



Fuel, Steel, Class of Work and Scheduling Template

October 2023

ODOT is an Equal Employment Opportunity and Affirmative Action Employer.

This information can be made available in alternative format by contacting ODOT Cost Estimating Team, Statewide Project Delivery Branch 503-986-4040.

ODOT does not discriminate on the basis of disability in admission or access to our programs, services, activities, hiring and employment practices. Questions: 1-877-336-6368 (EEO-ODOT) or through Oregon Relay Service at 7-1-1.

Table of Contents

Introduction	1
Cost Estimate	1
General Project Set-up.....	1
Miscellaneous (9Z9) Bid Items	1
Class of Work (COW) and Production Rates	1
Fuel and Steel Escalation	4
COW & Escalation Report	5
Fuel Index and Scheduling Program – Estimation	6
COW Report Tab	7
Fuel Escalation Report Tab.....	8
Fuel Items Tab.....	8
Structures Items Tab.....	9
Steel Items Tab.....	9
Schedule Worksheet Tab	10
Completion Schedule Program	10
Data Entry Operations for Scheduling	10
Critical Path Contingency Days	12
Weather	12
Local Time Restrictions, Maintenance Start, Other	13
Critical Path 'Open Worksite' Days	13
Modifying Milestones	13
Same Start Time.....	14
Sequencing Milestone Tasks	14
Complex Schedule Task Start Delays	15
Split Task	15
Delays and Addendums	16
Saving Files	16

Updates:

Updated 10/23/2023 to address changes to the January 2024 00195 boilerplate language. There is no longer a minimum qualifier for fuel and all structure work is to 19 gallons per \$1000.

Introduction

This document provides instructions for the Fuel Index and Scheduling Program, which determines a project's Class of Work, the pay items that qualify for payment adjustment due to escalation/de-escalation of fuel and steel prices, and generates a construction time schedule posted as a bid reference document in eBIDS.

Cost Estimate

General Project Set-up

1. Complete the PS&E cost estimate in Estimation™.
 - a. Make sure the Highway Type and Urban/Rural section of the Project General tab is completed.

The image shows a screenshot of the Estimation™ software interface. On the left, the 'Project General' tab is selected in the navigation bar. The 'Project Summary' section shows a project named 'Project: FSCOW_TEST - FSCOW_TEST'. Below this, a 'Proposal' section is visible. To the right, a 'General' section is highlighted with a red box. The 'General' section contains fields for 'Key #' (FSCOW), 'Contractor' (Contractor), 'Project' (Project), and 'FSCOW'. On the right, a 'Highway Type' dialog box is open, showing a dropdown menu with '01 - Construction' selected. Below it, the 'Improvement Type' is set to '01 - Construction'. Under 'Material Source Available', it says 'None - None'. In the 'Urban/Rural' section, a dropdown menu is open with 'R - RURAL' selected. The 'Project Work Type' section is also visible.

Figure 1: General Project Information

Miscellaneous (9Z9) Bid Items

Class of Work (COW) and Production Rates

If a miscellaneous (9Z9) bid item is being added to a cost estimate, at a minimum the class of work, specification section and item production rate is required to be entered in Estimation™ for the Fuel, Steel, COW worksheet to calculate correctly. Miscellaneous (9Z9) bid items must be entered in the Cost Estimate Item tab.

1. In the Cost Estimate Items, enter the bid item information and the following information into the 9Z9 REQUIRED fields:

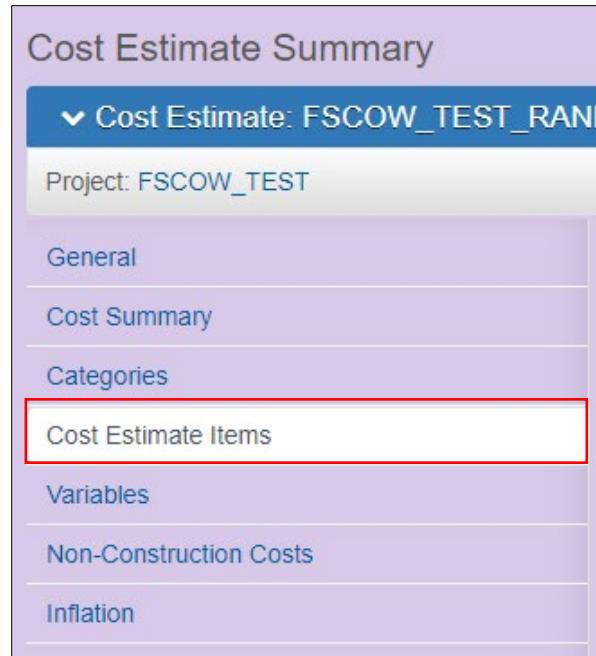


Figure 2: Cost Estimate Items Location

The screenshot shows a form titled '9Z9 REQUIRED Fields'. It contains three required input fields: 'Class of Work (** Required for 9Z9s **)', 'Specification Section (** Required for 9Z9s **)', and 'Item Production Rate per Day (** Required for 9Z9s **)'. Each field is accompanied by a dropdown arrow.

Figure 3: 9Z9 Required Fields

- a. Select the class of work from the drop down list in the Class of Work field. This selection will classify the work type the bid item falls under. See the [Prequalification Reference Form](#) for detailed descriptions about each class of work. The standard bid item list on the [Standard Specifications page](#) includes the class of work for all ODOT standard bid items.

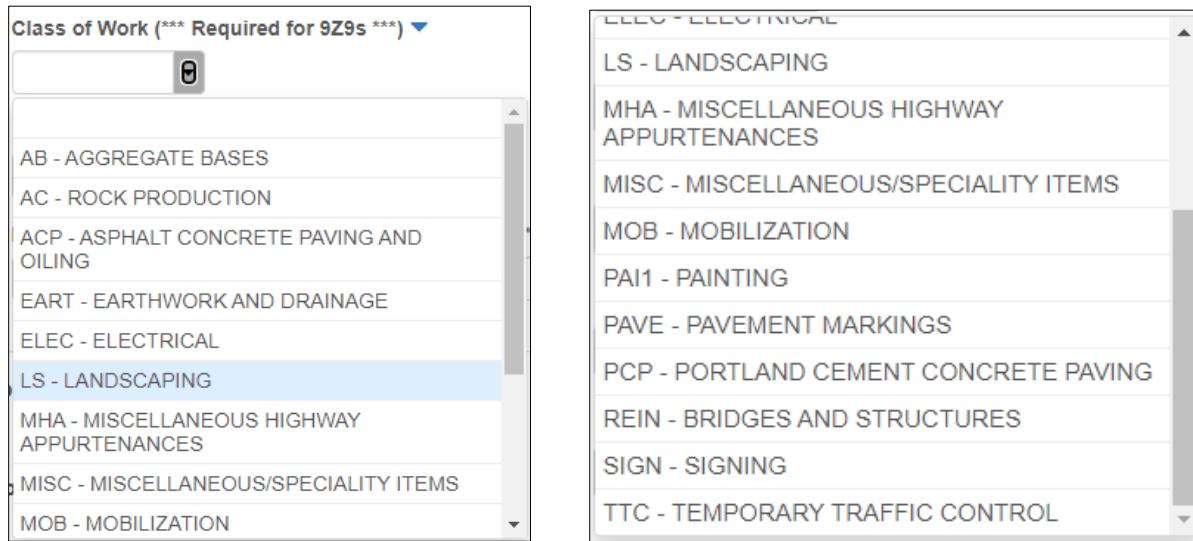


Figure 4: Class of Work List

- b. Select the specification section related to the 9Z9 bid item from the drop down list in the Specification field.
- c. Enter the production rate per day (numerical value) in the Item Production Rate per Day field.
 - i. The production rate can be changed for standard bid items, but the person who changed it is responsible for that rate for the project. Production rates that are too high and not attainable will result in claims for the project. You must consult with production rate experts prior to making significant rate adjustments. The Class of Work and Specification Section cannot be changed for standard bid items.
- d. Select "Save."

If you do not enter the class of work, specification section or production rate, the program will pop up with an error message letting the user know the bid item was not saved because the COW items were not entered.

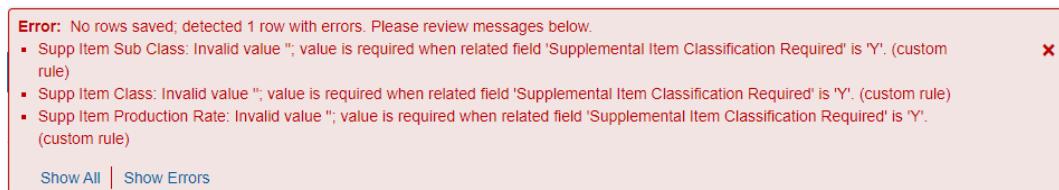


Figure 5: Error Message

Once the class of work, specification section and production rate is entered, the program will pop up with a message the save is complete.

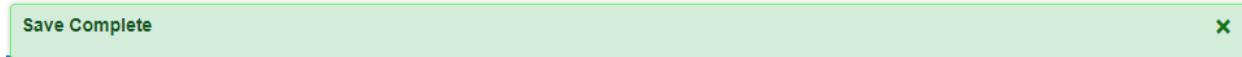


Figure 6: Save Complete Message

Fuel and Steel Escalation

The fuel and steel escalation information is only required if the miscellaneous (9Z9) pay items uses considerable fuel and/or steel. **If a field is not needed for the bid item, leave blank.** DO NOT enter zero (0).

1. Navigate to the miscellaneous (9Z9) bid item. Click on the bid item to expand the bid item information.
2. Fuel Escalation: FHWA provides a list of acceptable pay items that may qualify for fuel escalation. Contact the PCO Cost Estimators to verify if the miscellaneous (9Z9) bid item qualifies for fuel escalation. If the item qualifies for fuel escalation, the PCO Cost Estimator will supply the fuel escalation fuel factor and fuel escalation conversion factor

 A screenshot of a software interface showing three input fields for fuel escalation. The first field is a dropdown menu labeled "Fuel Item Category". The second field is a text input labeled "Fuel Escalation Fuel Factor per Unit". The third field is a text input labeled "Fuel Escalation Conversion Factor (if needed)".

Figure 7: 9Z9 Bid Item Fuel Escalation

- a. Fuel Item Category – chose the category most closely related to the miscellaneous (9Z9) bid item.
- b. Fuel Escalation Fuel Factor per Unit – use value supplied by PCO Cost Estimator
- c. Fuel Escalation Conversion Factor – use value supplied by PCO Cost Estimator

3. Steel Escalation:

 A screenshot of a software interface showing three input fields for steel escalation. The first field is a dropdown menu labeled "Weight of Steel per Unit". The second field is a dropdown menu labeled "Steel Escalation Class". The third field is a text input labeled "Steel Escalation Qualifying Unit Cost".

Figure 8: 9Z9 Bid Item Steel Escalation

- a. Weight of Steel per Unit – enter the total weight (lbs) of the estimated steel for the 9Z9 bid item.
- b. Steel Escalation Class – enter the class of steel.
 - Class 1 – Pipe (arch, ductile, structural and other plates)
 - Class 2 – Furnish piling (all shapes)
 - Class 3 – Bridge (girders, beams and steel maintenance)
 - Class 4 – Rebar (coated and uncoated)
 - Class 5 – Railing
 - Class 6 – Guardrail, metal barriers, cable guardrail (cable cost excluded)
 - Class 7 – Sign structures and light poles
- c. Steel Escalation Qualifying Unit Cost – enter the dollar amount per pound of the miscellaneous (9Z9) steel material. This does not include the labor and equipment costs associated with the bid item. The Project Controls Office Cost Estimators can assist with selecting a value.

4. Select “Save.”

COW & Escalation Report

1. Create the COW and Escalation Excel report by selecting the Row Action and selecting “CE External Apps Spreadsheet – COW, Escal.”

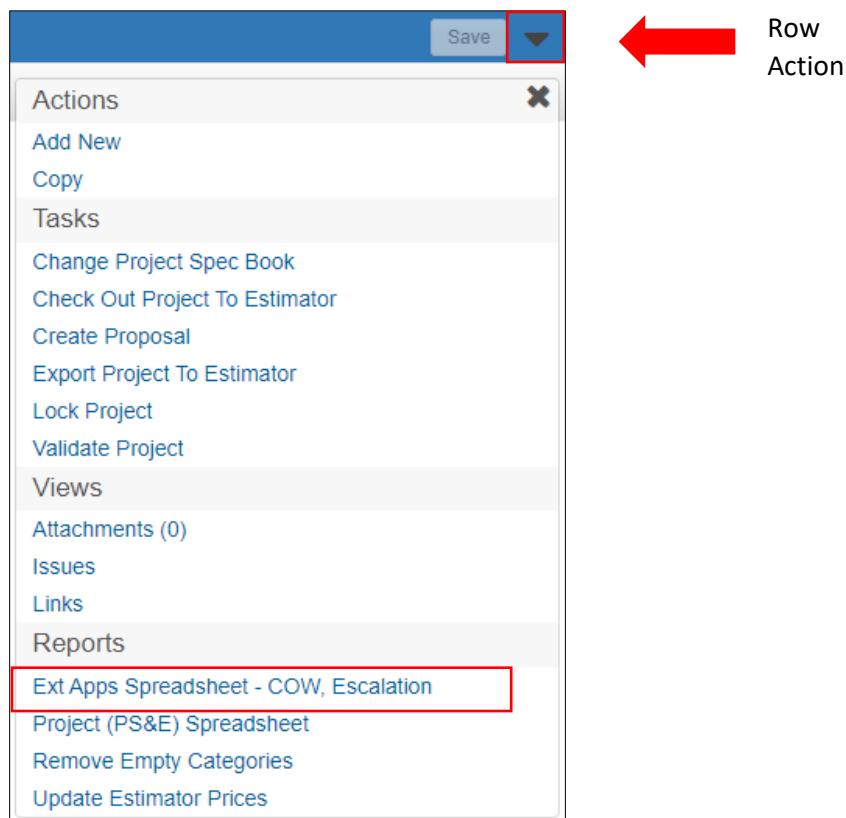


Figure 9: FSCOW Export Location

2. Select “Execute.”

Fuel Index and Scheduling Program – Estimation

1. Download the Fuel Index and Scheduling Program – Estimation zip file folder from the [AASHTOWare Estimation](#) web page located in the Quick Reference Guides table.

Quick Reference Guides	
Additional resources	
Title	Related Materials
Fuel Index and Scheduling Program - Estimation	 Scheduling Program

Figure 10: Fuel Index and Scheduling Program Location

- a. These files may be updated often. It is recommended to download the file at least every other month to obtain updates. The most current version of the program should be re-run after the PS&E cost estimate is completed.
- b. DO NOT change the name of these two files. If the file names are changed, the MS Project file cannot find the data to be transferred.

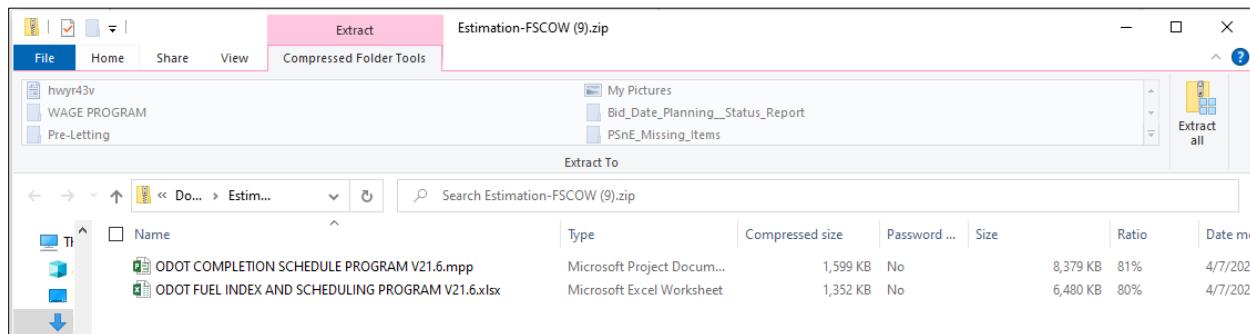
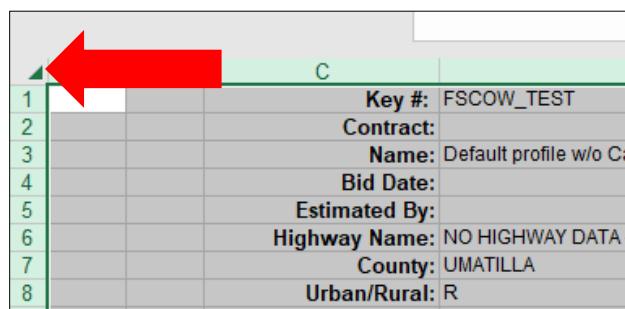


Figure 11: FSCOW Zip File

2. Open the ODOT FUEL INDEX AND SCHEDULING PROGRAM excel file.
3. Copy the data from the “Sheet1” tab of the COW and Escalation Excel report from Estimation by clicking the top left button to highlight the entire page and copying using the keyboard shortcut ctrl-c.



1	C	Key #:	FSCOW_TEST
2		Contract:	
3		Name:	Default profile w/o Ca
4		Bid Date:	
5		Estimated By:	
6		Highway Name:	NO HIGHWAY DATA.
7		County:	UMATILLA
8		Urban/Rural:	R

Figure 12: Paste Data

4. Paste (ctrl-v) the data into Cell A1 of the “ESTIMATION ITEMS” tab.

COW Report Tab

There are only two cells that are required to be filled out on the Class of Work (COW) Report. All other fields are filled in automatically based on information provided in Estimation.

1. In the “Prepared At” field, select the phase of the project from the drop-down: DAP, Preliminary, Advance, Final, or PS&E.
2. In the “Revised” field, select whether this is a revision of the COW or not from the drop-down: Yes or No.

From the Class of Work Report, the Class of Work is used to fill out the class of work in the Bid Booklet of the Special Provisions.

<p style="text-align: center;">BID BOOKLET FOR HIGHWAY CONSTRUCTION</p>  <p style="text-align: center;">OREGON DEPARTMENT OF TRANSPORTATION SALEM, OREGON</p>  <p>SCOPE OF WORK (match plan title sheet)</p> <p>PROJECT NAME (match plan title sheet)</p> <p>HIGHWAY (match plan title sheet)</p> <p>COUNTY (match plan title sheet)</p> <p>BID DATE (Month Day, Year)</p> <p>CLASS OF PROJECT <u>FEDERAL AID NUMBER OR "STATE (- BUY AMERICA)"</u> CLASS OF WORK <u>FROM CLASS OF WORK SHEET</u> BID OF _____</p>	<p style="text-align: center;">CLASS OF WORK</p> <p><i>(Use one of the following six paragraphs to list the class of work determined by using the blue "Class of Work" sheet. Delete the paragraphs that do not apply. Select the class(es) from the list below (cut and paste). Remove underline and parentheses. Contact the State Specification Engineer if a different combination is required than what is listed below.)</i></p> <p>The Class of Work for this Project is: _____</p> <p>The Class of Work for this Project is the combination of 1) _____ & 2) _____</p> <p>The Class of Work for this Project is either: A) _____, or B) _____</p> <p>The Class of Work for this Project is either: A) _____, or B) the combination of 1) _____ & 2) _____</p> <p>The Class of Work for this Project is either: A) _____, or B) the combination of any two classes in the following list: _____, (_____) or (_____)</p> <p>The Class of Work for this Project is the combination of any two classes in the following list: _____, (_____) (_____) or (_____)</p> <p><i>(Use this list to fill in the blanks above. Delete this list when finished.)</i></p> <p>Earthwork and Drainage Bridges and Structures Painting Rock Production Aggregate Bases Asphalt Concrete Paving and Oiling Portland Cement Concrete Paving Pavement Markings Signing Electrical Landscaping Miscellaneous Highway Appurtenances Buildings</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Figure 13: Special Provision Class of Work Locations

The Class of Work is calculated based on the category's percent of the total estimate. Single classes are for categories with a percentage greater than 19.5%. Combination classes are for categories with a percentage between 9.75% – 19.5%. It is important the estimate is filled out correctly because the COW determines which contractors qualify to bid on the project (see [Prequalified Contractor List](#))

When the Class of Work includes Painting, Rock Production, Electrical, Landscaping or Buildings, concurrence from the State Specifications Engineer (SSE) is required. The Class of Work Report will populate a note stating “State Specifications Engineer Approval Needed.”

STATE SPECIFICATION ENGINEER APPROVAL NEEDED

Figure 14: SSE Approval Needed Message

If a class of work is not identified, contact the SSE.

Region can propose a different class of work for the project by following the below instructions:

1. Insert the proposed class of work into the Region's Proposed Class of Work box.
2. Enter the reason for proposing a different class of work in the Region's Comments box.
3. Email the ProjectWise link to the FSCOW worksheet to the State Specification Engineer for approval.

REGION'S PROPOSED CLASS OF WORK (optional - see INSTRUCTIONS tab):
REGION'S COMMENTS (optional - see INSTRUCTIONS tab):

Figure 15: Region's Proposed Class of Work

Fuel Items Tab

For projects bidding after January 1, 2024, all major fuel usage pay items that have been assigned fuel factors in the AASHTOWare Project system are eligible for fuel cost price escalation/de-escalation payment adjustments. Enter the qualifying bid items and fuel factors from the Fuel Items table to subsection 00195.11(d) of the special provisions.

FUEL ESCALATION ITEMS TO INCLUDE IN SPECIFICATIONS 00195.11(d)					
Line #	Item #	Item Description	Fuel Factor	Units	Category
0170	0330-0105000K	GENERAL EXCAVATION	0.29	GAL/CUYD	GENERAL EXCAVATION
0200	0390-0108000K	LOOSE RIPRAP, CLASS 100	0.29	GAL/CUYD	STONE EMBANKMENT
0260	0641-0100000M	AGGREGATE SUBBASE	0.69	GAL/TON	
0270	0744-0302000M	LEVEL 3, 1/2 INCH ACP MIXTURE	2.93	GAL/TON	HIMAC MIXTURE
0280	0756-0101000J	PLAIN CONCRETE PAVEMENT, UNDOWELED, 6 INCHES THICK	1.00	GAL/SQYD	CONCRETE PAVEMENT
0290	0756-0102000J	PLAIN CONCRETE PAVEMENT, UNDOWELED, 7 INCHES THICK	1.00	GAL/SQYD	CONCRETE PAVEMENT
0300	0756-0103000J	PLAIN CONCRETE PAVEMENT, UNDOWELED, 8 INCHES THICK	1.00	GAL/SQYD	CONCRETE PAVEMENT
0310	0759-0106000F	CONCRETE CURBS, LOW PROFILE MOUNTABLE CURB	0.12	GAL/FOOT	PCC CURB
0320	0759-0110000F	CONCRETE CURBS, STANDARD CURB	0.12	GAL/FOOT	PCC CURB

Figure 166: Fuel Escalation Bid Items Table

Anticipated Item for Fuel Escalation

An anticipated item for fuel escalation is not required and is a business decision. Project teams have the option to set aside budget if they anticipate needing to pay more in escalation than de-escalation fuel by using the fuel escalation anticipated item. ODOT uses the Monthly Fuel Price (MFP) posted at the [Project Control Office website](#) in combination with Section 00195.11 of the special provisions in calculating these payment adjustments. The suggested anticipated item for fuel escalation tool can be used to estimate the fuel escalation anticipated bid item. Enter the assumed "Base Price" and "(Max) Avg Price" to calculate the suggested fuel escalation anticipated bid item amount. Contact [PCO Estimators](#) for additional guidance.

NOTE: FOR PROJECTS BIDDING AFTER JANUARY 1, 2024, A MINIMUM ESTIMATED FUEL USAGE QUALIFIER TOTAL IS NO LONGER REQUIRED. DIRECTIONS FOR FILLING OUT THE FUEL ESCALATION ANTICIPATED ITEMS CALCULATOR CAN BE FOUND IN THE FUEL, STEEL, CLASS OF WORK AND SCHEDULING TEMPLATE GUIDE. THE LINK TO GUIDE IS IN THE INSTRUCTIONS TAB.

BASE PRICE	<input type="text"/>
(MAX) AVG PRICE	<input type="text"/>
ADJUSTMENT FACTOR	<input type="text" value="0.00"/>
SUGGESTED ANTICIPATED ITEM FOR FUEL ESCALATION <input type="text"/>	

Figure 177: Suggested Anticipated Item for Fuel Escalation Calculator

Structures Items Tab

For projects bidding after January 1, 2024, all structure items qualify for fuel escalation and will use a fuel factor of 19 per \$1000 of bid price for all items associated with a structure (identified by the structure category). The category numbers in Estimation should be broken down in the following way:

- Category 0500 – 0599: Bridge Structures
- Category 0931 – 0950: All Structural Sign Bridges with assign Structure Numbers

The Structure Bid Items table includes all bids items that participate for fuel escalation. Enter the structure number and bid items from the Structure Items table to subsection 00195.11(d) of the special provisions.

BRIDGE STRUCTURES (500-599)		SIGN STRUCTURES (931-950)	
CAT ID	STRUCTURE NO.	CAT ID	SIGN STRUCTURE NO.
931	I-205, MP 8.73 NB, STR. NO. 24273	931	I-205, MP 8.73 NB, STR. NO. 24273
932	I-205, MP 8.76 SB, STR. NO. 24274	932	I-205, MP 8.76 SB, STR. NO. 24274
933	I-205, MP 8.52 NB, STR. NO. 24275	933	I-205, MP 8.52 NB, STR. NO. 24275
934	SITE TZ-008ML, I-205, MP 8.75 NB/SB, STR. NO. 24278	934	SITE TZ-008ML, I-205, MP 8.75 NB/SB, STR. NO. 24278
935	SITE TZ-008NBR, 003, MP 11.34 NB, STR. NO. 24279	935	SITE TZ-008NBR, 003, MP 11.34 NB, STR. NO. 24279
936	SITE TZ-008SR, I-205, MP 9.19 SB, STR. NO. 24280	936	SITE TZ-008SR, I-205, MP 9.19 SB, STR. NO. 24280
937	I-205, MP 9.14 SB, BR. NO. 09403	937	I-205, MP 9.14 SB, BR. NO. 09403
938	I-205, MP 23.28 SB, BR. NO. 09667	938	I-205, MP 23.28 SB, BR. NO. 09667
939	I-205, MP 14.6 SB, BR. NO. 09715	939	I-205, MP 14.6 SB, BR. NO. 09715
940	002, MP 14.41 WB, BR. NO. 17208	940	002, MP 14.41 WB, BR. NO. 17208

STRUCTURE BID ITEMS TO INCLUDE IN SPECIFICATIONS 00195.11(d)							
Line #	Item #	Item Description	Category No.	Structure No.	Cost		
0570	0921-0501000F	60 INCH DIAMETER SIGN SUPPORT DRILLED SHAFT FOUNDATION	931	I-205, MP 8.73 NB, STR. NO. 24273	\$49,000.00		
0580	1999-9290000A	INSTALLATION OF AGENCY FURNISHED MONOTUBE CANTILEVER SIGN STF	931	I-205, MP 8.73 NB, STR. NO. 24273	\$99,597.62		
0590	0921-0501000F	60 INCH DIAMETER SIGN SUPPORT DRILLED SHAFT FOUNDATION	932	I-205, MP 8.78 SB, STR. NO. 24274	\$45,500.00		
0600	1999-9290000A	INSTALLATION OF AGENCY FURNISHED MONOTUBE CANTILEVER SIGN STF	932	I-205, MP 8.78 SB, STR. NO. 24274	\$95,456.02		
0610	0921-0501000F	60 INCH DIAMETER SIGN SUPPORT DRILLED SHAFT FOUNDATION	933	I-205, MP 8.52 NB, STR. NO. 24275	\$21,000.00		
0620	1999-9290000A	INSTALLATION OF AGENCY FURNISHED MONOTUBE CANTILEVER SIGN STF	933	I-205, MP 8.52 NB, STR. NO. 24275	\$82,579.80		
0630	0921-0501000F	60 INCH DIAMETER SIGN SUPPORT DRILLED SHAFT FOUNDATION	934	SITE TZ-008ML, I-205, MP 8.75 NB/SB, STR. NO. 24278	\$101,500.00		
0640	0989-0100000A	GANTRY LIGHTNING PROTECTION INSTALLATION	934	SITE TZ-008ML, I-205, MP 8.75 NB/SB, STR. NO. 24278	\$15,087.86		
0650	1285-0100000A	TSI CABINET	934	SITE TZ-008ML, I-205, MP 8.75 NB/SB, STR. NO. 24278	\$190,392.58		
0660	1999-9290000A	INSTALLATION OF AGENCY FURNISHED DUAL MONOTUBE TOLLING BRIDGE	934	SITE TZ-008ML, I-205, MP 8.75 NB/SB, STR. NO. 24278	\$578,212.00		
0670	0921-0401000F	54 INCH DIAMETER SIGN SUPPORT DRILLED SHAFT FOUNDATION	935	SITE TZ-008NBR, 003, MP 11.34 NB, STR. NO. 24279	\$64,572.50		
0680	0989-0100000A	GANTRY LIGHTNING PROTECTION INSTALLATION	935	SITE TZ-008NBR, 003, MP 11.34 NB, STR. NO. 24279	\$15,087.86		
0690	1285-0100000A	TSI CABINET	935	SITE TZ-008NBR, 003, MP 11.34 NB, STR. NO. 24279	\$95,196.29		
0700	1999-9290000A	INSTALLATION OF AGENCY FURNISHED DUAL MONOTUBE TOLLING BRIDGE	935	SITE TZ-008NBR, 003, MP 11.34 NB, STR. NO. 24279	\$199,599.33		
0710	0921-0501000F	60 INCH DIAMETER SIGN SUPPORT DRILLED SHAFT FOUNDATION	936	SITE TZ-008SR, I-205, MP 9.19 SB, STR. NO. 24280	\$115,500.00		
0720	0989-0100000A	GANTRY LIGHTNING PROTECTION INSTALLATION	936	SITE TZ-008SR, I-205, MP 9.19 SB, STR. NO. 24280	\$15,087.86		
0730	1285-0100000A	TSI CABINET	936	SITE TZ-008SR, I-205, MP 9.19 SB, STR. NO. 24280	\$95,196.29		
0740	1999-9290000A	INSTALLATION OF AGENCY FURNISHED MONOTUBE CANTILEVER TOLLING	936	SITE TZ-008SR, I-205, MP 9.19 SB, STR. NO. 24280	\$146,727.76		
0750	0930-0105000A	BRIDGE STRUCTURE MOUNTS	937	I-205, MP 9.14 SB, BR. NO. 09403	\$8,481.60		
0760	0930-0105000A	BRIDGE STRUCTURE MOUNTS	938	I-205, MP 23.28 SB, BR. NO. 09667	\$32,675.57		
0770	0930-0105000A	BRIDGE STRUCTURE MOUNTS	939	I-205, MP 14.6 SB, BR. NO. 09715	\$35,964.77		

Figure 18: Structure Fuel Escalation Table

Steel Items Tab

To determine if the bid item qualifies for steel escalation, the sum of the participating unit cost is multiplied by the line item quantities. If the sum for all the bid items is \$3,500 or more, all the matching bid items qualify for steel escalation. If the sum for all the bid items is less than \$3,500 and a class (Class 1 through Class 7) is \$1,000 or more, only the matching bid items from that class qualify for steel escalation.

The Steel Item Table includes all bids items that participate for steel escalation. If the bid item is qualifying, a note stating “INCLUDE IN THE 00195.12(d)” will appear in the Qualify column. Enter the qualifying bid item name and cost basis from the Steel Item table to subsection 00195.12 of the special provisions.

STEEL ITEM TABLE									
Line #	Item #	Item Description	Steel Class	Unit	Quantity	Qualifying Unit Cost	Steel Cost Basis	Calculated Dollar Amount	Qualify
0450	0590-0104000A	REINFORCEMENT, GRADE 60	4	LB	900.00	\$0.05		\$40.50	
1020	0990-0107000A	SIGNAL POLE MOUNTS	7	LB	140.00	\$0.45		\$63.00	
1030	0990-0112000A	TRIANGULAR BASE BREAKAWAY SIGN SUPPORTS	7	LB	321.00	\$0.45		\$144.45	

Figure 18: Steel Escalation Bid Items Table

Schedule Worksheet Tab

The Scheduling Worksheet is used to create the construction time schedule (CTE) for the PS&E submittal.

Completion Schedule Program

1. Open the ODOT COMPLETION SCHEDULE PROGRAM MS Project file.
2. When the MS Project file is opened, a menu will pop up asking if you wish to link the file. Select “Yes” to allow the data from the Fuel Index and Scheduling Program to automatically transfer into MS Project.

It is recommended to complete the scheduling process prior to saving files with another name to preserve the linkages until the schedule is complete. Once the data is linked, changes can be made within the MS Project file at any time with the understanding that the Fuel Index and Scheduling Program will no longer provide all production data to all items.

Data Entry Operations for Scheduling

The key number and start date should load into the scheduling program and the schedule should auto-schedule automatically. If this does not happen, follow the steps below.

1. Select the Task Name in Line 1 and enter the project key number.

Task Mode	Task Name	Duration	Start	Finish
	BID OPENING (KEY# 00000)	0 days	Sat 1/1/22	Sat 1/1/22
	AWARD OF CONTRACT (00130.10)	30 days	Sat 1/1/22	Sun 1/30/22

Figure 190: Enter Project Key Number

2. Select the Project tab and then the Project Information icon.

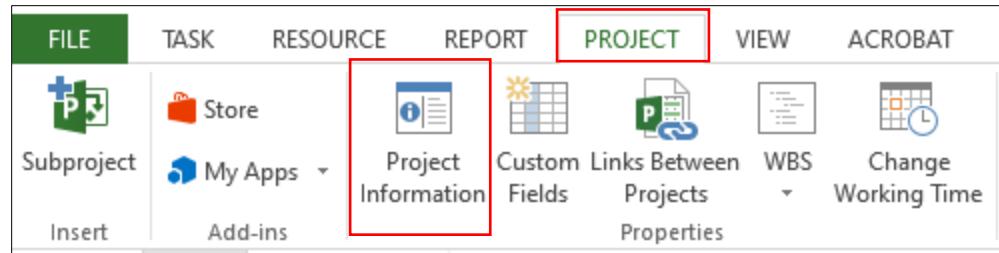


Figure 201: Project Information Location

3. Enter the project bid date in the State Date field

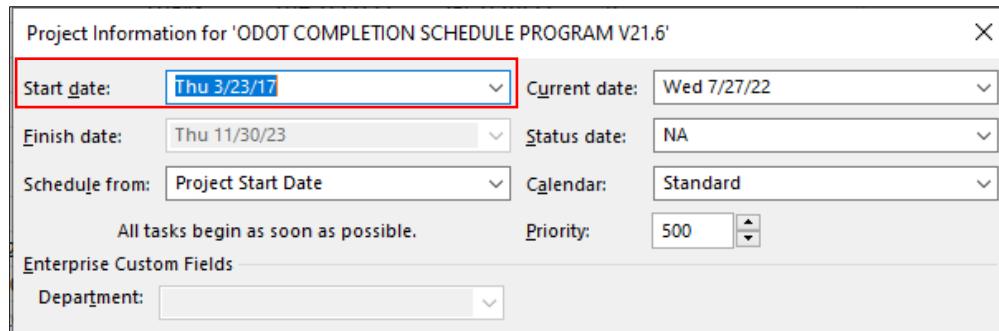


Figure 212: Start Date Field

4. Select the Task tab
5. Highlight all milestone tasks in the Task Name column

18	?	▷ TEMPORARY FEATURES AND APPURTENANCES
26	?	▷ ROADWORK
40	?	▷ DRAINAGE AND SEWERS
62	?	▷ BRIDGES
163	?	▷ BASES
171	?	▷ WEARING SURFACES
192	?	▷ PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES
211	?	▷ PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS
234	?	▷ RIGHT OF WAY DEVELOPMENT AND CONTROL
242	?	▷ WATER SUPPLY SYSTEMS
248	?	▷ CATHODIC PROTECTION SYSTEMS
254	?	▷ PROJECT CONTINGENCY DAYS

Figure 223: Milestone Tasks

6. Select the Auto Schedule icon to schedule the milestone tasks

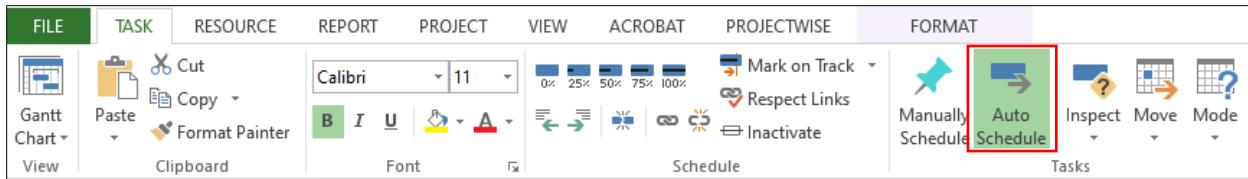


Figure 234: Auto Schedule Location

Critical Path Contingency Days

PROJECT CONTINGENCY DAYS	2 days
WEATHER	1 day
LOCAL TIME RESTRICTIONS, MAINTANANCE START, OTHER	1 day

Figure 245: Critical Path Contingency Days

Weather

1. Navigate to the following website to determine the amount of Weather days:
<https://wrcc.dri.edu/summary/Climsmor.html>
2. Select the nearest station on the State Map
3. Select Precipitation under the General Climate Summary Tables on the left side of the web page

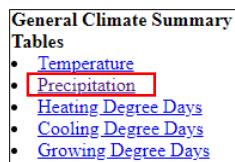


Figure 256: Precipitation Location

4. Count the rain days ≥ 0.50 inch for the duration of the project
5. Count the snow days $+0.1$ inch for the duration of the project

Period of Record General Climate Summary - Precipitation																
Station:(352112) DALLAS 2 NE																
From Year=1928 To Year=2012																
	Precipitation												Total Snowfall			
	Mean	High	Year	Low	Year		1 Day Max.	>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.00 in.		Mean	High	Year	
	in.	in.	-	in.	-	in.	dd/yyyy or yyyyymmdd	# Days	# Days	# Days	# Days	in.	in.	-		
January	7.96	18.71	1953	0.26	1985	3.91	15/1974	18	13	6	2	3.4	68.0	1950		
February	6.19	17.05	1999	0.42	2005	3.23	06/1996	16	11	4	2	1.9	25.5	1937		
March	5.31	11.42	1961	0.61	1965	2.30	31/1943	17	11	4	1	0.8	20.8	1951		
April	2.98	7.91	1937	0.23	1939	2.33	13/1937	13	8	2	0	0.0	0.5	1936		
May	2.13	5.80	1998	0.02	1992	1.57	17/1991	10	6	1	0	0.0	0.0	1936		
June	1.31	4.38	1937	0.02	1945	1.60	14/2009	7	4	1	0	0.0	0.0	1936		
July	0.35	2.05	1987	0.00	1941	1.75	18/1987	3	1	0	0	0.0	0.0	1936		
August	0.60	3.51	1968	0.00	1936	1.21	30/1954	3	2	0	0	0.0	0.0	1936		
September	1.33	4.05	1959	0.00	1942	1.42	18/1969	6	4	1	0	0.0	0.0	1936		
October	3.52	11.39	1950	0.13	1988	3.92	27/1994	11	7	2	1	0.0	0.0	1936		
November	7.49	21.24	1973	0.32	1936	4.20	19/1996	17	13	5	2	0.3	11.5	1955		
December	8.94	21.93	1996	1.83	1976	4.32	22/1964	18	14	6	2	1.8	18.0	1972		

Figure 267: Period of Record General Climate Summary

- Enter the total number of days in the Duration column for Weather

Local Time Restrictions, Maintenance Start, Other

- Check subsection 00220.40(e)(2)(b) of the special provisions for local event non-work days
- Check the Bridge Section of the special provisions for special events and high winds for structures days.
- Enter the total number of days in the Duration column for Local Restrictions, Maintenance Start, Other.

Critical Path 'Open Worksite' Days

The initial schedule takes a simplified approach to add each major set of milestones and identify the total open worksite time. The approach to time works on many simple projects and modifications to the timelines will be needed for slightly more complicated projects.

Modifying Milestones

Modifying the start times for milestones by resetting the predecessor line is a higher level change. Input additional milestones as needed, such as, intermediate completion dates, no work restrictions, and/or in water work window constraints.

Same Start Time

Some milestones start at the same time. For the milestones to start at the same time, the predecessor must be the same. The same can be done for milestone tasks.

In the example below, resetting the Wearing Surfaces predecessor from #160 to #59 will have the Wearing Surfaces start at the same time as Bases.

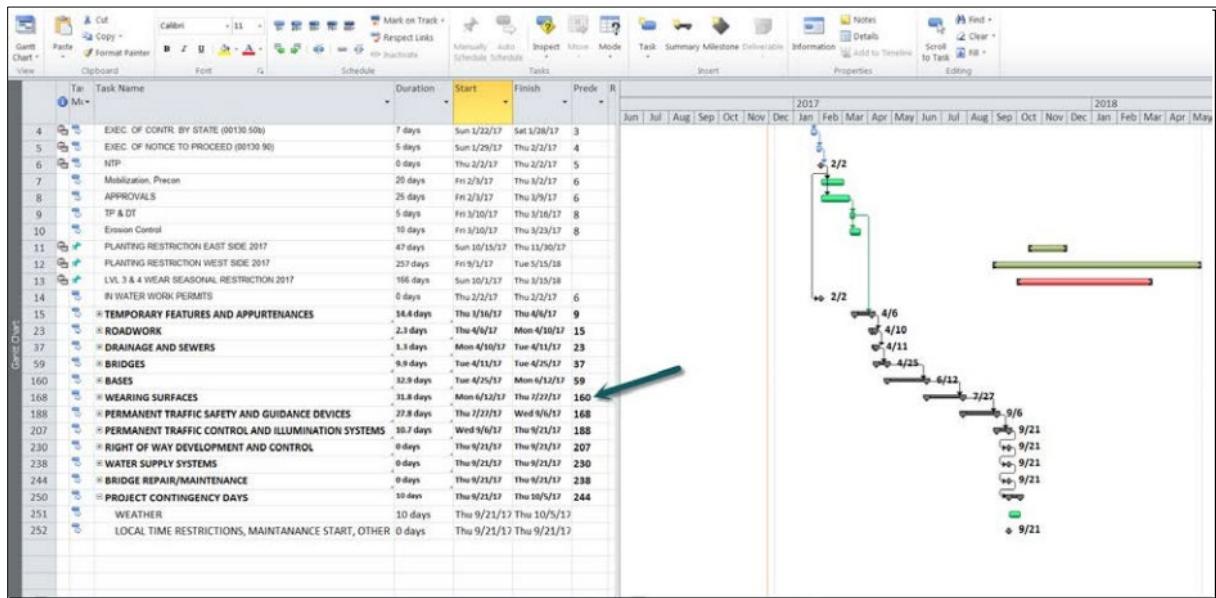


Figure 28: Entering Predecessor

Sequencing Milestone Tasks

1. Highlight milestone tasks

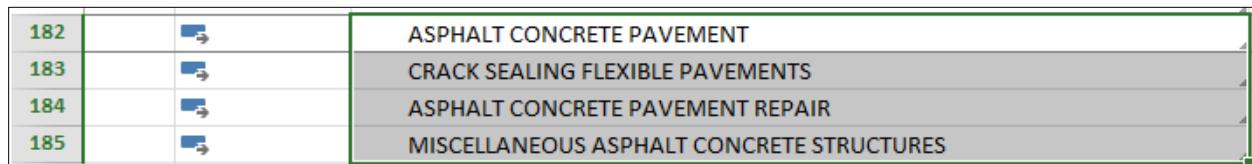


Figure 29: Highlight Milestone Tasks

2. Select the chain link icon to sequence the tasks

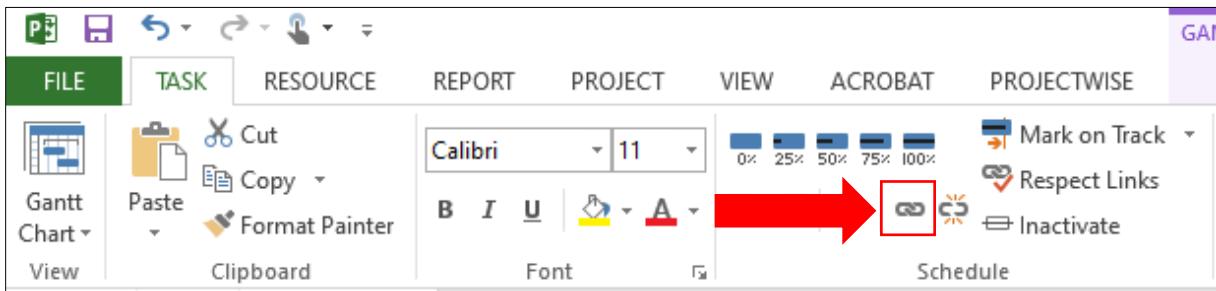


Figure 270: Chain Link Icon Location

Complex Schedule Task Start Delays

Complex schedules often have one milestone task start with a short delay of a task within another milestone. The delay can be by days or percentage. A “Task to task” lag start is coded in the predecessor field. Negative days will cause the predecessor to delay instead of the following activity.

Schedule Dependencies:

- Finish-to-Start (FS): The predecessor activity must be completed before the successor activity can start.
- Finish-to-Finish (FF): The successor activity requires the predecessor activity to be finished before the successor activity can be completed.
- Start-to-Start (SS): The predecessor activity must have started before the successor activity can start.
- Start-to-Finish (SF): The predecessor activity must have started before the successor activity can be finished.

The code in the Predecessors column is: [Predecessor task ID number][schedule dependency]+[delay]

For example, a code of 162SS+2 says “The milestone task shall begin at least 2 days after milestone task 162 begins.”

Split Task

Paving, striping, seeding and planting all have seasonal restrictions. Sometimes it is necessary to split a task.

1. Select the Task tab
2. Highlight the task to be split
3. Select the Task Split icon

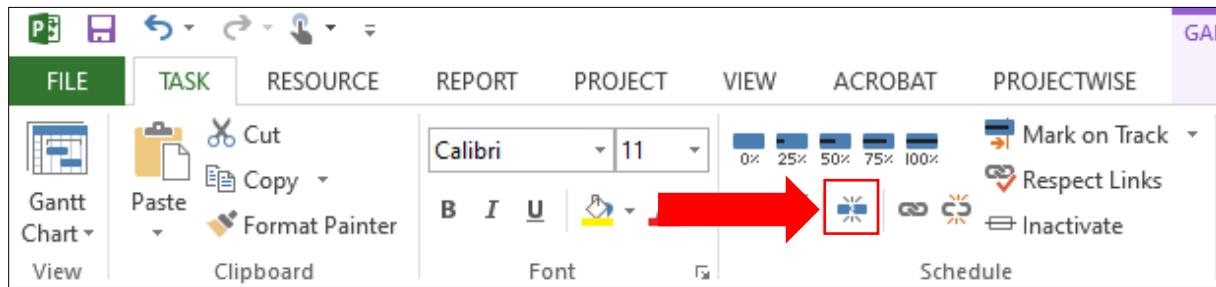


Figure 281: Task Split Icon Location

4. Hover the cursor over the graphic bar and dates will appear

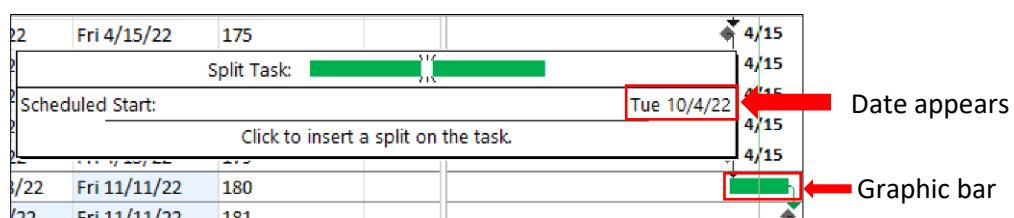


Figure 292: Hover over Graphic Bar

5. When the first end date appears, left click and drag until the desired second start date appears



Figure 303: Second Date Appears

Delays and Addendums

After advertisement when a project is delayed by more than two weeks, the schedule must be revalidated. One example: the project is delayed by three months due to issues such as right of way hold outs. When this happens, the paving work may have to ‘season over’ due to seasonal paving restrictions. The first action is to revise the bid date by re-entering the revised bid date in the Project Information tab. If the paving and striping time is beyond the seasonal restriction, the paving activity will need to be split (the project team may wish to hold all paving over to the next season – this example is for split activities).

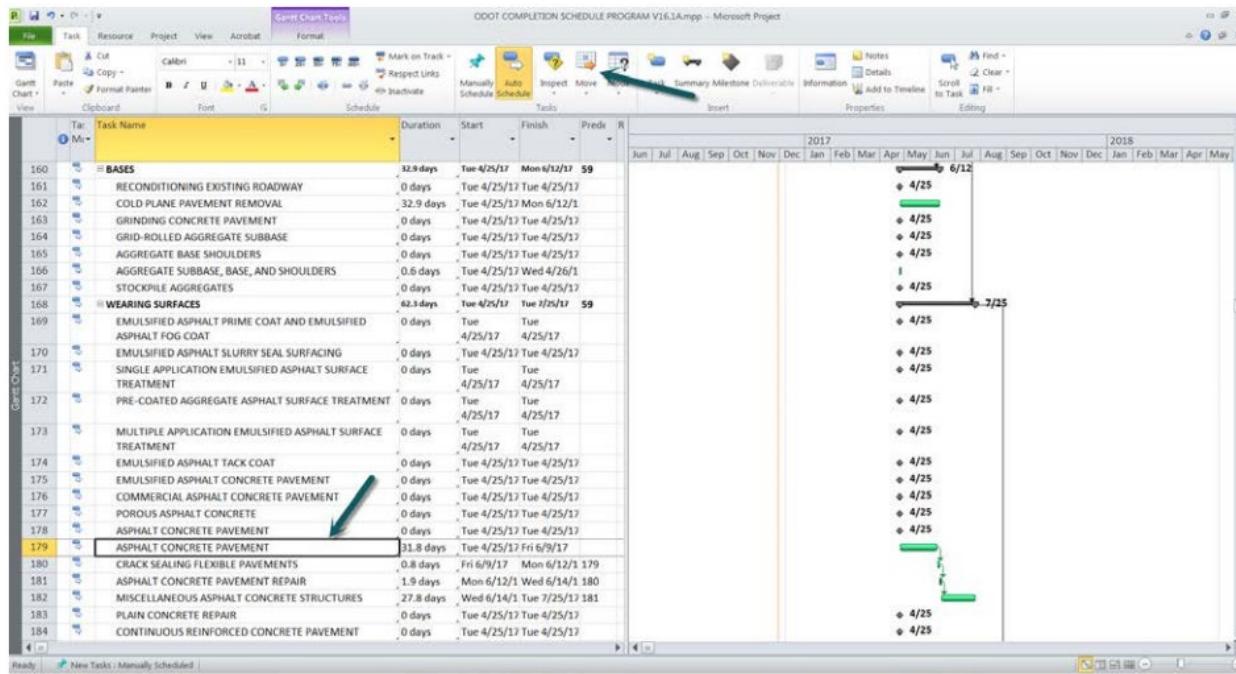


Figure 314: Delay Example

To delay the start of AC paving, select the task tab, select the task description, select the Move icon, in the drop box select “Custom” and enter the number of days moving forward. Collapse the task views back to milestone view.

Saving Files

After review with the advance plans team save the file using the project key number in two places. Keep the file with project documentation for PS&E submittal. Also place the file of the advertisement. When a project is delayed by more than two weeks the schedule must be revalidated. One example: the project

is delayed by three months due to issue such as right of way holds out. When this happens the paving work may have to Season Over due to season.

Store file with PS&E documents and in the estimator for CCO's – PS&E project schedules folder. The Fuel/Schedule program is also saved for record keeping on production rates and fuel item identification.