM as part of the 'Scope and Work-hours' submittal it is required that one be submitted with the PDS schedule submittal.

# TIP # 3.7

A current view or report may not look as it is expected for <u>six</u> reasons: (1) Grouping, (2) Filtering, (3) Outline level (summarization), (4) Sorting, (5) Table format and (6) Chart format. Simple management of the PDS's grouping, filtering, outline level and sorting is covered in attachment F of the appendix.

- The following Columns should be present: WBS, Name, Start, Finish, Duration, Responsibility, and Total Slack.
- The MassDOT project number, project name and view name should appear in the center of the header, the MassDOT PM, and status date/report run date on the left footer and the Designer's name, contract #/ assignment # at the right footer.
- Additionally the report should be sorted by ID, the outline level should be set to 'All Subtasks' (no summarization), no filter or grouping should be applied.
- When printing the report to a \*.PDF, make certain that the print is only one page wide and that the time scale spans the entire project; ideally the printout should be scaled to at least 60% of the original size.

# 3.8 FINALIZING THE SCHEDULE SUBMITTAL

Comments will be provided by the MassDOT PM. The comments should be addressed and a recommended revision should be prepared following the same procedure outlined in section 3.0 of this document as applicable. The schedule must still adhere to the scheduling requirements and quality standards as stipulated earlier.

Once the Baseline has been approved by the MassDOT PM, the file may be renamed and include the word 'Approved' in the title.

# TIP # 3.8

It is crucial that when the baseline schedule **<u>First Run</u>** is revised that in addition to the requested revisions, the Designer recalculates this revised schedule and sets this schedule as the baseline for future revisions or updates.

# 4.0 MONITORING AND CONTROLLING THE PROJECT DESIGN SCHEDULE

Each Designer is required not only to develop a baseline design schedule but to monitor and track design progress, critical design tasks, critical decision dates, and critical actions required by all parties involved in the design. This entails making monthly schedule updates.

Section 3.0 of this document provided guidance of the customization of the PDS with the ultimate goal of obtaining an approved Baseline PDS. This section will cover how to update and submit monthly Progress Schedules.

### 4.1 UPDATING AND SUBMITTING THE PROGRESS SCHEDULES

Progress Schedules must be submitted on a monthly basis for review and acceptance. The submittal shall be consistent with actual project progress achieved.

The first Progress Schedule should be developed from a copy of the PDS that was approved as a baseline. This progress schedule will be named based on the month of the progress status date. Each month's progress schedule thereafter will be developed with the previous months accepted progress schedule and the naming convention will be the month of the progress status date.

### 4.1.1 SET THE STATUS DATE

The Status Date is the date in which the schedule is to be updated. This is also commonly called the 'data date' or 'as of date' and is routinely performed in monthly increments. Simply, everything to the left of the Status Date (line) is considered complete (or 'actualized'). Everything to the right of the Status Date (line) is considered to be the remaining forecasted to complete.

Before you start updating the schedule for every monthly update, the correct Status Date should be entered. To set the Status Date follow the next steps:

- 1) Click on the Project tab
- 2) Click on Project Information
- 3) Enter the Status Date
- 4) Click OK

After the Status date is set you will not see any change in the schedule, however, it will play a critical role while you are updating it.

Project Informa	tion for 'Typical Bridge-State RC	OW as of	4-15-2014.1.mp	pp'
Start <u>d</u> ate:	Tue 1/14/14	•	Current date:	Wed 4/30/14 -
<u>F</u> inish date:	Mon 3/6/17	-	<u>S</u> tatus date:	Fri 5/2/14 🗸
Schedu <u>l</u> e from:	Project Start Date	•	C <u>a</u> lendar:	MassDOT Highway Division Working Ca 👻
All t	asks begin as soon as possible.		Priority:	500
Enterprise Custo	m Fields			
Depar <u>t</u> ment:		-		
Custom Field N	Jama			Value
Help	Statistics			OK Cancel

Figure 4.1.1A: Set Baseline

There are many ways to update a schedule by either using the customized View, the "Update Tasks", the "Task Information" or the "Update Project" features.

To update the schedule it is recommended that you use the pre-established *UD PDS Schedule* view provided in the MassDOT PDS templates. (See Figure 4.1.2A)

WBS	"▼	Name	Start 👻	Finish	uration 🗸	Actual uration	emainir )uratioi 🔽	Responsibility 🗸	Total Slack 🔻	Act. Start 🖕	Act. Finish	Baseline Start	Baseline Finish
HWY.303.010	25	Conduct Survey (MassDOT)	Sun 2/2/14	Mon 4/14/14	72d	0d	72d	MassDOT.HW	7d	NA	NA	Sun 2/2/14	Mon 4/14/14
HWY.303.020	26	Conduct Survey	Sun 2/2/14	Mon 4/14/14	72d	0d	72d	Consultants.DES	7d	NA	NA	Sun 2/2/14	Mon 4/14/14
HWY.300	27	- 25% Highway Design Submission	Tue 4/15/14	Thu 10/9/14	178d	0d	178d		82d	NA	NA	Tue 4/15/14	Thu 10/9/14
HWY.300.010	28	Prepare 25% Highway Design Submission	Tue 4/15/14	Fri 6/13/14	60d	0d	60d	Consultants.DES	82d	NA	NA	Tue 4/15/14	Fri 6/13/14
HWY.300.030	29	Submit 25% Design Submission	Sat 8/30/14	Sat 8/30/14	0d	0d	0d	Consultants.DES	4d	NA	NA	Sat 8/30/14	Sat 8/30/14
HWY.300.040	30	Review 25% Highway Design Submission	Sun 8/31/14	Mon 9/29/14	30d	0d	30d	MassDOT.HW	49d	NA	NA	Sun 8/31/14	Mon 9/29/14
HWY.300.011	31	Prepare 25% Highway Design Submission Rev1	Mon 9/29/14	Mon 9/29/14	0d	0d	0d	Consultants.DES	49d	NA	NA	Mon 9/29/14	Mon 9/29/14
HWY.300.031	32	Submit 25% Highway Design Submission Rev1	Mon 9/29/14	Mon 9/29/14	0d	0d	0d	Consultants.DES	49d	NA	NA	Mon 9/29/14	Mon 9/29/14
HWY.300.041	33	Review 25% Highway Design Submission Rev1	Mon 9/29/14	Mon 9/29/14	0d	0d	0d	MassDOT.HW	49d	NA	NA	Mon 9/29/14	Mon 9/29/14
HWY.300.020	34	Prepare 25% Contract Time Determination	Fri 8/1/14	Mon 9/29/14	60d	0d	60d	Consultants.DES	49d	NA	NA	Fri 8/1/14	Mon 9/29/14
HWY.300.050	35	All Sections 25% Highway Design Comments sent t	Mon 9/29/14	Mon 9/29/14	0d	0d	0d	MassDOT.PM	49d	NA	NA	Mon 9/29/14	Mon 9/29/14
HWY.300.060	36	Utility Early Coordination Field Meeting	Mon 9/29/14	Mon 9/29/14	0d	0d	0d	MassDOT.PM	291d	NA	NA	Mon 9/29/14	Mon 9/29/14
HWY.300.070	37	Prepare 25% Design Responses	Tue 9/30/14	Thu 10/9/14	10d	0d	10d	Consultants.DES	341d	NA	NA	Tue 9/30/14	Thu 10/9/14
HWY.300.080	38	Comment Resolution Meeting @25% (Full Team)	Thu 10/9/14	Thu 10/9/14	0d	0d	0d	MassDOT.PM	341d	NA	NA	Thu 10/9/14	Thu 10/9/14
HWY.300.090	39	Design Schedule Update Meeting @25% (Full Team)	Tue 9/30/14	Tue 9/30/14	1d	0d	1d	MassDOT.PM	350d	NA	NA	Tue 9/30/14	Tue 9/30/14
HWY.350	40	<ul> <li>Design Public Hearing</li> </ul>	Fri 11/14/14	Sat 1/24/15	72d	0d	72d		4d	NA	NA	Fri 11/14/14	Sat 1/24/15
HWY.350.010	41	Schedule Design Public Hearing	Fri 11/14/14	Thu 12/25/14	42d	0d	42d	MassDOT.PM	4d	NA	NA	Fri 11/14/14	Thu 12/25/14
HWY.350.020	42	Conduct Public Hearing	Thu 12/25/14	Thu 12/25/14	0d	0d	0d	MassDOT.PM	4d	NA	NA	Thu 12/25/14	Thu 12/25/14
HWY.350.030	43	Respond to Comments (Public Hearing)	Fri 12/26/14	Sat 1/24/15	30d	0d	30d	MassDOT.PM	4d	NA	NA	Fri 12/26/14	Sat 1/24/15
HWY.400	44	- 75% Highway Design Submission	Fri 12/26/14	Sat 4/4/15	100d	0d	100d		204d	NA	NA	Fri 12/26/14	Sat 4/4/15
HWY.400.010	45	Prepare 75% Highway Design Submission	Fri 12/26/14	Mon 2/23/15	60d	0d	60d	Consultants.DES	204d	NA	NA	Fri 12/26/14	Mon 2/23/15
HWY.400.020	46	Prepare 75% Construction Contract Time Determination	Sun 1/25/15	Wed 3/25/15	60d	0d	60d	Consultants.DES	204d	NA	NA	Sun 1/25/15	Wed 3/25/15

Figure 4.1.2A: UD PDS Schedule View

Review each activity in the schedule and update as follows. Select the task in need of updating. You can either enter/modify information directly using the appropriate columns (i.e. Actual Start/Finish, Remaining duration etc.) or can go to *Menu: Task\Mark on Track* and select '*Update Tasks*'. The following dialog box (Figure 4.1.2B) will appear:

Update 1	Fasks			×
Name:	Review Design Exception Repo	ort	Duration:	30d
% <u>C</u> ompl	ete: 0% 🚔 Actual dur: 0	d 🌲	<u>R</u> emaining dur:	30d 🌲
Actual		Current		
<u>S</u> tart:	NA 🔻	Start:	Thu 5/29/14	
Einish:	NA 👻	Finish:	Fri 6/27/14	
Hel	p <u>N</u> ot	es	ОК	Cancel

Figure 4.1.2B: Update Tasks

i.e.

- (a) If the activity started in the current period, or an earlier period, enter the Actual Start date next to 'Start'. This date should be in the past and prior to the project status date.
- (b) If the activity was completed in the current period, or an earlier period, enter an Actual Finish date next to *'Finish'*. This date should be in the past and prior to the project status date.

Make sure to update all tasks that need to be updated as of the Status Date. – See **Appendix G** for various examples of how to update the tasks in various situations.

### 4.2 CHANGE MANAGEMENT

Any scope, logic, and project timeline changes and revisions to the baseline, if necessitated due to MassDOT procedural changes, legislative changes or significant changes to the project, must be communicated with the MassDOT Project Manager prior to incorporating into the schedule.

# 4.3 GENERATING PROGRESS SCHEDULE SUBMITTALS

The Designer is required to submit a Progress Schedule monthly to the MassDOT Project Manager. For the progress schedule Submittal, the following are required:

- (a) An Updated PDS electronic file (.mpp) saved in MS Project 2010 or higher format. The file should be named per the MassDOT naming conventions as explained in Section 2.1 of this document.
- (b) An Updated PDS Schedule saved in pdf. The pdf schedule must be produced using the "UD PDS Schedule" View (including the Gantt chart) illustrating work completed, in progress and remaining activities sequenced by ID and reproduced on 11" x 17" pdf. To view this report, go to *Menu: View\Other Views\More Views* select *UD PDS Schedule* and click *Apply*.
  - The following columns should be present: WBS, ID, Name, Start, Finish, Duration, Actual Duration, Remaining Duration, Responsibility, Total Slack, Actual Start, Actual Finish, Baseline Start, and Baseline Finish.
  - The report should be sorted by ID, the outline level should be set to 'All Subtasks' (no summarization), no filter or grouping should be applied.
  - The MassDOT project number, project name and view/report name should appear in the center of the report header, the MassDOT PM, and status date/report run date on the left footer and the Designer's name, contract #/assignment # at the right footer.
  - When printing the report to a \*.PDF, make certain that the print is only one page wide and that the time scale spans the entire project.
- (c) A report named Milestones for High Level Reporting YYYYMM shall be submitted to illustrate the % Complete for important milestones. To view and print the report go to *Menu: View\Other Views\More Views* select *Milestones for High Level Reporting* and click *Apply*.
  - The following columns should be present: WBS, Name, Start, Finish, Duration, Responsibility and % Complete (No Gantt Chart is required)
  - The MassDOT number and project name should appear on the top in the center, the MassDOT PM, status date and run date in the bottom left footer and the Designer's name and Contract# / Assignment # on the right footer.
  - When printing the report to a \*.PDF, make certain that the print is only one page wide and that the time scale spans the entire project.

- (d) A narrative addressing major issues and concerns as well as an explanation of any impacts to the project should be submitted with the Progress Schedule. For each division of work, the narrative should address:
  - 1. The status of each major deliverable
  - 2. Work performed during dates of service
  - 3. Issues/proposed solutions
  - 4. Significant meetings/events
  - 5. Outstanding issues and critical actions required by the Designer, MassDOT or third parties.

Special focus should be paid to any actions or issues that may impact the Project Milestones. Significant changes made to the schedule including but not limited to those resulting from a change in scope of work and/or the project development approach shall be identified.

# TIP # 4.3

To remove the Gantt Chart from reports where a Gantt Chart is not required, simply move your mouse over the seam of the separator, click and hold your left mouse key and move the mouse till the cursor is to the far right of the screen.

# ATTACHMENT A: CALENDARS

Below is a sample list of calendars. This list was the most current at the time this document was issued. Prior to use, the Designer shall obtain the latest version from the MassDOT Project Manager.

Calendar Name	Workdays	Work time		
MassDOT Highway Division Working Calendar (Project Calendar)	Monday-Sunday	8 hours		
Advertising Calendar	Saturday	8 hours		
Tuesday Calendar	Tuesday	8 hours		
Wednesday Calendar	Wednesday	8 hours		
Friday Calendar	Friday	8 hours		
Standard Calendar	Monday-Friday	8 hours		
Monday Calendar	Monday	8 hours		

The current calendar dictionaries have been included in the most recent revision of the MassDOT PDS templates.

# ATTACHMENT B: WBS STRUCTURE

Below is a sample work breakdown structure for Typical Bridges with State ROW, Typical Bridges with Municipal ROW, and Highway with State and Municipal ROW based on the Scoping Workbook.

# Typical Bridge – State ROW

WBS Group	WBS ID	WBS Description
CNT	CNT	Contract/Project Management
	CNT.MS	Project Milestones
	CNT.303	Survey
HWY	HWY	Highway Design
	HWY.200	Functional Design Report
	HWY.220	Design Justification Workbook (DJW)
	HWY.250	Pre-25% Design Meeting
	HWY.300	25% Highway Design Submission
	HWY. 350	Design Public Hearing
	HWY.400	75% Highway Design Submission
	HWY.428	75% Contract Time Determination
	HWY.450	100% Highway Design Submission
	HWY.458	100% Contract Time Determination
	HWY.800	PS&E Submittal
BRD	BRD	Bridge Design
	BRD.705	Preliminary Structures Report
	BRD.706	Bridge Type Selection Worksheet
	BRD.708	Preliminary Hydraulic Analysis and Report
	BRD.600	Geotechnical Design
	BRD.710	Bridge Sketch Plan Submittal
	BRD.755	Bridge Submission-1 <sup>st</sup> Structural
	BRD.758	Bridge Submission-2 <sup>nd</sup> Structural
ENV	ENV	Environmental
	ENV.MS	Environmental Milestones
	ENV.151	25% Early Environmental Coordination
	ENV.152	State or Federal Historic Review
	ENV.157	NEPA-Categorical Exclusion (CE)
	ENV.171	404 Permit – ACOE PGP
	ENV.173	De minimis 4(f)
	ENV.182	Water Quality Certification
ROW	ROW	Right of Way
	ROW.501	Preliminary ROW Plans
	ROW.502	Acquisition Process

# Typical Bridge – Municipal ROW

WBS Group	WBS ID	WBS Description
CNT	CNT	Contract/Project Management
	CNT.MS	Project Milestones
	CNT.303	Survey
HWY	HWY	Highway Design
	HWY.200	Functional Design Report
	HWY.220	Design Justification Workbook (DJW)
	HWY.250	Pre-25% Design Meeting
	HWY.300	25% Highway Design Submission
	HWY. 350	Design Public Hearing
	HWY.400	75% Highway Design Submission
	HWY.428	75% Contract Time Determination
	HWY.450	100% Highway Design Submission
	HWY.458	100% Contract Time Determination
	HWY.800	PS&E Submittal
BRD	BRD	Bridge Design
	BRD.705	Preliminary Structures Report
	BRD.706	Bridge Type Selection Worksheet
	BRD.708	Preliminary Hydraulic Analysis and Report
	BRD.600	Geotechnical Design
	BRD.710	Bridge Sketch Plan Submittal
	BRD.755	Bridge Submission-1 <sup>st</sup> Structural
	BRD.758	Bridge Submission-2 <sup>nd</sup> Structural
ENV	ENV	Environmental
	ENV.MS	Environmental Milestones
	ENV.151	25% Early Environmental Coordination
	ENV.152	State or Federal Historic Review
	ENV.157	NEPA-Categorical Exclusion (CE)
	ENV.171	404 Permit – ACOE PGP
	ENV.173	De minimis 4(f)
	ENV.182	Water Quality Certification
ROW	ROW	Right of Way
	ROW.501	Preliminary ROW Plans
	ROW.502	Layout Plans and Order of Taking

# Typical Highway – Municipal and State ROW

WBS Group	WBS ID	WBS Description	
CNT	CNT	Contract/Project Management	
	CNT.MS	Project Milestones	
	CNT.100	Project Development	
HWY	HWY	Highway Design	
	HWY.200	Functional Design Report	
	HWY.220	Design Justification Workbook (DJW)	
	HWY.250	Pre-25% Design	
	HWY.300	25% Highway Design Submission	
	HWY.303	Conduct Survey	

WBS Group	WBS ID	WBS Description
	HWY. 350	Design Public Hearing
	HWY.400	75% Highway Design Submission
	HWY.450	100% Highway Design Submission
	HWY.800	PS&E Submittal
BRD	BRD	Highway/Bridge Design
	BRD.600	Geotechnical Design
ENV	ENV	Environmental
	ENV.MS	Environmental Milestones
	ENV.151	25% Early Environmental Coordination
	ENV.152	State or Federal Historic Review
	ENV.157	NEPA-Categorical Exclusion (CE)
	ENV.163	MEPA (ENF)
	ENV.171	404 Permit – ACOE PGP
	ENV.173	De minimis 4(f)
	ENV.182	Water Quality Certification
	ENV.185	Notice of Intent
ROW	ROW	Right of Way
	ROW.501	25% ROW Plans
	ROW.502	Preliminary State ROW Plans
	ROW.503	Preliminary Municipal ROW Plans
	ROW.504	Final ROW PLans
CSS	CSS	Construction Engineering
	CSS.900	Construction Support Services

# ATTACHMENT C: RESPONSIBILITY ACTIVITY CODE DICTIONARY

Figure C1 shows the current 'Responsibility' code dictionary. This dictionary should be used with the corresponding version of the template. If you are seeking the corresponding activity codes for a different version of the template, please refer to the MassDOT website.

ID	Description
Consultants.DES	Designer
Consultants.Other	Other Consultant
MassDOT.PM	Project Management
MassDOT.HW	Highway
MassDOT.BRD	Bridge
MassDOT.FAPO	FAPO
MassDOT.ROW	Right of Way
MassDOT.ENV	Environmental
MassDOT.PC	Project Controls
MassDOT.CON	Construction
MassDOT.GEO	Geotechnical

Utility.ELE	Electric Utilities
Utility.GAS	Gas Utilities
Utility.WTR	Water Utilities
Agencies.FHWA	Federal Highway Administration
Agencies.MEPA	MEPA Unit
Agencies.ACOE	Army Corps of Engineers
Agencies.USCG	United States Coast Guard
Agencies.DEP	Mass Department of Environment
Agencies.LCC	Local Conservation Commission
Agencies.EPA	Environmental Protection Agency
Agencies.MCZM	Mass Office of Coastal Zone Management
Agencies.MHC	Mass Historic Commission
Other.AMTRK	Amtrak
Other.MBTA	Mass Bay Transit Authority
Other.City	City
Other.County	County
Other. Municipality	Municipality

Figure C1: 'Responsibility' Code Dictionary
# ATTACHMENT D: AREA OF WORK ACTIVITY CODE DICTIONARY

Figure D1 shows the current 'Area of Work' code dictionary. This dictionary should be used with the corresponding version of the template.

ID	Description
CNT	Contract/Project Management
HWY	Highway Design
BRD	Bridge Design
ENV	Environmental Permitting
CSS	Construction Support Services

Figure D1: 'Area of Work' Code Dictionary

# ATTACHMENT E: SCHEDULE REPORT SPECIFICATIONS

### **Baseline Submittals**

# **BL PDS SCHEDULE GROUPED BY AREA OF WORK**

- **REPORT FORMAT:** Electronic PDF File
- TITLE, HEADER AND FOOTER INFORMATION

Title/Header	Left Footer	Right Footer
Report Name	MassDOT PM Name	Design Consultant's Name
MassDOT Project Info Number	Status Date/Run Date	Project Name
Project Name		Contract #/Assignment #

# • GROUPING, FILTERING, SUMMARIZATION, SORTING

- Grouping: No Grouping
- o Activity Filter: No Filter
- Summarization: No Summarization
- o Sorting: Sort by ID

#### • COLUMN FIELDS

Column Fields
WBS
Name
Start
Finish
Duration
Responsibility
Total Slack

# • OTHER CONTENT: Gantt Chart

# Update Submittals

### **UD PDS SCHEDULE**

• **REPORT FORMAT:** Electronic PDF File

# • TITLE, HEADER AND FOOTER INFORMATION

Title/Header	Left Footer	Right Footer
Report Name	MassDOT PM Name	Design Consultant's Name
MassDOT Project Info Number	Status Date/Run Date	Project Name
Project Name		Contract #/Assignment #

## • GROUPING, FILTERING, SUMMARIZATION, SORTING

- **Grouping**: No Grouping
- o Activity Filter: No Filter
- Summarization: No Summarization
- o Sorting: Sort by ID

## • COLUMN FIELDS

Column Fields
WBS
Name
Start
Finish
Duration
Actual Duration
Remaining Duration
Responsibility
Total Slack
Actual Start
Actual Finish
Baseline Start
Baseline Finish

# • **OTHER CONTENT:** Gantt Chart

# • **REPORT FORMAT:** Electronic PDF File

## • TITLE, HEADER AND FOOTER INFORMATION

Title/Header	Left Footer	Right Footer
Report Name	MassDOT PM Name	Design Consultant's Name
MassDOT Project Info Number	Status Date/Run Date	Project Name
Project Name		Contract #/Assignment #

## • GROUPING, FILTERING, SUMMARIZATION, SORTING

- o **Grouping**: Milestones/Area of Work
- Activity Filter: Milestones
- o Summarization: No Summarization

### • COLUMN FIELDS

Column Fields
WBS
Name
Start
Finish
Duration
Responsibility
% Complete

# • OTHER CONTENT: None

# ATTACHMENT F: GROUPING, SORTING, SUMMARIZING AND FILTERING

# Grouping

Grouping of activities is not required for PDS schedule reports as specified. To ungroup activities go to *Menu: View* and select 'No Group'.

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<b>E E E</b>	Calendar 🔻		Resource Sheet	- ₽ Outlin	ne - Y	Milestone	and' -	Days	-	Entire	Project	🗸 Detai	s Task For	m -			2
Gantt Task Chart Vsage V 🔂 🤇	Other Views 🔻	Planner 🛪 📩	Other Views ▼	Table:	- <b>E</b>	[No Group]	+		0	🔍 Selecte	d Tasks				New Window	-	Macros
Task Vi			ource Views		Da	Custom				-			Split View		Wind		Macros
Typical Bridge Design	n Schedule.mpp					[No Group											
WBS		Name		+	Start 🖕	Constraint						Baseline	Baseline	Add New	Column	-	
CNT.MS.010	Issue Design C	a star at NTD			1/14/14	Built-In					ish	Start	Finish				
CNT.MS.010	PM Submits Do		duartining		1/14/14	Active v. In					NA NA	NA NA	NA NA			_	
CNT.MS.040	Advertise Cons		-		2/6/16	Auto Sche				· -	NA	NA	NA			_	
CNT.MS.050	Bid Opening	struction conta	aci		4/6/16	Complete Critical	and Inco	mpiete la	KS		NA	NA	NA			_	
CNT.MS.060	Issue Construc	tion Contract	NTP		6/5/16	Duration					NA	NA	NA			_	
CNT.100.010	Finalize Project				1/14/14	Duration t	hen Prio	rity			NA	NA	NA			_	
HWY.MS.060	-		ghway Design Sub	mission	3/26/14	Milestone					NA	NA	NA			_	
HWY.MS.070			esign Comments se		7/12/14	Priority					NA	NA	NA			_	
HWY.MS.090	Conduct Public				9/22/14	Priority Ke	eping Ou	utline Stru	ture		NA	NA	NA			_	
HWY.MS.100		-	ghway Design Sub	mission	9/22/14	Resource Status					NA	NA	NA			_	
HWY.MS.110			esign Comments se		8/26/15		<i>c</i>				NA	NA	NA			_	
HWY.MS.140	Start Developm	ent of PS&E S	ubmission		12/9/15		Group				NA	NA	NA				
HWY.MS.150	Approval of PS	&E Submissio	n		1/29/16	<b>—</b>	Group E	3y			NA	NA	NA				
HWY.300.020	Submit 25% De	sign Submissi	on		5/28/14	Hore More	Groups	i			NA	NA	NA			_	
HWY.400.020	Submit 75% De	sign Submissi	on		7/12/15	Mair	tain <u>H</u> ie	rarchy in C	urrent Gro	oup	NA	NA	NA				
HWY.800.030	Review PS&E S	Submission			1/9/16	1/15/16	0d	15	NA	4	NA	NA	NA				
HWY.800.020	Submit PS&E S	ubmission			1/8/16	1/8/16	0d	17	NA	4	NA	NA	NA				
HWY.800.050	Submit Mylars				1/29/16	1/29/16	68d	19	NA	4	NA	NA	NA				
BRD.MS.100	Start Developm	nent of Bridge	Sketch Plans		3/29/14	3/29/14	104d	7	NA	4	NA	NA	NA				
<ul> <li>▲ III</li> </ul>																	•
Name: Issue Design	Contract NTP	Duration	: 0d 🌲	Effort driv	en 🗖	Manually Sd	neduled	Previ	ous	Ne <u>x</u> t	-						
Start: Tue 1/14/14			e 1/14/14	·	ask type:				Complete:	0%	<b>-</b>						
ID Resource Nam		-	Units \		rt. Work	Baseline \	Vork	Act. Work		. Work							
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Ready Filter Applie		ks : Auto Sche	4-4-4			1	1		I				E				(+) _;

Figure F.1A: No Group Selection

# Sorting

PDS reports as specified require sorting by WBS ID . To sort by WBS go to *Menu: View\Sort* and select 'Sort By'.

P   🚽 🖒 - (*) -	• 📑 •   <del>-</del>		Gant	t Cha	art Tools		Micro	soft Project							_	۰	23
File Task	Resource Proj	ect View	Acrobat	Forn	nat											c	۵ 🕜
	Network Diagram 👻	0	Resource Usage 🔻 Resource Sheet 👻	₹↓	Sort -	-	o Highl estone		imescale: Davs	· ·	oom * ntire Project	<ul><li>Timeli</li><li>Detail</li></ul>					
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Task	Views	Resou	irce Views		by <u>P</u> riori	ity				Zoom			Split View		Window	Macro	os 📃
WBS	FF	Name			by <u>C</u> ost by ID		<sup>1ish</sup> 🗸	Total Slack	rackin Points ▼	Actual Start	Actual Finish	Baseline Start	Baseline Finish	Add Nev	w Column 🚽		
CNT.MS.010	Issue Design (	Contract NTP		-		/14/14		0d	1	NA	NA	NA	NA				
CNT.MS.020	PM Submits Do	ocuments for Adv	/ertising	ź↓	Sort By		/29/16	0d	20	NA	NA	NA	NA				
CNT.MS.040	Advertise Con	struction Contrac	at		2/6	/16	2/6/16	0d	21	NA	NA	NA	NA				
CNT.MS.050	Bid Opening				4/6	/16	4/6/16	0d	22	NA	NA	NA	NA				
CNT.MS.060	Issue Constru	ction Contract NT	P		6/5	/16	6/5/16	0d	22	NA	NA	NA	NA				
CNT.100.010	Finalize Project	t Plan and Design	n Schedule		1/14	4/14 2	2/12/14	849d	2	NA	NA	NA	NA				
HWY.MS.060	Start Developr	ment of 25% High	way Design Submise	sion	3/26	6/14 3	3/26/14	107d	3	NA	NA	NA	NA				
HWY.MS.070	All Sections 2	5% Highway Des	ign Comments sent t	DE	7/12	2/14 7	7/12/14	134d	5	NA	NA	NA	NA				
HWY.MS.090	Conduct Public	c Hearing			9/22	2/14 9	9/22/14	104d	6	NA	NA	NA	NA				
HWY.MS.100	Start Developr	ment of 75% High	way Design Submiss	sion	9/22	2/14 9	9/22/14	233d	10	NA	NA	NA	NA				
HWY.MS.110	All Sections 7	5% Highway Des	ign Comments sent t	DE	8/26	5/15 8	8/26/15	0d	12	NA	NA	NA	NA				
HWY.MS.140	Start Developr	ment of PS&E Sub	omission		12/9	9/15 1	12/9/15	0d	16	NA	NA	NA	NA				
HWY.MS.150	Approval of P	S&E Submission			1/29	9/16 1	1/29/16	0d	18	NA	NA	NA	NA				

FigureF.1B: Sort By Selection

The sort dialog box will appear and will allow you to select the sort criteria.

Sort		×
Sort by	Ascending     Descending	S <u>o</u> rt Cancel
Then by	<ul> <li>✓ (i) Ascending</li> <li>○ Descending</li> </ul>	<u>R</u> eset <u>H</u> elp
Then <u>by</u>	<ul> <li>▼ ● Ascending</li> <li>○ Descending</li> </ul>	
Permanently renu <u>m</u> ber tasks           Keep outline structure		

Figure F.1C: Sort Criteria

# Summarizing

Summarization of activities is not required for PDS schedule reports as specified. To set the report to the correct level of detail and show all tasks go to *Menu: View\Outline*. For the reports requiring no summarization select 'All Subtasks'.

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CNT.MS.020	PM Submits Do	cuments for Ad	vertising	-		-	6	0d	20	NA	NA	NA	NA				
CNT.MS.040	Advertise Con	struction Contra	ct	-	Outline Leve		5	0d	21	NA	NA	NA	NA				
CNT.MS.050	Bid Opening			-	Outline Leve	14	5	0d	22	NA	NA	NA	NA				
CNT.MS.060	Issue Constru	ction Contract N	TP		Outline Leve	15	3	0d	22	NA	NA	NA	NA				
CNT.100.010	Finalize Projec	t Plan and Desig	n Schedule		Outline Leve	1 <u>6</u>	4	849d	2	NA	NA	NA	NA				
HWY.MS.060	Start Developr	nent of 25% Hig	hway Design Submi	s	Outline Leve	17	4	107d	3	NA	NA	NA	NA				
HWY.MS.070	All Sections 25	5% Highway De	sign Comments sent	to	Outline Leve	18	4	134d	5	NA	NA	NA	NA				
HWY.MS.090	Conduct Public	Hearing			Outline Leve	19	4	104d	6	NA	NA	NA	NA				
HWY.MS.100	Start Developr	ment of 75% Hig	hway Design Submi	Sion	3/22/14	31221	4	233d	10	NA	NA	NA	NA				
HWY.MS.110	All Sections 75	5% Highway De	sign Comments sent	to DE	8/26/15	8/26/1	5	0d	12	NA	NA	NA	NA				

Figure F.1D: All Subtasks Selection

# Filtering

PDS reports as specified require no filtering with exception to the 'Milestone for High Level Reporting' report.

To select the appropriate filter specified go to *Menu: View,* click on the dropdown list next to the filter icon  $\gamma$  and select the appropriate filter.

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CNT.MS.010	Issue Design (		1/14/14		tone and Tra	cking l	oints			NA	NA	NA						
CNT.MS.020	PM Submits Do		Advertising		1/29/16	Resou	urce Summari	ies				NA	NA	NA			1	
CNT.MS.040	Advertise Con		-		2/6/16		nary Tasks					NA	NA	NA			1	
CNT.MS.050	Bid Opening					Built						NA	NA	NA			-	
CNT.MS.060	Issue Construction Contract NTP					16 Active Tasks						NA	NA	NA			-	
CNT.100.010	Finalize Project		1/14/14	Critical NA NA NA														
HWY.MS.060	Start Developr	ment of 25% H	ighway Design Submis	sion	3/26/14	14 Milestones NA NA NA												
HWY.MS.070	All Sections 2	5% Highway D	esign Comments sent	to DE	7/12/14	1	Task Kallye					NA	NA	NA				
HWY.MS.090	Conduct Public	: Hearing			9/22/14	Using						NA	NA	NA				
HWY.MS.100	Start Developr	ment of 75% H	igh way Design Submis	sion	9/22/14	2/14 🙀 Clear Filter						NA	NA	NA				
HWY.MS.110	All Sections 7	5% Highway D	esign Comments sent	to DE	8/26/15	<b>*</b>	Vew Filter					NA	NA	NA				
HWY.MS.140	Start Developr	ment of PS&E \$	Submission		12/9/15		• _					NA	NA	NA				
HWY.MS.150	Approval of P	S&E Submissio	n		1/29/16	-						NA	NA	NA				
HWY.300.020	Submit 25% D	esign Submiss	ion		5/28/14	¥	Display <u>A</u> uto	Filter				NA	NA	NA				
HWY.400.020	Submit 75% D	esign Submiss	ion		7/12/15		Show <u>R</u> elate	d Sum	mary Rov	vs		NA	NA	NA				
HWY.800.030	Review PS&E	Submission			1/9/16	1/15	/16 0d		15	NA		NA	NA	NA				
HWY.800.020	Submit PS&E S	Submission			1/8/16	1/8/			17	NA		NA	NA	NA			_	
HWY.800.050	Submit Mylars				1/29/16				19	NA		NA	NA	NA			_	
BRD.MS.100	Start Developr	-			3/29/14	3/29	/14 104d		7	NA		NA	NA	NA				
BRD.MS.110	Approval of B	-			8/11/14				9	NA		NA	NA	NA			_	
BRD.MS.120		-	Submission-1st Struct	ural	9/22/14			I	13	NA		NA	NA	NA			_	
BRD.MS.130	Approval of B	ridge Submiss	ion-1st Structural		8/26/15	8/26	/15 Od		15	NA		NA	NA	NA				

# ATTACHMENT G: UPDATE THE SCHEDULE EXAMPLES

In this attachment, we will illustrate how to update the schedule by using the pre-established template view **UD PDS Schedule**.

# How to update tasks that started and finished before the Status date

### (a) If the actual dates are the same as the planned dates:

To quickly update the task, select the task and click on "Mark on Track" or press the "100%" button. The actual dates will auto populate and will be the same as the planned dates.

<u>Example (a)</u>: The task "Prepare Functional Design Report" has 60 days duration and the planned dates are 1/14/14 to 3/14/14. The status date is 5/2/2014. Let's assume that the task actually started and finished as planned.

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CNT.MS.020	PM Submits Documents for Advertising		Sat 10/24/15	Mark the se they are on		s so that	0d	0%	NA	NA	Sat 10/24/15	5 Sat 10/24/15
CNT.MS.030	Prepare for Advertise		Sat 10/31/15				0d	0%	NA	NA	Sat 10/31/15	5 Sat 11/7/15
CNT.MS.040	Advertise Construction Contract		Sat 11/7/15	Set the state		the Project te is used in	0d	0%	NA	NA	Sat 11/7/15	5 Sat 11/7/15
CNT.MS.050	Bid Opening		Wed 1/6/16	this calculat		ite is used in	0d	0%	NA	NA	Wed 1/6/16	6 Wed 1/6/16
CNT.MS.060	Issue Construction Contract NTP		Sun 3/6/16	Sun 3/6/16	0d	b0	0d	0%	NA	NA	Sun 3/6/16	Sun 3/6/16
CNT.MS.070	Scope of Service Complete		Mon 3/6/17	Mon 3/6/17	0d	0d	0d	0%	NA	NA	Mon 3/6/17	Mon 3/6/17
CNT.100	Project Development		Tue 1/14/14	Sat 2/7/15	390d	390d	0d	0%	NA	NA	Tue 1/14/14	Sat 2/7/15
CNT.100.010	Finalize Project Plan and Design Schedu	le	Tue 1/14/14	Wed 2/12/14	30d	30d	0d	0%	NA	NA	Tue 1/14/14	Wed 2/12/14
CNT.100.020	Project Design Schedule Updates		Thu 2/13/14	Sat 2/7/15	360d	360d	0d	0%	NA	NA	Thu 2/13/14	Sat 2/7/15
HWY	Highway Design		Tue 1/14/14	Sun 7/12/15	545d	545d	0d	0%	NA	NA	Tue 1/14/14	Sun 7/12/15
HWY.200	Functional Design Report		Tue 1/14/14	Thu 10/2/14	262d	262d	0d	0%	NA	NA	Tue 1/14/14	Thu 10/2/14
HWY.200.010	Prepare Functional Design Report		Tue 1/14/14	Fri 3/14/14	60d	60d	0d	0%	NA	NA	Tue 1/14/14	Fri 3/14/14
HWY.200.020	Submit Functional Design Report		Tue 9/2/14	Tue 9/2/14	0d	0d	0d	0%	NA	NA	Tue 9/2/14	Tue 9/2/14

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CNT.MS.020	PM Subm	its Documents for Advertising		Sat 10/24/15	Sat 10/24/15	0d	0d	0d	0%	NA	NA	Sat 10/24/1	5 Sat 10/24/15
CNT.MS.030	Prepare f	for Advertise		Sat 10/31/15	Sat 11/7/15	2d	2d	0d	0%	NA	NA	Sat 10/31/1	5 Sat 11/7/15
CNT.MS.040	Advertise	e Construction Contract		Sat 11/7/15	Sat 11/7/15	0d	0d	0d	0%	NA	NA	Sat 11/7/1	5 Sat 11/7/15
CNT.MS.050	Bid Open	ing		Wed 1/6/16	Wed 1/6/16	0d	b0	0d	0%	NA	NA	Wed 1/6/1	6 Wed 1/6/16
CNT.MS.060	Issue Cor	nstruction Contract NTP		Sun 3/6/16	Sun 3/6/16	0d	0d	0d	0%	NA	NA	Sun 3/6/1	6 Sun 3/6/16
CNT.MS.070	Scope of	Service Complete		Mon 3/6/17	Mon 3/6/17	0d	b0	0d	0%	NA	NA	Mon 3/6/1	7 Mon 3/6/17
CNT.100	<ul> <li>Project Dev</li> </ul>	velopment		Tue 1/14/14	Sat 2/7/15	390d	390d	0d	0%	NA	NA	Tue 1/14/1	4 Sat 2/7/15
CNT.100.010	Finalize P	Project Plan and Design Schedule		Tue 1/14/14	Wed 2/12/14	30d	30d	0d	0%	NA	NA	Tue 1/14/1	4 Wed 2/12/14
CNT.100.020	Project D	esign Schedule Updates		Thu 2/13/14	Sat 2/7/15	360d	360d	0d	0%	NA	NA	Thu 2/13/1-	4 Sat 2/7/15
HWY	Highway Desig	gn		Tue 1/14/14	Sun 7/12/15	545d	513.86d	31.14d	6%	Tue 1/14/14	NA	Tue 1/14/14	4 Sun 7/12/15
HWY.200	Functional	Design Report		Tue 1/14/14	Thu 10/2/14	262d	87.33d	174.67d	67%	Tue 1/14/14	NA	Tue 1/14/1	4 Thu 10/2/14
HWY.200.010	Prepare F	Functional Design Report		Tue 1/14/14	Fri 3/14/14	60d	0d	60d	100%	Tue 1/14/14	Fri 3/14/14	Tue 1/14/1	4 Fri 3/14/14

As noticed, the remaining duration is now 0, the Actual Duration is 60 days and the % Complete 100%.

## (b) If the actual dates are different than the planned dates:

In order to accurately update the task, the Actual dates should be entered manually in the Actual Start and Actual Finish fields using the dropdown calendar feature.

<u>Example (b)</u>: The task "Prepare Functional Design Report" has 60 days duration and the planned dates are 1/14/14 to 3/14/14. The status date is 5/2/2014. Let's assume that the task actually started on 1/16/2014 and finished on 3/30/14.

ile	Task	Resource	Project Vie	w Acrobat		Chart Tools					Тур	oical Bridge-Sta	ate ROW as of 4	-15-2014.1.r	mpp - Microso	oft Project
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CNT.1	100	<ul> <li>Project Dev</li> </ul>	elopment			Tue 1/14/14	Sat 2/7/15	390d	390d	0d		0%	NA	NA	Tue 1/14/14	Sat 2/7/15
CNT.1	100.010	Finalize P	roject Plan and I	Design Schedule		Tue 1/14/14	Wed 2/12/14	30d	30d	0d		0%	NA	NA	Tue 1/14/14	Wed 2/12/14
CNT.1	100.020	Project De	esign Schedule	Updates		Thu 2/13/14	Sat 2/7/15	360d	360d	0d		0%	NA	NA	Thu 2/13/14	Sat 2/7/15
HWY		Highway Desig	jn			Tue 1/14/14	Sun 7/12/15	545d	545d	0d		0%	NA	NA	Tue 1/14/14	Sun 7/12/15
HWY.	200	Functional I	Design Report			Tue 1/14/14	Thu 10/2/14	262d	262d	0d		0%	NA	NA	Tue 1/14/14	Thu 10/2/14
HWY.:	200.010	Prepare F	functional Desig	n Report		Tue 1/14/14	Fri 3/14/14	60d	60d	0d		0%	NA 💌	NA	Tue 1/14/14	Fri 3/14/14
HWY.	200.020	Submit Fu	Inctional Design	Report		Tue 9/2/14	Tue 9/2/14	0d	b0	0d	4	January,	2014	NA	Tue 9/2/14	Tue 9/2/14
HWY.	200.030	Review F	unctional Design	n Report		Wed 9/3/14	Thu 10/2/14	30d	30d	0d	Mo	Tu We Th	Fr Sa Su	NA	Wed 9/3/14	Thu 10/2/14
HWY.	200.040	Approval	of Functional De	esign Report		Thu 10/2/14	Thu 10/2/14	0d	0d	0d	3	30 31 <b>1 2</b>	3 4 5	NA	Thu 10/2/14	Thu 10/2/14
HWY.	220	<ul> <li>Design Exce</li> </ul>	eption Report			Thu 3/27/14	Thu 10/2/14	190d	190d	0d		6789		NA	Thu 3/27/14	Thu 10/2/14
HWY.	220.010	Prepare D	Design Exception	n Report		Thu 3/27/14	Sun 5/25/14	60d	60d	0d		13 14 15 16		NA	Thu 3/27/14	Sun 5/25/14
HWY.	220.020	Submit De	esign Exception	Report		Tue 9/2/14	Tue 9/2/14	0d	b0	0d		20 21 22 23 27 28 29 30		NA	Tue 9/2/14	Tue 9/2/14
HWY.	220.030	Review D	esign Exception	Report		Wed 9/3/14	Thu 10/2/14	30d	30d	0d		3 4 5 6		NA	Wed 9/3/14	Thu 10/2/14
HWY.	220.040	Approval	of Design Exce	ption Report		Thu 10/2/14	Thu 10/2/14	0d	b0	0d	1 -	Tada		NA	Thu 10/2/14	Thu 10/2/14
HWY.	303	- Conduct Su	rvev			Tue 1/14/14	Wed 3/26/14	72d	72d	0d	1	Toda	У	NA	Tue 1/14/14	Wed 3/26/14

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WBS		Nan	ne				-	Start	Finish	Durati	••• •	Remaining Duration	Actual Duration	-	% Complete	Act. Start +	Act. Finish	Baseline Start	Baseline Finish
CNT.100	Project Dev	elopment	ŧ					Tue 1/14/1	4 Sat 2/7/1	5 39	bd	390d	0d		0%	NA	NA	Tue 1/14/*	14 Sat 2/7/15
CNT.100.010	Finalize P	roject Plan	and Desi	gn Scl	hedule			Tue 1/14/1	4 Wed 2/12/1	4 30	d	30d	0d		0%	NA	NA	Tue 1/14/	14 Wed 2/12/14
CNT.100.020	Project D	esign Sche	dule Upda	ates				Thu 2/13/1	4 Sat 2/7/1	5 36	bd	360d	0d		0%	NA	NA	Thu 2/13/	14 Sat 2/7/15
HWY	🖃 Highway Desig	jn –						Tue 1/14/1	4 Sun 7/12/1	5 54	5 <b>d</b>	507.1d	37.9d		7%	Tue 1/14/14	NA	Tue 1/14/	14 Sun 7/12/15
HWY.200	- Functional	Design Re	port					Thu 1/16/1	4 Thu 10/2/1	4 26	bd	75d	185d		71%	Thu 1/16/14	NA	Tue 1/14/	14 Thu 10/2/14
HWY.200.010	Prepare F	unctional D	esign Re	port				Thu 1/16/1	4 Sun 3/30/1	4 74	d	0d	74d		100%	Thu 1/16/14	Sun 3/30/14	Tue 1/14/	14 Fri 3/14/14
HWY.200.020	Submit Fu	inctional De	esign Rep	ort				Tue 9/2/1	4 Tue 9/2/1	4 0	d	0d	0d		0%	NA	NA	Tue 9/2/	14 Tue 9/2/14
HWY.200.030	Review F	unctional D	esign Re	port				Wed 9/3/1	4 Thu 10/2/1	4 30	d	30d	b0		0%	NA	NA	Wed 9/3/	14 Thu 10/2/14
HWY.200.040	Approval			Baar	a ct			Thu 10/2/1	4 Thu 10/2/1	4 0	d	0d	0d		0%	NA	NA	Thu 10/2/	14 Thu 10/2/14

As noticed the remaining duration is now 0, the Actual Duration is 74 days (1/16/14-3/30/14) and the % Complete 100%.

# How to update the tasks that started but are still in progress

### (c) If the task started and progressed as planned up to the Status Date:

Select the task and click "Mark on Track". The program will enter the Actual Start Date equal to the planned Start date and the Remaining Duration will be calculated as Planned Duration minus the Actual Duration.

<u>Example (c)</u>: The task "Prepare Design Exception Report" has duration 60 days and the planned dates are 3/27/14 to 5/25/14. The status date is 5/2/2014. Let's assume that the task actually started and progressed as planned.

WBS	Name	Start 👻	Finish 👻	Duration -	Remaining Duration	Actual Duration	% Complete 🚽	Act. Start 🚽	Act. Finish	Baseline Start -	Baseline Finish
HWY	Highway Design	Tue 1/14/14	Sun 7/12/15	545d	545d	0d	0%	NA	NA	Tue 1/14/14	Sun 7/12/15
HWY.200	Functional Design Report	Tue 1/14/14	Thu 10/2/14	262d	262d	0d	0%	NA	NA	Tue 1/14/14	Thu 10/2/14
HWY.200.010	Prepare Functional Design Report	Tue 1/14/14	Fri 3/14/14	60d	60d	b0	0%	NA	NA	Tue 1/14/14	Fri 3/14/14
HWY.200.020	Submit Functional Design Report	Tue 9/2/14	Tue 9/2/14	b0	0d	b0	0%	NA	NA	Tue 9/2/14	Tue 9/2/14
HWY.200.030	Review Functional Design Report	Wed 9/3/14	Thu 10/2/14	30d	30d	0d	0%	NA	NA	Wed 9/3/14	Thu 10/2/14
HWY.200.040	Approval of Functional Design Report	Thu 10/2/14	Thu 10/2/14	0d	0d	b0	0%	NA	NA	Thu 10/2/14	Thu 10/2/14
HWY.220	Design Exception Report	Thu 3/27/14	Thu 10/2/14	190d	190d	0d	0%	NA	NA	Thu 3/27/14	Thu 10/2/14
HWY.220.010	Prepare Design Exception Report	Thu 3/27/14	Sun 5/25/14	60d	60d	b0	0%	NA 👻	NA	Thu 3/27/14	Sun 5/25/14
HWY.220.020	Submit Design Exception Report	Tue 9/2/14	Tue 9/2/14	b0	0d	b0	0%	NA	NA	Tue 9/2/14	Tue 9/2/14
HWY.220.030	Review Design Exception Report	Wed 9/3/14	Thu 10/2/14	30d	30d	0d	0%	NA	NA	Wed 9/3/14	Thu 10/2/14
HWY.220.040	Approval of Design Exception Report	Thu 10/2/14	Thu 10/2/14	0d	0d	0d	0%	NA	NA	Thu 10/2/14	Thu 10/2/14

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HWY	200	Functional	Design Report		Tue 1/14/14	Thu 10/2/14	262d	262d	0d	0%	NA	NA	Tue 1/14/1	14 Thu 10/2/14
HWY	200.010	Prepare F	Functional Design Report		Tue 1/14/14	Fri 3/14/14	60d	60d	0d	0%	NA	NA	Tue 1/14/1	14 Fri 3/14/14
HWY	200.020	Submit Fu	unctional Design Report		Tue 9/2/14	Tue 9/2/14	0d	0d	0d	0%	NA	NA	Tue 9/2/1	14 Tue 9/2/14
HWY	200.030	Review F	Functional Design Report		Wed 9/3/14	Thu 10/2/14	30d	30d	0d	0%	NA	NA	Wed 9/3/1	14 Thu 10/2/14
HWY	200.040	Approval	l of Functional Design Report		Thu 10/2/14	Thu 10/2/14	0d	0d	0d	0%	NA	NA	Thu 10/2/1	14 Thu 10/2/14
HWY	220	🗆 Design Exc	eption Report		Thu 3/27/14	Thu 10/2/14	190d	111.89d	78.11d	41%	Thu 3/27/14	NA	Thu 3/27/1	14 Thu 10/2/14
HWY	220.010	Prepare [	Design Exception Report		Thu 3/27/14	Sun 5/25/14	60d	23d	37d	62%	Thu 3/27/14	NA	Thu 3/27/	14 Sun 5/25/14
HWY	220.020	Submit De	esign Exception Report		Tue 9/2/14	Tue 9/2/14	0d	0d	0d	0%	NA	NA	Tue 9/2/1	14 Tue 9/2/14

After clicked on Mark on Track, the Actual Start Date autopopulated, the Actual duration is now 37days (3/27/14-5/2/2014) and the Remaining duration 23 days (5/3/2014-5/25/2014).

# \*\*If more/less time is required to complete the task in the future, you can manually increase/decrease the duration or the remaining duration fields\*\*

3<u>Example (c)-1</u>: In the case that we described above, let's assume that the remaining 23 days are not sufficient to complete the task and we want to increase the remaining duration to 30 days.

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HWY	.200	- Functional	Design Re	port			Tue 1/14/14	Thu 10/2/14	262	d	262d	0d		0%	NA	NA	Tue 1/14	14 Thu 10/2/14
HWY	200.010	Prepare	Functional D	esign Report)			Tue 1/14/14	Fri 3/14/14	600	d	60d	0d		0%	NA	NA	Tue 1/14/	14 Fri 3/14/14
HWY	200.020	Submit F	unctional De	esign Report			Tue 9/2/14	Tue 9/2/14	0d		0d	0d		0%	NA	NA	Tue 9/2/	14 Tue 9/2/14
HWY	200.030	Review	Functional D	esign Report			Wed 9/3/14	Thu 10/2/14	300	d	30d	0d		0%	NA	NA	Wed 9/3/	14 Thu 10/2/14
HWY	200.040	Approva	al of Function	nal Design Rep	port		Thu 10/2/14	Thu 10/2/14	0d		0d	0d		0%	NA	NA	Thu 10/2/	14 Thu 10/2/14
HWY	.220	- Design Exc	ception Rep	port			Thu 3/27/14	Thu 10/2/14	190	d	117.53d	72.470	1	38%	Thu 3/27/14	NA	Thu 3/27	14 Thu 10/2/14
HWY	.220.010	Prepare	Design Exce	eption Report			Thu 3/27/14	Sun 6/1/14	67	d	30d 🚔	37d		55%	Thu 3/27/14	NA	Thu 3/27	14 Sun 5/25/14
HWY	.220.020	Submit D	esign Excer	otion Report			Tue 9/2/14	Tue 9/2/14	0d		0d	0d		0%	NA	NA	Tue 9/2/	14 Tue 9/2/14

After we manually changed the remaining duration, the program automatically recalculated the planned Finish Date, the duration and the % complete.

(d) If the task started earlier/later than the planned date but it progressed as planned: Manually enter the Start Date and click "Mark on Track".

<u>Example (d)</u>: The task "Prepare Design Exception Report" has duration 60 days and the planned dates are 3/27/14 to 5/25/14. The status date is 5/2/2014. Let's assume that the task actually started on 4/17/2014 and it progressed as planned.

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HWY		- Highway Desig	n				Tue	1/14/14	Sun 7/12/15	545d	5450	1	0d		0%	Tue 1/14/14	NA	Tue 1/14/	14 Sun 7/12/15
HWY.	200	Functional I	esign Re	eport			Tue	1/14/14	Thu 10/2/14	262d	2620	1	0d		0%	NA	NA	Tue 1/14/	14 Thu 10/2/14
HWY.	200.010	Prepare F	unctional	Design Repo	rt		Tue	1/14/14	Fri 3/14/14	60d	60d		0d		0%	NA	NA	Tue 1/14/	14 Fri 3/14/14
HWY.	200.020	Submit Fu	nctional D	esign Report			Tu	e 9/2/14	Tue 9/2/14	0d	0d		0d		0%	NA	NA	Tue 9/2/	14 Tue 9/2/14
HWY.	200.030	Review F	unctional l	Design Repo	rt		We	1 9/3/14	Thu 10/2/14	30d	30d		0d		0%	NA	NA	Wed 9/3/	14 Thu 10/2/14
HWY.	200.040	Approval	of Functio	nal Design R	eport		Thu	10/2/14	Thu 10/2/14	0d	0d		0d		0%	NA	NA	Thu 10/2/	14 Thu 10/2/14
HWY.	220	- Design Exce	eption Re	port			Thu	4/17/14	Thu 10/2/14	169d	1690	1	0d		0%	Thu 4/17/14	NA	Thu 3/27/	14 Thu 10/2/14
HWY.	220.010	Prepare D	esign Exc	eption Repor	t		Thu	4/17/14	Sun 6/15/14	60d	60d		0d		0%	Thu 4/17/14	NA	Thu 3/27/	14 Sun 5/25/14
HWY.	220.020	Submit De	sign Exce	ption Report			Tu	e 9/2/14	Tue 9/2/14	0d	0d		0d		0%	NA	NA	Tue 9/2/	14 Tue 9/2/14
HWY.	220.030	Review D	esign Exc	eption Repor	t		We	1 9/3/14	Thu 10/2/14	30d	30d		0d		0%	NA	NA	Wed 9/3/	14 Thu 10/2/14
HWY.	220.040	Approval	of Design	Exception R	eport		Thu	10/2/14	Thu 10/2/14	b0	0d		0d		0%	NA	NA	Thu 10/2/	14 Thu 10/2/14

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HWY	<ul> <li>Highway Design</li> </ul>		Tue 1/14/14	Sun 7/12/15	545	d	536.7d	8.3d		2%	Tue 1/14/14	NA	Tue 1/14/	14 Sun 7/12/15
HWY.200	Functional Design Report		Tue 1/14/14	Thu 10/2/14	262	d	262d	0d		0%	NA	NA	Tue 1/14/	14 Thu 10/2/14
HWY.200.010	Prepare Functional Design Report		Tue 1/14/14	Fri 3/14/14	600	1	60d	0d		0%	NA	NA	Tue 1/14/	14 Fri 3/14/14
HWY.200.020	Submit Functional Design Report		Tue 9/2/14	Tue 9/2/14	0d		0d	0d		0%	NA	NA	Tue 9/2/	14 Tue 9/2/14
HWY.200.030	Review Functional Design Report		Wed 9/3/14	Thu 10/2/14	300	ł	30d	0d		0%	NA	NA	Wed 9/3/	14 Thu 10/2/14
HWY.200.040	Approval of Functional Design Report		Thu 10/2/14	Thu 10/2/14	0d		0d	0d		0%	NA	NA	Thu 10/2/	14 Thu 10/2/14
HWY.220	Design Exception Report		Thu 4/17/14	Thu 10/2/14	169	d	138.96d	30.04d		18%	Thu 4/17/14	NA	Thu 3/27/	14 Thu 10/2/14
HWY.220.010	Prepare Design Exception Report		Thu 4/17/14	Sun 6/15/14	60d	i	44d	16d		27%	Thu 4/17/14	NA	Thu 3/27/	14 Sun 5/25/14
HWY.220.020	Submit Design Exception Report		Tue 9/2/14	Tue 9/2/14	0d		0d	0d		0%	NA	NA	Tue 9/2/	14 Tue 9/2/14

After clicked on "Mark on Track" the Actual Duration is 16 days (4/17/14-status date) and the Remaining duration is 44 days (5/3/2014-6/15/2014).

\*\*If the task requires more/less time to be completed in the future, you can increase/decrease the duration or remaining duration.

## (e) If the task started but for some reason stopped/paused:

Enter manually the Actual Start date and enter the Actual duration. Then, since the remaining portion cannot be planned to happen in the past you should reschedule the task to start after the Status Date by clicking on Project-> Update Project->Select "Reschedule Uncompleted Work to start after *Status Date*" -> Select "Selected Tasks"->Click OK.

<u>Example (e)</u>: The task "Prepare Functional Design Report" has duration 60 days and the planned dates are 1/14/14 to 3/14/14. The status date is 5/2/2014. The task actually started on 1/15/2014 but stopped after 10 days. The Actual Start date should be entered manually, the Actual Duration should be entered manually as 10 days and the uncompleted work should be rescheduled to start after 5/2/14.

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CNT.100.	010	Finaliz	e Project Plar	n and Desig	n Schedule	Tu	e 1/14/14	Wed 2/12	2/14	30d	30d	0d		0%	N	A	NA	Tue 1/14/14	Wed 2/12/14
CNT.100.	020	Projec	t Design Sch	edule Upda	tes	Th	u 2/13/14	Sat 2/7	7/15	360d	360d	0d		0%	N	A	NA	Thu 2/13/14	Sat 2/7/15
HWY		Highway De	sign			Tu	e 1/14/14	Sun 7/12	2/15	545d	545d	0d		0%	Tue 1	1/14/14	NA	Tue 1/14/14	Sun 7/12/15
HWY.200	1	Function	al Design R	eport		We	d 1/15/14	Thu 10/2	2/14	261d	261d	0d		0%	Wed	1/15/14	NA	Tue 1/14/14	Thu 10/2/14
HWY.200	.010	Prepar	re Functional	Design Rep	ort	We	d 1/15/14	Sat 3/15	/14	60d	60d	0d		0%	Wed 1	1/15/14	NA	Tue 1/14/14	Fri 3/14/14
HWY.200	.020	Submi	t Functional D	Design Repo	rt	Т	ue 9/2/14	Tue 9/2	2/14	0d	0d	0d		0%	N	A	NA	Tue 9/2/14	Tue 9/2/14
HWY.200	.030	Review	w Functional	Design Rep	ort	W	ed 9/3/14	Thu 10/2	2/14	30d	30d	0d		0%	N	A	NA	Wed 9/3/14	Thu 10/2/14
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CNT.100.	010	Final	ize Project Plar	n and Desig	n Schedule		Tue 1	/14/14	Wed 2/12	2/14	30d	30d	0d		0%	N/	A	NA		Tue 1/14/14	Wed 2/12/14	
CNT.100.	020	Proje	ct Design Sch	edule Updat	es		Thu 2	/13/14	Sat 2/7	7/15	360d	360d	0d		0%	N/	A	NA		Thu 2/13/14	Sat 2/7/15	
HWY	8	Highway D	esign				Tue 1	/14/14	Sun 7/12	2/15	545d	539.81d	5.19d		1%	Tue 1/	14/14	NA		Tue 1/14/14	Sun 7/12/15	
HWY.200		Function	nal Design R	eport			Wed 1	/15/14	Thu 10/2	2/14	261d	232d	29d		11%	Wed 1	/15/14	NA		Tue 1/14/14	Thu 10/2/14	
HWY.200.	010	Prepa	are Functional	Design Rep	ort		Wed 1	/15/14	Sat 3/15	5/14	60d	50d	10d	4	17%	Wed 1/	/15/14	NA		Tue 1/14/14	Fri 3/14/14	
HWY.200.	020	Subr	nit Functional D	esign Repo	rt		Tue	9/2/14	Tue 9/2	2/14	0d	0d	0d		0%	N/	A	NA		Tue 9/2/14	Tue 9/2/14	
HWY.200.	.030	Revi	ew Functional	Design Rep	ort		Wed	9/3/14	Thu 10/2	2/14	30d	30d	0d		0%	N/	A	NA		Wed 9/3/14	Thu 10/2/14	
HWY.200.	.040	Appr	oval of Function	onal Design	Report		Thu 1	0/2/14	Thu 10/2	2/14	0d	0d	0d		0%	N/	A	NA		Thu 10/2/14	Thu 10/2/14	
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CNT.100.010	Finalize Project Plan and Design Schedule	Tue 1/14/14	We 🔘 Set 0	% - 100% complete				NA	Tue 1/14/14	Wed 2/12/14
CNT.100.020	Project Design Schedule Updates	Thu 2/13/14	s 💿 S <u>e</u> t 0	% or 100% complete	only			NA	Thu 2/13/14	Sat 2/7/15
HWY	- Highway Design	Tue 1/14/14	Su <u>R</u> eschedu	ule uncompleted work	to start after: Fri 5	/2/14 ·	/14	NA	Tue 1/14/14	Sun 7/12/15
HWY.200	Functional Design Report	Wed 1/15/14	Th				/14	NA	Tue 1/14/14	Thu 10/2/14
HWY.200.010	Prepare Functional Design Report	Wed 1/15/14	Si For: O Ent	tire project 💿 Selec	ted tasks		/14	NA	Tue 1/14/14	Fri 3/14/14
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HWY.200.030	Review Functional Design Report	Wed 9/3/14	Th					NA	Wed 9/3/14	Thu 10/2/14
HWY.200.040	Approval of Functional Design Report	Thu 10/2/14	Thu 10/2/14	0d 0d	0d	0% 1	IA	NA	Thu 10/2/14	Thu 10/2/14

WBS	Name	Start 👻	Finish 👻	Duration 🗸	Remaining Duration	Actual Duration	% Complete 🗸	Act. Start 🗸	Act. Finish	Baseline Start 👻	Baseline Finish
CNT.100	Project Development	Tue 1/14/14	Sat 2/7/15	390d	390d	0d	0%	NA	NA	Tue 1/14/14	Sat 2/7/15
CNT.100.010	Finalize Project Plan and Design Schedule	Tue 1/14/14	Wed 2/12/14	30d	30d	0d	0%	NA	NA	Tue 1/14/14	Wed 2/12/14
CNT.100.020	Project Design Schedule Updates	Thu 2/13/14	Sat 2/7/15	360d	360d	0d	0%	NA	NA	Thu 2/13/14	Sat 2/7/15
HWY	Highway Design	Tue 1/14/14	Sun 7/12/15	545d	540.25d	4.75d	1%	Tue 1/14/14	NA	Tue 1/14/14	Sun 7/12/15
HWY.200	Functional Design Report	Wed 1/15/14	Thu 10/2/14	261d	247.12d	13.88d	5%	Wed 1/15/14	NA	Tue 1/14/14	Thu 10/2/14
HWY.200.010	Prepare Functional Design Report	Wed 1/15/14	Sat 6/21/14	158d	148d	10d	6%	Wed 1/15/14	NA	Tue 1/14/14	Fri 3/14/14
HWY.200.020	Submit Functional Design Report	Tue 9/2/14	Tue 9/2/14	0d	0d	0d	0%	NA	NA	Tue 9/2/14	Tue 9/2/14
HWY.200.030	Review Functional Design Report	Wed 9/3/14	Thu 10/2/14	30d	30d	0d	0%	NA	NA	Wed 9/3/14	Thu 10/2/14
HWY.200.040	Approval of Functional Design Report	Thu 10/2/14	Thu 10/2/14	0d	0d	Od	0%	NA	NA	Thu 10/2/14	Thu 10/2/14

How to update tasks that were planned to start before the Status Date but didn't actually start

(f) This paragraph refers only to situations where the task's predecessors are complete and the task was scheduled to start before the status date but it did not. In this case you should reschedule the task to start after the Status

Date. The unstarted tasks in the past will remain in the past unless you use the "Reschedule Uncompleted Work to Start After" feature.

<u>Example (f)</u>: The task "Prepare Design Exception Report" has duration 60 days and the planned dates are 3/27/14 to 5/25/14. The task did not start before 5/2/2014 even though its predecessors (Issue Design Contract NTP, Conduct Survey and Conduct Survey (MassDOT)) are complete. The task will be moved after the status date by using the "Reschedule Uncompleted work after" feature.



WBS	Name	Start 👻	Finish	Duration 💂	Remaining Duration	Actual Duration	% Complete	Act. Start 🖕	Act. Finish	Baseline Start	Baseline Finish
CNT.100	Project Development	Tue 1/14/14	Sat 2/7/15	390d	390d	0d	0%	NA	NA	Tue 1/14/14	Sat 2/7/15
CNT.100.010	Finalize Project Plan and Design Schedule	Tue 1/14/14	Wed 2/12/14	30d	30d	0d	0%	NA	NA	Tue 1/14/14	Wed 2/12/14
CNT.100.020	Project Design Schedule Updates	Thu 2/13/14	Sat 2/7/15	360d	360d	0d	0%	NA	NA	Thu 2/13/14	Sat 2/7/15
HWY	Highway Design	Tue 1/14/14	Sun 7/12/15	545d	545d	0d	0%	NA	NA	Tue 1/14/14	Sun 7/12/15
HWY.200	Functional Design Report	Sat 5/3/14	Thu 10/2/14	153d	153d	0d	0%	NA	NA	Tue 1/14/14	Thu 10/2/14
HWY.200.010	Prepare Functional Design Report	Sat 5/3/14	Tue 7/1/14	60d	60d	0d	0%	NA	NA	Tue 1/14/14	Fri 3/14/14
HWY.200.020	Submit Functional Design Report	Tue 9/2/14	Tue 9/2/14	0d	0d	0d	0%	NA	NA	Tue 9/2/14	Tue 9/2/14
HWY.200.030	Review Functional Design Report	Wed 9/3/14	Thu 10/2/14	30d	30d	0d	0%	NA	NA	Wed 9/3/14	Thu 10/2/14
HWY.200.040	Approval of Functional Design Report	Thu 10/2/14	Thu 10/2/14	0d	0d	0d	0%	NA	NA	Thu 10/2/14	Thu 10/2/14

As noticed the Start Date of "Prepare Functional Design Report" moved to 5/3/14.

# How to update the Schedule using the "% Complete" field

(g) The % Complete represents how much of the Task has been done (Actual Duration/Duration). You should be very careful when you use the % Complete to update the schedule since you may end up entering Actual Dates in the future. Once you enter a % complete, the program automatically enters the Early planned Start Date into the Actual Start field. Note that in MS Project, the % Complete is about the duration only – doesn't apply to units installed or units remaining.

**Example (g)**: The task "Prepare Design Exception Report" has duration 60 days and the planned dates are 3/27/14 to 5/25/14. The status date (or the 'data date' of the schedule we are updating) is 5/2/2014. Let's assume that we worked 12 days on preparing the Design Exception report out of the 60 (20%). When the 20% is entered, the Actual Duration autofills with 12 days (0.2 x 60=12) and the remaining duration field with 48 days (60-12). However, considering that out of the 36 days (3/27/14-5/2/2014) that we were supposed to work we only used 12 days, there is uncompleted work before the Status date which needs to be scheduled in the future. To reschedule the work, we will use the "Reschedule Uncompleted work after" feature.

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HWY	- Highway Desig	jn		Tue 1/14/14	Sun 7/12/15	545d	538.77d	6.23d	1%	Tue 1/14/14	NA	Tue 1/14/1	14 Sun 7/12/15
HWY.200	- Functional I	Design Report		Tue 1/14/14	Thu 10/2/14	262d	262d	0d	0%	NA	NA	Tue 1/14/1	14 Thu 10/2/14
HWY.200.010	Prepare F	unctional Design Report		Tue 1/14/14	Fri 3/14/14	60d	60d	0d	0%	NA	NA	Tue 1/14/1	14 Fri 3/14/14
HWY.200.020	Submit Fu	inctional Design Report		Tue 9/2/14	Tue 9/2/14	0d	0d	b0	0%	NA	NA	Tue 9/2/1	14 Tue 9/2/14
HWY.200.030	Review F	unctional Design Report		Wed 9/3/14	Thu 10/2/14	30d	30d	0d	0%	NA	NA	Wed 9/3/1	14 Thu 10/2/14
HWY.200.040	Approval	of Functional Design Report		Thu 10/2/14	Thu 10/2/14	0d	0d	0d	0%	NA	NA	Thu 10/2/1	14 Thu 10/2/14
HWY.220	<ul> <li>Design Exce</li> </ul>	eption Report		Thu 3/27/14	Thu 10/2/14	190d	164.67d	25.33d	13%	Thu 3/27/14	NA	Thu 3/27/1	14 Thu 10/2/14
HWY.220.010	Prepare D	esign Exception Report		Thu 3/27/14	Sun 5/25/14	60d	48d	12d	20% 🔶	Thu 3/27/14	NA	Thu 3/27/1	14 Sun 5/25/14
HWY.220.020	Submit De	esign Exception Report		Tue 9/2/14	Tue 9/2/14	0d	0d	0d	0%	NA	NA	Tue 9/2/1	14 Tue 9/2/14
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HWY		- Highway Desig	n				Tue 1/14/14	Sun 7/12/15	545d	538.92	2d	6.08d		1%	Tue 1/14/14	NA	Tue 1/14	/14 Sun 7/12/15
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