evised ecovery Programme Preparation Practical Guide Rev.00

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Preface

This document aims to guide throughout the process of preparing and submitting the projects revised or recovery programmes. Thus, the common challenge encountered whilst preparing the said programmes will be demonstrated within these pages and how to overcome these challenges.

Initially, construction projects progressively suffer from delays throughout their lifecycle, whether such delays are attributable to the contractor being that from lack of resources, poor workmanship, delayed delivery, ...etc. or being attributable to the Employer in terms of design changes, specifications, ...etc., or in some cases extend beyond both parties (e.g., pandemics, force of nature, ...etc.).

In order to properly monitor the progress of the project and reflect such incidents and/ or circumstances on the project's programme, the terms Revised or Recovery programmes come to mind as these terms are correlated with the tools used to reflect the impact of such incidents/ circumstances within the project's programme.

Preparing Revised/ Recovery programmes require certain data to be implemented in order to reflect an accurate impact, to the extent possible, of the incidents and/ or circumstances that occurred during the project lifecycle. The most common terms and fundamentals that are used, are defined hereinafter along with the respective processes for ease of reference and guidance.

The common challenge encountered during preparing such programmes is when the Project's Planned Value [PV] being not equal to the project's Earned Value [EV], and overcoming this issue is essential during the preparation process, this has been averted through several endeavors.

Whilst such endeavors have their own pros and cons, the most efficient and effective one by far, is splitting the In-Progress activities as it delivers accurate results (viz; PV exactly matches EV) with minimal efforts.

Splitting the In-Progress activities will be thoroughly explained within this document.

1 Essential Terminologies while Preparing Revised/ Recovery Programme

In order to prepare either Revised or Recovery programmes, we need to be familiar with the commonly used terminologies in this regard. Among which are:

1.1 Revised/ Recovery Programme

Revised and Recovery programmes are two faces of the same coin that are prepared and submitted to be considered as a baseline programme for the upcoming projects updates, the following table summarizes the differences between the Revised and Recovery programmes:

#	Point of	Revised Programme	Recovery Programme		
1	Definition	The programme used to implement the changes occurred as a consequence of excusable delays that was granted through an Extension of Time [EOT] claim or in case of an acceleration is directed by the Employer	The programme used to implement the replanning measures occurred as a consequence of non-excusable delays		
2	Contractual Dates	Adjust the contractual dates based on the granted Extension of Time [EOT] claim and contract amendment	The original contractual dates are maintained		
3	Cost	Approved Variation Orders [VO]s (if any) till the contract amendment cutoff date must be implemented within such programme	VOs may be implemented (if any)		
4	Mitigation Measures	May or may not be implemented if the granted EOT claim covers all the encountered delays	The methods used are either Crashing or fast tracking		
5	Compensation	Granted EOT and associated prolongation costs [Employer's Delay]	Neither time nor cost [Contractor's Delay]		
6	Implementation Method (In This Case)	Splitting the In-Progress activities	Splitting the In-Progress activities		

 Table 1
 Revised Programme vs. Recovery Programme

1.2 Contract Amendment

A contract amendment is a change, correction, clarification, or modification to contract that has already been signed.

A contract amendment leaves the original contact intact. However, it can be used to clarify details that were left out before, or to address a new need that became apparent throughout the course of the project after the contract was originally entered into.

1.3 Provisional Sums

Provisional sums are generally an allowance or estimate of certain items included within the contract price of a construction contract that can be used, in whole or in part, in accordance with the Engineer's instructions and the contract price shall be adjusted accordingly. If a Provisional sum is not used, in whole or in part, such amount shall be deducted from the contract price and the bill of quantities shall be adjusted accordingly and the aforesaid shall be reflected within the project's Revised/ Recovery programme (as the case maybe).

The provisional sums may include:

- Not sufficiently defined, designed or detailed items/ scope to allow an accurate determination of its cost at the time the contract is entered into, or
- Work that the employer may or may not wish to be carried out.

1.4 Free Issue Items

Are the items that may be supplied by the Employer, at his own risk and cost, to the contractor, free of charge, in accordance with the contract as may be instructed by the Engineer during the execution and completion of the works.

1.5 Crashing Technique

Crashing, or in other words so called acceleration, is described as one of the techniques used to recover delays during preparing the recovery programme. It mainly aims to decrease the longest path(s) activities durations in order to complete the project on the contractual dates by increasing the assigned manpower, thus, resulting in achieving such dates whilst increasing the overall cost of the project.

1.6 Fast Tracking Technique

Fast Tracking is described as one of the techniques used to recover delays during preparing the recovery programme. It mainly aims to start the activities simultaneously, or in other words in parallel, in order to complete the project on the contractual dates, thus, resulting in achieving such dates whilst leaving the project suspect of increased risks.

1.7 Multiple Float Paths

A prevailing feature in Primavera P6 that facilitates the calculation of a specific number of critical float path(s) based on the programme's total float or free float.

1.8 Out-of-Sequence Activities

The Out of Sequence activities (illustrated in <u>Table 3 Out of Sequence Cases</u>) are the ones that have been progressed without sticking to the original sequence intended within the baseline programme.

There are 4 typical cases that are commonly named as "Out of Sequence" activities that have been further clarified in section (5) "*Solving the Out-of-Sequence Activities*" hereunder.

1.9 Invalid Relationships

Occur when:

- A Start Milestone Activity is linked with its successors by a Finish-to-Start [FS] relationship.
- A Finish Milestone Activity is linked with its predecessors by a Finish-to-Start [FS] relationship.

Such invalid relationships can be found under the "Warnings" section within the schedule log in Primavera P6.

1.10 Dissolve an Activity

This Primavera P6 feature can be used to remove an activity but still link its predecessors to its successors, in order to maintain the continuity of the schedule's logic. But such activity must have at least one predecessor and one successor.

Dissolving a group of activities simultaneously is not available in Primavera P6.

Be careful with the dissolve feature as it may breads confusion, it works efficiently with Finish-to-Start [FS] relationships, but make sure to verify the logic with other relationships.

1.11 Delete an Activity

This Primavera P6 feature can be used to remove a certain activity or a group of activities simultaneously along with their relationships.

1.12 Global Change

A prevailing feature in Primavera P6 that facilitates adjusting the schedule aspects (i.e., Activities, Activities Resources Assignments, Project Expenses) with a few clicks only.

1.13 User Defined Fields [UDF]s

The User Defined Fields, or the [UDF]s feature, enable planning engineers to assign custom fields and data for the project's various aspects (i.e., Projects, WBS, Activities, Resources, Activities Resources Assignments, ... etc.).

2 Revised/ Recovery Programme Preparation Practical Steps

The below (i.e., **Figure 1 Revised/ Recovery Process Map**) Revised/ Recovery process map illustrates the integration between the project departments that are involved in preparing such programme(s). This integration will be of high efficiency if the planning engineers focus on the inputs, tools and techniques implemented, and outputs as it facilitates collecting and analyzing the required/ received data whilst involving all the project teams and members.

The produced output is shared among all the project teams/ members in order to receive the final feedback and upon verification, the programme is submitted for approval to the Engineer.

Contracts [Departmen	It
-------------	-----------	----

Inputs

- Contract Clauses
- Contract Amendment(s)
- Time Control Procedures

Tools & Techniques

- Workshop meetings
- Primavera P6
- MS Excel

Outputs

-Cutoff date for the Respective **Revised Programme**

- Granted EOT (i.e., Revised Completion Date(s) for Milestone(s) and/ or Section(s))

- Revised Contract Price

- Project's Initial Revised Programme Including the New/ Revised Contractual Milestone(s) and/ or Section(s) accordingly

Technical Office/QS Departments

Inputs

- Engineering Logs (i.e., New Shop Drawings List, New Material Submittals, ... etc.)

- VOs Log
- Invoices Log

Tools & Techniques

- Workshop meetings
- Primavera P6
- MS Excel

Outputs

- New and/ or Revised Engineering Logs (i.e., Shop Drawings, Material Submittals)

- New and/ or Revised Engineering Documents (i.e., Shop Drawings, Material Submittals, ... etc.)

- Project's Updated Initial Revised Programme Including the New/ **Revised Scope, Revised Contract** Price

Procurement Department

Inputs

- Procurement Plan/ Logs (i.e., Purchase Orders, Fabricate and Delivery to Site Dates)

- Project's Updated Initial Revised Programme Including the New/ **Revised Scope, Revised Contract** Price

Tools & Techniques

- Workshop meetings
- Primavera P6
- MS Excel

Outputs

- Updated Procurement Plan/Logs
- Project's Updated Initial Revised Programme Including the New/ **Revised Scope Reflecting the** Updated Procurement Plan/Logs

Inputs

- New and/ or Revised Engineering Documents (i.e., Shop Drawings, Material Submittals, ... etc.)

- Project's Updated Initial Revised Programme Including the New/ **Revised Scope Reflecting the** Updated Procurement Plan/Logs

Tools & Techniques

- Workshop Meetings
- Mind Mapping
- and Important Drawings
- Primavera P6
- MS Excel

Outputs

- Construction Sequence and Methodology

- Overall Actual Site Status for the In-Progress Activities and their Forecasted Completion Dates (If Any) till the Workshop Meetings

- Project's Updated Initial Revised Programme Including the New/ **Revised Scope Reflecting the** Updated/ Forecasted Construction Sequence/ Methodology/ Dates

Operations Department (Construction Team, Quality Control [QC] Team)

- Methods of Statement

- Printed Drafts for Progress Layouts

2.1 Variation Orders [VO]s Implementation

The reason behind adjusting the Primavera P6 loaded cash is to match the contract's amendment value while preparing the relevant revised schedule. This adjustment is carried out through the following processes.

2.1.1 Variation Orders [VO]s Process

Variation Orders [VO]s are implemented into the contract through issuing the relevant Contract amendment(s) in order to adjust the total contract price accordingly.

VOs are the approved Notification of Changes [NOC]s, whereas the NOCs are considered as formal notifications issued by the contractor to the Employer/Engineer for a change order to either the project technical specifications or the relevant Issued for Construction [IFC] drawings.

The following flow chart depicts the VOs process mapping:



Figure 2 VOs Process Mapping

The contract's amendment value must take into account all the VOs that are issued, signed and approved by all project parties till such amendment's cutoff date and this must also be reflected within the Primavera, up and till the cutoff date for the respective Revised programme.

The table below depicts a sample of the relevant VOs.

Project Name – VOs Log

Contract Value	Х
Total VOs Value	0.07X
Adjusted Contract Value	1.07X

Item	VO no.	NOC no.	NOC Subject	VO amount	Adjusted Contract Sum after VO
01	VO.01	NOC-XXXXXXXX	Omitting	-0.06X	0.94X
02	VO.02	NOC-XXXXXXXX	Adding	0.08X	1.02X
03	VO.03 NOC-XXXXXXXX		Changing	0.05X	1.07X
		Total	0.07X	1.07X	

Table 2 Sample of Project's VOs Log

2.1.2 VOs Classification

The Project VOs' may include a change in type, specifications, a change in material or the construction methodology, which may include the following:

•	Change in Type	such as changing the flooring finishing type from ceramic to marble, changing the foundation system from shallow foundations to deep foundations, etc.
•	Change in Specification	such as changing the dimensions of HDF flooring tiles used, changing reinforced concrete strength, etc.
•	Change in Construction Methodology	such as changing the marble cladding installations from the conventional method (i.e., Mortar) to a modern one (i.e., mechanical fixation), etc.
He	ence, the VOs can be classified into:	

2.1.2.1 Addition VOs

Adding new scope of works to the contractor's original scope (e.g., adding new elements to the original design, changing material to be of higher quality/ specifications, ... etc.).

2.1.2.2 Omission VOs

Omitting/Cancelling a portion of the contractor's original scope.

2.1.2.3 Addition/ Omission VOs

Replacing (i.e., adding and omitting) items in the same time to take into account the changes occurred as a consequence of the new design received.

2.1.3 Implementation of the VOs on Project's Revised Schedule

The VOs are implemented into the project's revised schedule to accommodate the amended contract price, which is carried out through the following steps:

2.1.3.1 Addition Scope

- Add the new scope activities to the revised schedule underneath the relevant Work Breakdown Structure [WBS],
- Link these activities in a manner to reflect the anticipated sequence of such works on site,
- Allocate the relevant cost/material and labor units for these activities, and finally, assign the respective codes and calendar(s).

2.1.3.2 Omission Scope

 Dissolve/Delete the activities that reflect the omitted scope and adjust the effected relationships accordingly (if any).

2.1.3.3 Change the Type

- Rename the relevant activities, adjust the original durations, budgeted cost and relationships (if any),
- Change the assigned resources (i.e., material, labor and non-labor) to reflect the new scope.

2.1.3.4 Change the Specification

 Adjust activities' budgeted cost, assigned resources (i.e., material, labor and non-labor) and durations (if applicable).

2.1.3.5 Change the Construction Methodology

 Adjust the Activities' budgeted cost, assigned resources (i.e., material, labor and non-labor), original durations, and relationships (if any).

2.2 Duplicate the (In-Progress) Construction Activities

As previously mentioned, the In-Progress construction activities will be split, such is accomplished by carrying out the following steps:

2.2.1 Filter only the (In-Progress) Activities under the "Construction" WBS

2.2.2 Add the Three User Defined Fields

User Defined Fields	Close	
Activities	_	수 Add
✓ Display: User Defined Fields		X Delete
Title	⊂ Data Type	
[1]New Activity ID	Text	🕐 Help
[2]% Complete	Number	
[3]% Remaining	Number	

Figure 3 Added User Defined Fields

2.2.3 Fill the Previous User Defined Fields

Fill the following as follows:

- New Activity ID
- % Complete
- % Remaining

2.2.3.1 Fill in New Activity ID UDF

Adding a new Activity ID has several cases, the following figures and points depict how to tackle the obstacles encountered during adding a new Activity ID.

2.2.3.1.1 The Activity's ID Length is Less than or Equal to 18 Characters

If the Activity ID length is less than or equal to 18 characters, apply the following Global Change:



Figure 4 Global Change: [1] Store New Activity id's in Case Activity ID Length is Less than or Equal to 18 Characters – Step (01)



Figure 5 Result of Global Change: [1] Store New Activity id's in Case Activity ID Length is Less than or Equal to 18 Characters – Step (02)

2.2.3.1.2 The Activity's ID Length is Greater than 18 Characters

2.2.3.1.2.1 Case (01) - The Two Fixed Characters are at the Beginning of the Activity's ID If the two fixed characters are at the beginning of the Activity's ID, Apply the following Global Change.

elect S	ubject Area			GI	obal Change Na	ame		<u>0</u> K
Activitie	s	1	•	[[1] Store New Ad	ctivity ld's	0	<u>Cancel</u>
	Param	neter	Is	Value		High Value		
	(All of	the followin	g)				-	Change
	Where						4 5	Add
							×	Delete
							d	Cuţ
hen	Parameter	Is	Parameter/Valu	ie	Operator	Parameter/Value		Copy
	[1]New Activity	ID =	@C		å	RightString(Activity ID,18)		Paste
							,	▼
	Incometer	l.	I Deservation of the		lowerter		- 0	Help
1310	Parameter	15	Faraneter/valu	ic.	Operator	Parameter/value	_	

Figure 7 Global Change: [1] Store New Activity id's in Case Activity ID Length is More than 18 Characters – Case (01)



Figure 6 Result of Global Change: [1] Store New Activity id's in Case Activity ID Length is More than 18 Characters – Case (01)

2.2.3.1.2.2 Case (02) - The Two Fixed Characters are at the End of the Activity's ID If the fixed two characters at the end of Activity ID, Apply the following global change.



Figure 9 Global Change: [1] Store New Activity id's in Case Activity ID Length is More than 18 Characters – Case (02)

Activity ID	Field	Old Value	New Value
0040-00-UG-G-B31-ZB	New Activity Id		0040-00-UG-G-B31-Z@C
005R-00-UG-G-B31-ZB	New Activity Id		005R-00-UG-G-B31-Z@C
005S-00-UG-G-B31-ZB	New Activity Id		005S-00-UG-G-B31-Z@C

Figure 8 Result of Global Change: [1] Store New Activity id's in Case Activity ID Length is More than 18 Characters – Case (02)

2.2.3.2 Fill in the (% Complete) & the (% Remaining) UDFs

Select Subject Area				Global Change Name				<	<u>о</u> к	
Activities				[[2]-	Store % Comp	lete & % Remaining		0	Cancel	
lf	Par	ameter		ls	Value		High Value			
	(All	of the follo	wing)						E	Chang <u>e</u>
	wnere								÷	<u>A</u> dd
									×	<u>D</u> elete
								_	ø	Cu <u>t</u>
Then	Parameter		ls I	Parameter/Value		Operator	Parameter/Value		Ba	Сору
% Complete =		= /	Activity % Complete		1	100.00			0001	
And	% Remaining		=	1.00		-	% Complete		ß	Paste

Figure 10 Global Change: [2] Store % Complete & % Remaining User Defined Fields

Activity ID	Activity Name	Start	Finish	Total	New Activity Id	Activity %	% Complete	% Remaining
		,		Float		Complete		
0040-00-UG-G-B31-ZB	PC Footings Works - B31 - ZB	13-Jun-18 A	31-Jul-18	-36	0040-00-UG-G-B31-Z@C	60%	0.60	0.40
0040-00-UG-G-B31-Z@C	PC Footings Works - B31 - ZB	13-Jun-18 A	31-Jul-18	-36	0040-00-UG-G-B31-Z@C	60%	0.60	0.40
005S-00-UG-G-B31-ZB	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	12-Aug-18	-36	005S-00-UG-G-B31-Z@C	60%	0.60	0.40
005R-00-UG-G-B31-ZB	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	29-Aug-18	-36	005R-00-UG-G-B31-Z@C	60%	0.60	0.40
005S-00-UG-G-B31-Z@C	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	12-Aug-18	-36	005S-00-UG-G-B31-Z@C	60%	0.60	0.40
005R-00-UG-G-B31-Z@C	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	29-Aug-18	-36	005R-00-UG-G-B31-Z@C	60%	0.60	0.40

Figure 11 Result of Global Change: [2] Store % Complete & % Remaining User Defined Fields

2.2.4 Copy the In-Progress Construction Activities

In order to start copying the In-Progress activities, the following steps shall be carried out:

2.2.4.1 Set the Group and Sort as default

To set the Group and Sort as <u>default</u>, go to Group & Sort > Default > Ok

P6 Group and Sort			×				
Display Options						√	ок
Show Group Totals	s					0	Cancel
Show Summaries		Apply					
Shrink vertical groupin	×	Delete					
Group By							
Group By	Indent	To Level	Group Interval	Page Break	Font & Colo 🔺		Sort
					12 Aria		
					11 Aria		Default
					9 Aria		
					8 Aria	?	Help
<	S Aris						
Group By Options							
Hide if empty							
Sort bands alphabetica	ally						

Figure 12 Set Group and Sort as default

Activity ID	Activity Name	Start V	Finish	Total Float	New Activity Id	Activity % Complete	% Complete
0040-00-UG-G-B31-ZB	PC Footings Works - B31 - ZB	13-Jun-18 A	31-Jul-18	-36	0040-00-UG-G-B31-Z@C	60%	0.60
005S-00-UG-G-B31-ZB	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	12-Aug-18	-36	005S-00-UG-G-B31-Z@C	60%	0.60
005R-00-UG-G-B31-ZB	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	29-Aug-18	-36	005R-00-UG-G-B31-Z@C	60%	0.60

Figure 13 Activities Tab after Setting Group and Sort as Default

2.2.4.2 Copy and Paste the Filtered Activities

Copy and paste the filtered Activities per the shown figure.

Activity ID	Activity Name		Start 7	Finish		Total Float	New Activity Id	Activity % Complete	% Complete	
0040-00-UG-G-B31-ZB PC Footings Works - B31 - ZB 13-Jun-			13-Jun-18 A	31-Jul-18		-36	0040-00-UG-G-B31-Z@C	60%	0.60	
005S-00-UG-G-B31-ZB	Shuttering Works - Raft - B31 - ZB	}	17-Jun-18 A	12-Aug-18		-36	005S-00-UG-G-B31-Z@C	60%	0.60	
005R-00-UG-G-B31-ZB	Reinforcement Works - Raft - B31	- ZB	17-Jun-18 A	29-Aug-18		-36	005R-00-UG-G-B31-Z@C	60%	0.60	
Copy Activity O Specify the Act Resource C Assign Relationsh C Relationsh C Expenses	ptions wity information to be copied & Role Assignments ment Codes lps tween copied activities	 ✓ Notebook ✓ Steps ✓ Financial ✓ WPs & Do ✓ WPs & Do ✓ Risks 	Period Data		 ✓ Ø ⑦ 	OK Cano Hel	X I Isel			
Activity Co	des									_

Figure 14 Copy and Paste In-Progress Activities

A "Renumber Activity IDs" will appear as the following figure

Renumber Activity IDs				×
C Increment Activity ID base	d on selected activities		1	ОК
			0	Cancel
Auto-number			(?)	Help
Prefix X	Suffix 10000	Increment Value		
C Replace beginning charac	ters	,		
Number of characters	Replace with			
3	FL2			
Do not show this dialog ag	ain.			

Figure 15 Renumber Activity IDs for copied In-Progress Activities

Finally, the following result shall be obtained:

Activity ID	Activity Name	Start ⊽	Finish	Total Float	New Activity Id	Activity % Complete	% Complete
0040-00-UG-G-B31-ZB	PC Footings Works - B31 - ZB	13-Jun-18 A	31-Jul-18	-36	0040-00-UG-G-B31-Z@C	60%	0.60
X10000	PC Footings Works - B31 - ZB	13-Jun-18 A	31-Jul-18	-36	0040-00-UG-G-B31-Z@C	60%	0.60
005S-00-UG-G-B31-ZB	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	12-Aug-18	-36	005S-00-UG-G-B31-Z@C	60%	0.60
005R-00-UG-G-B31-ZB	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	29-Aug-18	-36	005R-00-UG-G-B31-Z@C	60%	0.60
X10010	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	12-Aug-18	-36	005S-00-UG-G-B31-Z@C	60%	0.60
X10020	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	29-Aug-18	-36	005R-00-UG-G-B31-Z@C	60%	0.60

Figure 16 Result after Copying In-Progress Activities

2.2.4.3 Change the Activity IDs for the Newly Copied Activities

Use the said Global Change (i.e., Apply New Activity ID in the attached files) in order to ensure that the split activities IDs are equal to new Activity IDs as shown below:

Select S	Subject Area	i			Globa	al Change Na	me		√	<u>о</u> к
Activiti	es		-		[3]-A	pply New Ac	tivity ID		0	Cancel
lf		Parameter		ls	Value		High Value		-	_
Ξ		(All of the foll	owing)						B	Change
	Where	Activity ID		contains	X100				-	
									÷	<u>A</u> dd
									×	<u>D</u> elete
								_	ø	Cu <u>t</u>
Then	Parame	ter	ls l	Parameter/Value		Operator	Parameter/Value		Ba	Copy
	Activity	ID	= 1	New Activity Id						
										Paste

Figure 17 Global Change: [3] Apply New Activity ID

Field	Old Value	New Value
Activity ID	 X10000	 0040-00-UG-G-B31-Z@C
Activity ID	X10020	005R-00-UG-G-B31-Z@C
Activity ID	X10010	005S-00-UG-G-B31-Z@C
Eiguro 18 Posult of Global (Change: [2] Apply New Activity ID	

Figure 18 Result of Global Change: [3] Apply New Activity ID

2.2.4.4 Adjust the Assigned Units [Labor, Material, and Non-Labor]

The following figure depicts the assigned units before applying the Global Change for adjusting the assigned Units (i.e., [4]- Split Budgeted Units in the attached file).

Earned Value
Cost
370,500.00
370,500.00
1,197,000.00
2,633,400.00
1,197,000.00
2,633,400.00

Figure 19 Activities Layout depicting the duplication of total Budget/ Unit

Apply the following Global Change (i.e., Split the Budgeted Units in the attached files)

Select Su	biect Area				Globa	al Change N	ame			ок
Activity Bocourse Assistance to							-	-		
ACTIVITY	Resource Assignments	•	1	[4] Spin Dudgeted offica			0	Cancel		
F	Parameter		ls		Value		High Val	ue		
]	(All of the fol	lowing))						-	Change
	Where Activity ID		contai	ns	@C					
									÷	<u>A</u> dd
									×	<u>D</u> elete
									le	Cut
										Cul
hen	Parameter		ls	Parameter/	Value		Operator	Parameter/Value	= <u>%</u>	Conv
hen	Parameter Budgeted Labor Units		ls =	Parameter/ Budgeted L	Value .abor Units		Operator *	Parameter/Value % Complete	- 0 0	Со <u>г</u> Сор <u>у</u>
hen And	Parameter Budgeted Labor Units Budgeted Material Unit	s	S = =	Parameter/ Budgeted L Budgeted M	Value .abor Units /laterial Units		Operator * *	Parameter/Value % Complete % Complete		Cop <u>y</u> Paste
hen And And	Parameter Budgeted Labor Units Budgeted Material Unit Budgeted Nonlabor Un	s	S = = =	Parameter/ Budgeted L Budgeted N Budgeted N	Value .abor Units /aterial Units lonlabor Units	3	Operator * *	Parameter/Value % Complete % Complete % Complete		Cop <u>y</u> Paste
hen And And	Parameter Budgeted Labor Units Budgeted Material Unit Budgeted Nonlabor Un	s	S = = =	Parameter/ Budgeted L Budgeted M Budgeted N	Value .abor Units Material Units Nonlabor Units	\$	Operator * *	Parameter/Value % Complete % Complete % Complete		Copy Paste
hen And And	Parameter Budgeted Labor Units Budgeted Material Unit Budgeted Nonlabor Un	s	S = = =	Parameter/ Budgeted L Budgeted N Budgeted N	Value .abor Units /aterial Units Ionlabor Units	S	Operator * *	Parameter/Value % Complete % Complete % Complete		Copy Paste
hen And And	Parameter Budgeted Labor Units Budgeted Material Unit Budgeted Nonlabor Un	s its	Paramete	Parameter/ Budgeted L Budgeted N Budgeted N	Value .abor Units Material Units Ionlabor Units	s Operator	Operator * * Paramete	Parameter/Value % Complete % Complete % Complete >	 a₀ i₀ i₀	Copy Paste
Then And And C	Parameter Budgeted Labor Units Budgeted Material Unit Budgeted Nonlabor Un Parameter Budgeted Labor Units	s its ls =	Paramete Budgetec	Parameter/ Budgeted L Budgeted N Budgeted N	Value .abor Units Material Units Ionlabor Units	s Operator *	Operator * * Paramete % Remain	Parameter/Value % Complete % Complete % Complete >		Copy Paste
Then And And c	Parameter Budgeted Labor Units Budgeted Material Unit Budgeted Nonlabor Un Parameter Budgeted Labor Units Budgeted Material Unit	s its ls =	Paramete Budgetec Budgetec	Parameter/ Budgeted L Budgeted N Budgeted N r/Value Labor Units	Value .abor Units .aterial Units .conlabor Units	S Operator * *	Operator * * * * * * Paramete % Remain % Remain	Parameter/Value % Complete % Complete % Complete % Complete		Cuy Copy Paste

Figure 20 Global Change: [4] Split Budgeted Units

The following result will be obtained after applying the Global Change:

Activity ID	Activity Name	Start	Finish	Total	Activity %	Budgeted Total	Earned Value
	7			Float	Complete	Cost	Cost
0040-00-UG-G-B31-ZB	PC Footings Works - B31 - ZB	13-Jun-18 A	31-Jul-18	-36	60%	247,000.00	148,200.00
0040-00-UG-G-B31-Z@C	PC Footings Works - B31 - ZB	13-Jun-18 A	31-Jul-18	-36	60%	370,500.00	222,300.00
005R-00-UG-G-B31-ZB	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	29-Aug-18	-36	60%	1,755,600.00	1,053,360.00
005R-00-UG-G-B31-Z@C	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	29-Aug-18	-36	60%	2,633,400.00	1,580,040.00
005S-00-UG-G-B31-ZB	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	12-Aug-18	-36	60%	798,000.00	478,800.00
005S-00-UG-G-B31-Z@C	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	12-Aug-18	-36	60%	1,197,000.00	718,200.00

Figure 21 Result of Global Change: [4] Split Budgeted Units

2.3 Change the Status for the Old Activities to be Completed

2.3.1 Filter the First Part of the In-Progress Activities

To filter the first part of the In-Progress activities, filter by the Activity IDs that contain "@C") as shown below:

P6 Filter					ш)	
Filter Name	Completed @				1	ок
Display: Filte	r				0	Cancel
Display all rows	Parameter	ls	Value	High Value		1
	(All of the followin	ig)		22	45	Add
Where	Activity ID	contains	@C			
					×	Delete
					d	Cut
						Сору
					6	Paste
						*
					•	Help
<					>	

Figure 22 Filter the first part of In-Progress Activities

2.3.2 Set First Part (i.e., Activities that contain "@c") to be Completed

This step is accomplished through adding the actual finish date (i.e., Data Date [DD]) using fill down option (CTRL+E).

Activity ID	Activity Name	Start	Actual Finish	
	N N			
0040-00-UG-G-B31-Z@C	PC Footings Works - B31 - ZB	13-Jun-18 A	18-Jun-18	
005R-00-UG-G-B31-Z@C	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A	18-Jun-18	
005S-00-UG-G-B31-Z@C	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A	18-Jun-18	

Figure 23 Set the Actual Finish Date for first part of In-Progress Activities equal Data Date

2.4 Change the Newly Copied Activities Status

Changing the Newly Copied activities status to be (Not Started) is done through the following steps:

2.4.1 Filter the Second Part of the In-Progress Construction Activities

To filter the Second part of the In-Progress activities, filter by the Activity Status to be (Not started)] as shown below:

P6 Fil	ter					_		×
Filter N	ame	In-progress Construction A	Activities			√	ок	:
🗢 Dis	splay: Filte	r				0	Cano	el
Display	all rows	Parameter	ls	Value	High Value	_		
		(All of the following)				45	Ade	4
	Where	WBS	is under	NB-NC.9				-
	And	Activity Status	equals	In Progress		×	Dele	te
						ø	Cut	t
						8	Сор	у

Figure 24 Filter by the second part of the In-Progress Activities

The following figure depicts the activity status before applying the said filter:

Activity ID	Activity Name	Start	Actual Finish	Activity % Complete
0040-00-UG-G-B31-ZB	PC Footings Works - B31 - ZB	13-Jun-18 A		60%
005R-00-UG-G-B31-ZB	Reinforcement Works - Raft - B31 - ZB	17-Jun-18 A		60%
005S-00-UG-G-B31-ZB	Shuttering Works - Raft - B31 - ZB	17-Jun-18 A		60%

Figure 25 The Activity Status Before Applying the Said Filter

The shown activities will be changed from (In-Progress) to (Not Started) by using Global Change in the following step to remove the actuals:

2.4.2 Apply the Highlighted Global Changes [i.e.,]in order

Apply the highlighted Global Changes in the below figure (i.e., De-Status Global Changes):

P6 Global Change		×
Name	E	Close
[1] Store New Activity Id's	_	
[2] Store % Complete & % Remaining		Apply Change
[3] Apply New Activity ID	д	New
[4] Split Budgeted Units	~	<u>IN</u> EW
[5-1] DeStatus Remove Actual Material	×	Delete
[5-2] DeStatus Remove Actual Labor	_	
[5-3] DeStatus Remove Actual Non-labor		Modify
[5-4] DeStatus Remove Actual Dates	Ba	Conv
[6-1] Make OD = AC + RD	43	COPY
[6-2] Planned Start = Actual Start		Paste
[6-3] Planned Finish = Actual Finish		
		Import
	Ŷ	<u>E</u> xport
	?	<u>H</u> elp

Figure 26 Global Change: [5] DeStatus Activities

P6 Modif	fy Global (Change									×
Select Su	bject Area				G	lobal Change N	ame		1	<u>0</u> k	:
Activity F	Resource /	Assignments	•		[5	5-1] DeStatus R	temove Actual Material		0	Can	cel
If		Parameter		ls	Value		High Value		-	-	
-		(All of the fol	lowing)	Value		nigh valao		-	Char	ige
	Where	Resource Typ	pe	equals	Materia	l					
									÷	Ad	d
									×	Dele	te
									ĸ	Cu	ţ
Then	Paramete	er	ls	Parameter/Value		Operator	Parameter/Value		Ba	Cop	Y
	Actual M	laterial Units	=	0.00							
										Pas	te
									•	*	•
<								>	-		
Else	Paramete	er	ls	Parameter/Value		Operator	Parameter/Value	_	(?)	<u>H</u> el	p
<								>			

Figure 27 Global Change: [5-1] DeStatus Remove Actual Material

P6 Modif	y Global (Change							_		×
Select Sul	bject Area				Glot	bal Change Na	ime		√	<u>о</u> к	
Activity R	Resource /	Assignments	-		[5-2	2] DeStatus Re	emove Actual Labor		0	Canc	el
If		Parameter		ls	Value		High Value		-		
		(All of the foll	owing)		Tuide		ingir value		-	Chano	e
	Where	Resource Typ	e	equals	Labor					-	
									-\$-	<u>A</u> dd	
									×	<u>D</u> elet	е
									ъ	Cuţ	
Then	Paramete	er	ls l	Parameter/Value		Operator	Parameter/Value		Ba	Copy	,
	Actual R	egular Labor I	= (Dh							-
And	Actual O	vertime Labor	= ()h				_		<u>P</u> aste	e
And	Actual R	egular Cost	= (0.00				_			
And	Actual O	vertime cost	- (- 1		-	
<								>			
	1					1	1		?	<u>H</u> elp	
Else	Paramete	er	ls l	Parameter/Value		Operator	Parameter/Value				
<								>			

Figure 29 Global Change: [5-2] DeStatus Remove Actual Labor

P6 Modif	y Global (Change									×
Select Sul	bject Area			_	Glob	al Change Na	ime		1	<u>0</u> K	:
Activity F	lesource /	Assignments	•]	[5-3] DeStatus Re	emove Actual Non-labor		0	Can	cel
If		Parameter		ls	Value		High Value			_	
-		(All of the foll	owing)					-	Chan	ae
	Where	Resource Typ	e	equals	Nonlabor					onan	92
								·	÷	<u>A</u> d	d
									×	<u>D</u> ele	te
									ď	Cu	ţ
Then	Paramete	er	ls	Parameter/Value		Operator	Parameter/Value		Bbs	Con	
	Actual R	egular NonLat	=	0h					43	000	1
And	Actual O	vertime NonLa	=	Oh				_		Pas	te
And	Actual R	egular Cost	=	0.00				_	_		
And	Actual O	vertime Cost	=	0.00						-	
<								>	~		
Else	Paramete	er	ls	Parameter/Value		Operator	Parameter/Value		(2)	<u>H</u> el	p
<								>			

Figure 28 Change: [5-3] DeStatus Remove Actual Non-Labor

P6 Mod	ify Global	Change						-	_		Х
Select S	ubject Area			-	Glob	al Change Na	ime		<	<u>о</u> к	
Activitie	s		-		[5-4] DeStatus Re	emove Actual Dates		0	<u>C</u> ance	el
lf		Parameter		ls	Value		High Value				
	Whore	(All of the fol	lowing)	Net Cleare	4				Chang	e
	where	Activity Statu	is	is not equal to	NOT Starte	a			÷	<u>A</u> dd	
									×	<u>D</u> elet	e
									ĸ	Cuţ	
Then	Paramete	er	ls	Parameter/Value		Operator	Parameter/Value	_	E2	Сору	
	Activity	Status	=	Not Started				-	.	Paste	
										Last	·
									-	* *	
<								>			
Else	Paramete	er	ls	Parameter/Value		Operator	Parameter/Value		(?)	<u>H</u> elp	
							1				
<						_		>			

Figure 30 Change: [5-4] DeStatus Remove Actual Dates

The following results will be obtained after applying the said global changes:

Activi	ty ID	Activity Name	Actual Start	Actual Finish	Activity % Complete
	0040-00-UG-G-B31-ZB	PC Footings Works - B31 - ZB			0%
	005S-00-UG-G-B31-ZB	Shuttering Works - Raft - B31 - ZB			0%
	005R-00-UG-G-B31-ZB	Reinforcement Works - Raft - B31 - ZB			0%

Figure 31 Result of Global Change: [5] DeStatus Activities

Note: After applying the previous steps hereinabove, the following will be found:

- 1. No construction In-Progress activities.
- 2. No cost variance.

Then, any residual Out-of-Sequence activities (if any) should be solved as illustrated in the following step.

2.5 Solving the Out-of-Sequence Activities

There are four cases of Out-of-Sequence activities as illustrated within the following table:

Case #	Relationship Type	Predecessor Status	Successor Status	Suggested Solution(s)
Case 1	FS or SS	Not Started	In Progress	 There are two options: Change the relationship to (SS) and invert the successor to be the predecessor. or change the relationships to be (SS) + (FF) (in case of Hard logic) and invert the successor to be the predecessor.
Case 2	FS or SS	Not Started	Completed	 This case occurs in case of invalid relationships or improper update(s), thus, the suggested solutions for these cases are: 1. In case of invalid relationships, remove these invalid relationships and add new ones (if needed). 2. In case of improper update(s), adjust this update(s) and proceed accordingly.
Case 3	FS or FF	In Progress	Completed	Change the relationship to (SS) and Invert the Successor to be the Predecessor, and add a new one (if needed).
Case 4	FS	In Progress	In Progress	Change the relationship to (SS)

Table 3 Out of Sequence Cases¹

¹ The suggested solutions hereinabove to solve the Out-of-Sequence activities can be implemented either using Primavera or Microsoft Excel.

2.6 Reduce the Relationships Redundancy²

In order to reduce the relationships redundancy, remove the (Successor) relationships for all activities that contain "@C" (i.e., the completed activities as per step no.2.3) and set their new (Successors) to be the newly add ones (i.e., the Not-Started activities as per step no.2.4), such is done through the following steps:

² This optional step only aims to reduce the relationships redundancy by removing the unnecessary ones.

2.6.1 Export the Spreadsheet for Activities and Relationships

Ex	port
I	Export Type
	Select the type of data to export.
	Activity Relationships

Figure 33 Export Activities & Activity Relationships Spreadsheet

P6 Modify Template		- 🗆 ×
Modify Template Template Name [New_1 Subject Area Activity Relati Columns Filter Sort] ✓ Available Options O Dates Durations General Multiple Float Paths ♥ Percent Completes	Selected Options Predecessor Successor Activity Status Predecessor Activity Status Predecessor Activity Name Successor Activity Name Lag	 → OK ⊘ Cancel Q Cancel Q Cancel Q Delete Q Paste Q Modify ▶ Defaut (③ Hep

Figure 34 Exported Columns for Relationships Spreadsheet

P6 Modify Template		-	_	o x
Template Name New_1 Subject Area Activities Columns Filter Sort	×]	 <th>OK Cancel Add</th>	OK Cancel Add
Available Options Activity Codes - Clobal Activity Codes - Project Activity Steps Costs Dates Durations Eamed Value Feedback General Lists Nutriple Flost Paths Nutriple Flost Paths Purcent Completes Units	Selected Options New Activity Id Activity D Activity D WISS Code Activity Name	•		Copy Paste Modify Default Help
User Defined				

Figure 32 Exported Columns for Activities Spreadsheet

2.6.2 Remove the Existing Successors for the Activities that contain "@C"

Filter the Activities that contain "@C" in the Predecessor column – TASKPRED tab to remove their Successors as follows:

8 5°	Q ≞					NB-NC	[Read-Only] - Excel			Sign in 🖬	ı —	o x
File Ho	me Inse	rt Page	Layout Form	ulas	Data Review \	/iew Developer	Help Power Pivot	Q Tell me what yo	ou want to do			🖻 Share
Paste 🗳 Clipboard f	Calibri B I	~ ∐ ~ ⊞ ~ Font	11 ~ A A A ~ A	= =	E ≫ · >¶ · E E E E Alignment	ولي Wrap Text Merge & Center ب	General	Conditional Format a Formatting ~ Table ~ Styles	as Cell Styles ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	te Format s Label{eq:state} S	m ~ AZY Sort & Filter ~	Find & Select ~
125713	* : >	< v 1	Earthing W	'orks - Tr	ansformer Room - 1st	stage - B31 - ZB						~
A	в	с	D		E	F	G	н	I.	J	к	L
1 pred_ta	ask task_id	pred_typ	e PREDTASKsta	tus_co 1	ASKstatus_code	predtask_projwbs_	task_projwbs_wbs_	predtask_task_name	tasktask_name	lag_hr_cnt	delete_red	ord_flag
2 Predec	J Success	 Relatio 	(*)Predecessor	Acti 🔻 (*)Successor Activit 🔻	(*)Predecessor WB	(*)Successor WBS 💌	(*)Predecessor Acti 🔻	(*)Successor Activit 🔻	Lag(d) 👻	Delete 💌 i	s Row
25707 0040-00)-U 005S-00-	UFS	Completed		Completed	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.5 Founda	PC Footings Works - B	Shuttering Works - Ra	0	d	
25708 0055-00)-U 005R-00-	-U FS	Completed		Completed	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.5 Foundation	Shuttering Works - Ra	Reinforcement Works	0	d	
25709 005R-00)-U 005C-00-	UFS	Completed	ſ	Not Started	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.5 Founda	Reinforcement Works	Concrete Casting - Raf	0	d	
25711 005R-00)-U 1100-00-	IN SS	Completed	r i	Not Started	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.6.6.5.2.1	Reinforcement Works	Earthing Works - Medi	0	d	
25712 005R-00)-U 1120-00-	IN SS	Completed	1	Not Started	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.6.6.5.2.2	Reinforcement Works	Earthing Works - Low (0	d	
25713 005R-00)-U 1140-00-	IN SS	Completed	l l	Not Started	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.6.6.5.2.3	Reinforcement Works	Earthing Works - Trans	б	d	
25714 005R-00)-U 1160-00-	INSS	Completed	1	Not Started	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.6.6.5.2.4	Reinforcement Works	Earthing Works - Gene	0	d	
25715 005R-00	D-U 1180-00-	IN SS	Completed	1	Not Started	NB-NC.9.2.12.5 Found	NB-NC.9.2.12.6.6.5.2.5	Reinforcement Works	Earthing Works - Com	0	d	
25720												
25721												
25722												
25723												
25724												
25725												
25726												
25727												
25728												
25729												
25730												
25731										Activate Windo	NC	
25722										Co to Sottings to act	vv 3	
\leftarrow \rightarrow	TASK	TASKPREE	USERDATA	(Ð					ou to settings to act	wate wind	₩S.
Ready Filter	Node 🛅									▦ ▣ 罒	- I	

Figure 35 Adding letter "d" to remove successors for completed activities (i.e., First Part)

Clear all filters and then, filter column (K) to be equal to (Blanks) (i.e., rows that don't include the "d" letter) and delete these rows as follows:

[El り・	୯ - ₹				NB-N	C [Read-Only] - Excel				Sigr	n in 🖬	-	٥	×
F	ile Ha	me Ins	ert Page I	Layout Formulas	Data Review	View Developer	Help Power Pivot	Q Tell m	e what you want to	do				🖻 Sh	are
E P	X [] ~ aste ✓	Calibri B I		11 → A [*] A [*] =	= = ≫ • × • • = = = =	ab Wrap Text ⊡ Merge & Center ~	General \$ ~ % 9 58 -	Conditiona Formatting	Format as Cell	Insert Dele	te Format	∑ AutoSum ↓ Fill ~ ♦ Clear ~	° AZ Z∇ Sort & Filter ~	Find & Select ~	
C	ipboard	5	Font	rs.	Alignmei	nt 5	Number	rs.	Styles	Cell	s	E	diting		~
A	3	•	$\times \checkmark f_s$	A1000											۷
	А	В	С	D	E	F	G	н	1		J		к	L	
1	pred_tas	k task_id	pred_type PF	REDTASKstatus_co	TASKstatus_code	predtask_projwbs_v	task_projwbs_wbs_	predtask_task	_name_tasktask_	name la	g_hr_cnt	dele	ete_recor	d_flag	
2	Predec *	Success -	Relatio 👻 (*)Predecessor Acti 🔻	(*)Successor Activit 👻	(*)Predecessor WBS -	(*)Successor WBS	(*)Predecessor	Acti - (*)Successo	r Activit 💌 La	g(d)	▼ Dele	ete 🗐 s R	low	
3	A1000	A25170	FS N	ot Started	Not Started	NB-NC.7.1.4.17.2 Foun	NB-NC.7.1.4.1.2 Found	Str - Concrete D	imensi Str - Concre	te Dimensi 0					
4	A1010	A25180	FS N	ot Started	Not Started	NB-NC.7.1.4.17.2 Foun	NB-NC.7.1.4.1.2 Found	Str - Concrete D	imensi Str - Concre	te Dimensi 0					
5	A1020	A25190	FS N	ot Started	Not Started	NB-NC.7.1.4.17.1 Gene	NB-NC.7.1.4.1.1 Gener	Str - RFT Details	and Pr Str - RFT De	tails and Pr0					
6	A1030	A25200	FS N	ot Started	Not Started	NB-NC.7.1.4.17.1 Gene	NB-NC.7.1.4.1.1 Gener	Str - RFT Details	and Pr Str - RFT De	tails and Pr 0					
7	A1040	A25210	FS N	ot Started	Not Started	NB-NC.7.1.4.17.2 Foun	NB-NC.7.1.4.1.2 Found	Str - RFT Details	- Raft - Str - RFT De	tails - Raft · O					
8	A1050	A25220	FS N	ot Started	Not Started	NB-NC.7.1.4.17.3 Base	NB-NC.7.1.4.1.3 Basem	Str - Axes layou	t - Colu Str - Axes la	yout - Colu 0					
9	A1060	A25230	FS N	ot Started	Not Started	NB-NC.7.1.4.17.3 Base	NB-NC.7.1.4.1.3 Basem	Str - RFT Details	and Pr Str - RFT De	tails and Pr0					
10	A1070	A25240	FS N	ot Started	Not Started	NB-NC.7.1.4.17.3 Base	NB-NC.7.1.4.1.3 Basem	Str - Concrete D	imensi Str - Concre	te Dimensi 0					
11	A1080	A25250	FS N	ot Started	Not Started	NB-NC.7.1.4.17.3 Base	NB-NC.7.1.4.1.3 Basem	Str - RFT Details	- Slab Str - RFT De	tails - Slab 0					
12	A1090	A25260	FS N	ot Started	Not Started	NB-NC.7.1.4.17.4 Base	NB-NC.7.1.4.1.4 Basem	Str - Axes layou	t - Colu Str - Axes la	yout - Colu0					
13	A1100	A25270	FS N	ot Started	Not Started	NB-NC.7.1.4.17.4 Base	NB-NC.7.1.4.1.4 Basem	Str - RFT Details	and Pr Str - RFT De	tails and Pr 0					
14	A1110	A25280	FS N	ot Started	Not Started	NB-NC.7.1.4.17.4 Base	NB-NC.7.1.4.1.4 Basem	Str - Concrete D	imensi Str - Concre	te Dimensi 0					
15	A1120	A25290	FS N	ot Started	Not Started	NB-NC.7.1.4.17.4 Base	NB-NC.7.1.4.1.4 Basem	Str - RFT Details	- Slab Str - RFT De	tails - Slab 0					
16	A1130	A25300	FS N	ot Started	Not Started	NB-NC.7.1.4.17.5 Grou	NB-NC.7.1.4.1.5 Groun	Str - Axes layou	t - Colu Str - Axes la	yout - Colu0					
17	A1140	A25310	FS N	ot Started	Not Started	NB-NC.7.1.4.17.5 Grou	NB-NC.7.1.4.1.5 Groun	Str - RFT Details	and Pr Str - RFT De	tails and Pr0					
18	A1150	A25320	FS N	ot Started	Not Started	NB-NC.7.1.4.17.5 Grou	NB-NC.7.1.4.1.5 Groun	Str - Concrete D	imensi Str - Concre	te Dimensi 0					
19	A1160	A25330	FS N	ot Started	Not Started	NB-NC.7.1.4.17.5 Grou	NB-NC.7.1.4.1.5 Groun	Str - RFT Details	- Slab Str - RFT De	tails - Slab 0					
20	A1170	A25340	FS N	ot Started	Not Started	NB-NC.7.1.4.17.6 Mezz	NB-NC.7.1.4.1.6 Mezza	Str - Axes layou	t - Colu Str - Axes la	yout - Colu0					
21	A1180	A25350	FS N	ot Started	Not Started	NB-NC.7.1.4.17.6 Mezz	NB-NC.7.1.4.1.6 Mezza	Str - RFT Details	and Pr Str - RFT De	tails and Pr 0					
22	A1190	A25360	FS N	ot Started	Not Started	NB-NC.7.1.4.17.6 Mezz	NB-NC.7.1.4.1.6 Mezza	Str - Concrete D	imensi Str - Concre	te Dimensi 0					
22	A1200	A 25270		at Startad	Not Started	ND NC 71 / 176 Mozz	ND NC 71416 M0770	Str. DET Dotaile	Clab Str DET Do	taile Slab 0	Go to Setti				
	4	TASK	TASKPRED	USERDATA	+			: 4							
Rea	ady 25709	of 25717 red	ords found	0					Co	unt: 282799	H	巴		+	100%

Figure 36 Filter by blank rows (i.e., rows don't contain letter "d")

In the "TASK" tab, Apply the following two filters:

- i) Filter column D (i.e., New Activity ID Column [UFD]) to contain "@c".
- ii) Filter column A (i.e., Activity ID Column) to doesn't contain "@c".

The following result will be shown:

				el	- IIII - I
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A B	С	D	E	F	G
1 task_code 🛛 🛪 status_code 👻 wł	bs_id 💌	user_field_187 🦪	delete_record_flag 💌		
2 Activity ID Activity Status W	BS Code	New Activity Id	Delete This Row		
6756 0040-00-UG-G-B31-ZB Not Started NE	B-NC.9.2.12.5	0040-00-UG-G-B31-Z@C			
6757 005S-00-UG-G-B31-ZB Not Started NE	B-NC.9.2.12.5	005S-00-UG-G-B31-Z@C			
6758 005R-00-UG-G-B31-ZB Not Started NE	B-NC.9.2.12.5	005R-00-UG-G-B31-Z@C			
8157					
8158					
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9171					
8172					
8173					
TASK TASKPRED USERD	ATA (+)			: 1	
Ready 4 of 8155 records found 10	0				

Figure 37 Predecessor and Successor IDs

Copy predecessor & successors ids and paste them in "TASKPRED" tab, as follows:

	А	В	С	D	E		F	G		н	I.	J	К	L	
1	pred_task	task_id	pred_type	PREDTASKstatus_co	TASKstatus_code	predtask_	projwbs	task_projwbs	wbs	predtask_task_name	task_task_name	lag_hr_cnt	delete_red	ord_flag	
2	Predec 💌	Success 🔻	Relatio 🔻	(*)Predecessor Acti 💌	(*)Successor Activit 🔻	(*)Predec	essor WB	(*)Successor W	BS 💌	(*)Predecessor Acti 💌	(*)Successor Activit 👻	Lag(d)	Delete 💌	s Row	
3	0040-00-0	J 005S-00-L	J FS	Completed	Completed	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.5	Found	PC Footings Works - B	Shuttering Works - Raf	0	d		
4	005S-00-U	J 005R-00-L	JFS	Completed	Completed	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.5	Found	Shuttering Works - Rat	Reinforcement Works	0	d		
5	005R-00-U	J 005C-00-L	JFS	Completed	Not Started	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.5	Found	Reinforcement Works	Concrete Casting - Raf	0	d		
6	005R-00-U	J 1100-00-I	SS	Completed	Not Started	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.6	.6.5.2.1	Reinforcement Works	Earthing Works - Medi	0	d		
7	005R-00-U	J 1120-00-I	SS	Completed	Not Started	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.6	.6.5.2.2	Reinforcement Works	Earthing Works - Low 0	0	d		
8	005R-00-U	J 1140-00-I	SS	Completed	Not Started	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.6	.6.5.2.3	Reinforcement Works	Earthing Works - Trans	0	d		
9	005R-00-U	J 1160-00-I	SS	Completed	Not Started	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.6	.6.5.2.4	Reinforcement Works	Earthing Works - Gene	0	d		
10	005R-00-U	1180-00-1	SS	Completed	Not Started	NB-NC.9.2	.12.5 Found	NB-NC.9.2.12.6	.6.5.2.5	Reinforcement Works	Earthing Works - Comr	0	d		
11	0040-00-0	0040-00-L	G-G-B31-Z	В											
12	005S-00-L	005S-00-L	G-G-B31-Z	В											
13	005R-00-L	005R-00-L	G-G-B31-Z	В											
14			F .												
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Rea	idy 🛅										Count: 3			+	100%

Figure 38 Copy predecessor & successors ids and paste them in "TASKPRED" tab

*Predecessors ids are the activities that contain "@c"

*Successors ids are the activities that doesn't contain "@c"

□ 5 ~ ~	NB-NC [Read-Only] - Excel	Sign in 🗖 🗕 🗗 🗙
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2 Predecessor Successor Relationship Tv	ag_ii_cit delete_lecold_lag	
3 0040-00-UG-G-B31-Z@C 0055-00-UG-G-B31-Z@C FS	0 d	
4 005S-00-UG-G-B31-Z@C 005R-00-UG-G-B31-Z@C FS	0 d	
5 005R-00-UG-G-B31-Z@C 005C-00-UG-G-B31-ZB FS	o d	
6 005R-00-UG-G-B31-Z@C 1100-00-IN-G-B31-ZB SS	0 d	
7 005R-00-UG-G-B31-Z@C 1120-00-IN-G-B31-ZB SS	0 d	
8 005R-00-UG-G-B31-Z@C 1140-00-IN-G-B31-ZB SS	0 d	
9 005R-00-UG-G-B31-Z@C 1160-00-IN-G-B31-ZB SS	0 d	
10 005R-00-UG-G-B31-Z@C 1180-00-IN-G-B31-ZB SS	0 d	
11 0040-00-UG-G-B31-Z@C 0040-00-UG-G-B31-ZB		
12 005S-00-UG-G-B31-Z@C 005S-00-UG-G-B31-ZB		
13 005R-00-UG-G-B31-Z@C 005R-00-UG-G-B31-ZB		
14		
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22		Activate Windows
		Go to Settings to activate Windows.
Ready 10		III III

Remove the unnecessary columns (i.e., from column (D) to column (I))

Figure 39 Remove the Unnecessary Columns in "TASKPRED" tab

Fill column (C) by [FS] relationship to link these activities with a (Finish-to-Start) relationship, and then, fill column (D) with "0" to ensure the lag is equal to zero as follows:

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C15 • : × ✓ fx							¥
A B	C D	E F	G H	I J	K L M	N	0 P 🔺
1 pred_task_id task_id	pred_type lag_hr_cnt d	lelete_record_flag					
2 Predecessor Successor	Relationship Type V Lag(d) V C	elete This Row 💌					
3 0040-00-UG-G-B31-2@C 005S-00-UG-G-B31-2@C	FS 0 d						
4 0055-00-0G-G-B31-2@C 005R-00-0G-G-B31-2@C	rs 0 d						
5 005R-00-0G-G-B31-2@C 005C-00-0G-G-B31-2B	FS 0 d						
7 005R-00-UG-G-B31-Z@C 1100-00-IN-G-B31-ZB	ss 0 d						
8 005B-00-UG-G-B31-7@C 1140-00-IN-G-B31-7B	ss 0 d						
9 0058-00-UG-G-B31-Z@C 1160-00-IN-G-B31-ZB	SS 0 d						
10 005R-00-UG-G-B31-Z@C 1180-00-IN-G-B31-ZB	ss 0 d						
11 0040-00-UG-G-B31-Z@C 0040-00-UG-G-B31-ZB	FS 0						
12 005S-00-UG-G-B31-Z@C 005S-00-UG-G-B31-ZB	FS 0						
13 005R-00-UG-G-B31-Z@C 005R-00-UG-G-B31-ZB	FSO						
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Figure 40 Fill in the relationship and lag between first and second parts

Go to Primavera P6 and import the "TASKPRED" tab only to adjust the relationships.

2.7 Resequencing the Logic

Finally, the schedule is ready for resequencing of the activities based on the site circumstances, construction methodology, expected submission of remaining drawings, and the expected delivery dates of material on site.

2.8 Revised Global Changes

After adjusting the sequence and the relevant resources, the next and final step is to set:

- Original Duration = Actual Duration + Remaining Duration (for In-Progress and Completed Activities)
- Planned Start = Actual Start (for In-Progress and Completed Activities)
- Planned Finish = Actual Finish (for Completed Activities)

Such can be achieved through applying the following global changes:

P6 Global Change		×
Name V	F۲	Close
[1] Store New Activity Id's	-	
[2] Store % Complete & % Remaining		Apply Change
[3] Apply New Activity ID	~	New
[4] Split Budgeted Units	~~	<u>N</u> ew
[5-1] DeStatus Remove Actual Material	×	Delete
[5-2] DeStatus Remove Actual Labor		
[5-3] DeStatus Remove Actual Non-labor		Modify
[5-4] DeStatus Remove Actual Dates	Bh	Conv
[6-1] Make OD = AC + RD	- 43	Coby
[6-2] Planned Start = Actual Start		Paste
[6-3] Planned Finish = Actual Finish		
	4	Import
	r	<u>E</u> xport
	?	<u>H</u> elp
< >		

Figure 41 Global Change: [6] Revised Global Changes

P6	Modify	Global	Change									×
Sele	ect Sub	ject Area			_	Glob	al Change N	ame		√	<u>0</u> k	c
Ac	tivities			-	·	[6-1] Make OD =	AC + RD		0	<u>C</u> an	cel
lf			Parameter		ls	Value		High Value		-		
			(All of the fol	lowing))						Char	n <u>ge</u>
	1	Vhere	Activity Statu	s	is not equal to	Not Starte	d			45	Ad	d
											_	
										*	Dele	ete
									_	R.	Cu	ţ
The	n	Paramet	er	ls	Parameter/Value		Operator	Parameter/Value	_	E.	Cop	v
		Onginan	Duration	-	Actual Duration		T	Remaining Duration		.	Pas	te
										•	-	- •
<									>			
	_				1			1	_	?	<u>H</u> el	lp 🛛
Else	•	Paramet	er	ls	Parameter/Value		Operator	Parameter/Value	_			
<									>			

Figure 42 Global Change: [6-1] Make OD = AC + RD

P6 Mod	dify Global	Change						-	-		×
Select S	Subject Area	3			Glob	al Change N	ame		√	<u>о</u> к	
Activitie	es		•	·	[6-2	Planned Sta	art = Actual Start		0	Cance	el
lf		Parameter		ls	Value		High Value			_	
-		(All of the fol	llowin	g)					-	Chang	e
	Where	Activity Statu	IS	is not equal to	Not Starte	d			-		_
									÷	<u>A</u> dd	
									×	<u>D</u> elete	•
									ъ	Cu <u>t</u>	
Then	Parame	ter	ls	Parameter/Value		Operator	Parameter/Value		Ba	Copy	
	Planned	l Start	=	Actual Start						COPT	
										Paste	ł
<								>			
_									(?)	<u>H</u> elp	
Else	Parame	ter	ls	Parameter/Value		Operator	Parameter/Value	_			
1								>			

Figure 43 Global Change: [6-2] Planned Start = Actual Start

P6 Mod	dify Global	Change						-	-		×
Select S	Subject Area	1			G	lobal Change Na	ame		√	<u>о</u> к	
Activitie	es		•]	[6	6-3] Planned Fini	ish = Actual Finish		0	Cano	el
IF		Parameter		le le	Value		High Value		-	<u>o</u> une	
-		(All of the fol	lowind	1)	value		mgn value		B	Chan	ne
	Where	Activity Statu	IS	equals	Complet	ted		1 18		Gildin	95
				·					÷	<u>A</u> de	d
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Then	Paramet	er	ls	Parameter/Value		Operator	Parameter/Value	_	Ba	Сор	y
	Planned	Finish	=	Actual Finish				-			
										Past	te
									•	*	•
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Else	Paramet	er	ls	Parameter/Value		Operator	Parameter/Value	_	?	<u>H</u> el	p
							L	_			
/								>			

Figure 44 Global Change: [6-3] Planned Finish = Actual Finish

2.9 Revised/ Recovery Programme Checklist

The following checklist is the final step to review and validate the produced Revised/ Recovery Programme.

This checklist presents the basic measures for reviewing and validating the produced programme and can be adjusted in line with the project needs as deemed fit.

SN	Revised / Recovery Programme Checks	Status
1	The Budgeted Total Cost Matches the Revised Contract Price in the Contract Amendment	
2	The Float Paths are Logic, Realistic and in line with the Site Conditions	
3	The Remaining Units Distribution is Equal to the Planned Units Distribution	
4	The Remaining Units Distribution are Logic and Realistic	
5	The Criticality Percent is Logic	
6	No Out-of-Sequence Activities Found	
7	No Open-Ended Activities and Dangling Activities ³ Found	
8	No Invalid Relationships Found	
9	Calendars are Properly Adjusted (i.e., Proper Working Hours, Weekends, Holidays) and are Assigned to the Respective activities.	

Table 4 Revised/ Recovery Programme Checklist

³ - Open-Ended Activities are the activities without predecessor(s), successor(s), or both.

⁻ Dangling Activities are the activities that have predecessor(s) and successor(s) but from the same side (Start or End).