HxGN™ Smart Build

Beta Workflows Part 1 – March 2021

Work Packaging and Issues - Version 4.0 U1

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Contents

Introduction

This document is intended for beta customers to use as a guide to execute workflows and provide feedback to the Smart Build product management team.

The Part 1 workflows to be beta tested are:

1. **Work Packaging**
2. **Issues Management**

The Part 2 workflows to be beta tested are:

1. **Digital Layout**
2. **Virtual Job Site using TruView**

The Part 3 workflows to be beta tested are:

1. **Quantification**
2. **Smart Mapping**
3. **CPI Visualization**

Note: *This document is for Part 1 of the beta program, and only covers Work Packaging and Issues Management.*

Roles and User IDs

Note*: the actual User IDs you will use during the beta program have a prefix in front of the IDs listed below, e.g:****US_Beta_Admin@smartplantcloud*** *instead of* ***Beta_Admin@smartplantcloud****. Only the generic IDs below are used throughout this document. Your prefix will be given to you at the start of the program.*

Role	User ID
Administrator	Beta_Admin@smartplantcloud
Planner	Beta_Planner@smartplantcloud
Trade Manager	Beta_TradeMngr2@smartplantcloud
Tradesman	Beta_Tradesman2@smartplantcloud
Consultant	Beta_Engineer@smartplantcloud
Project Manager	Beta_ProjectMngr@smartplantcloud

Workflow Overview

Environment	Role	Workflow
Web Client	Admin	Create a project
Web Client	Planner	Schedule management
		3D Viewing / navigation
		Assign weightages
		Create work package
		Associate model objects
		Associate documents and hyperlinks
		Create work steps
		4D model visualization (Planned)
iOS or Android	Trade Manager	Review of work package in field and assign to tradesman
iOS or Android	Tradesman	Review work package assigned
		Progress work steps and work package
		Create and route issue in the field with attached photo
Web Client	Consultant	Receive issue
		Respond to issue with attached document
Web Client	Project Manager	4D model visualization (In-Progress)
		4D model visualization (Completed)
		Visualize, review and close issues

Workflows

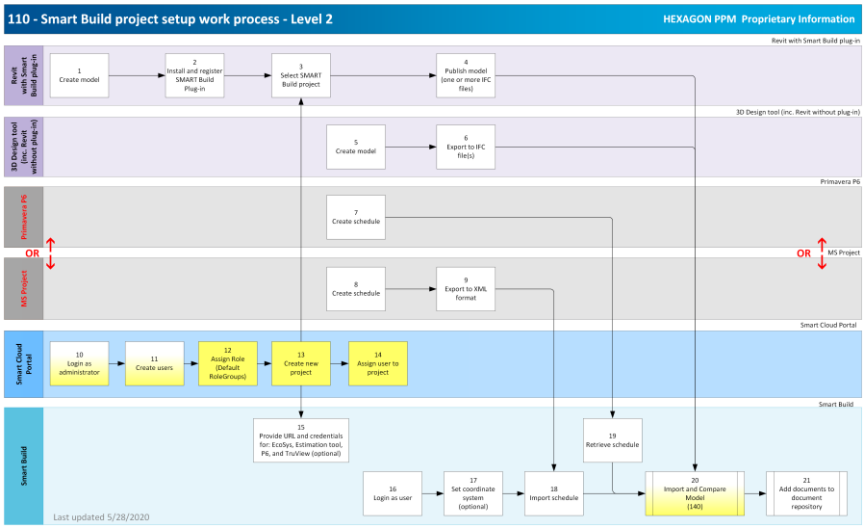
1. Admin tasks

1.1 Create a project

Purpose

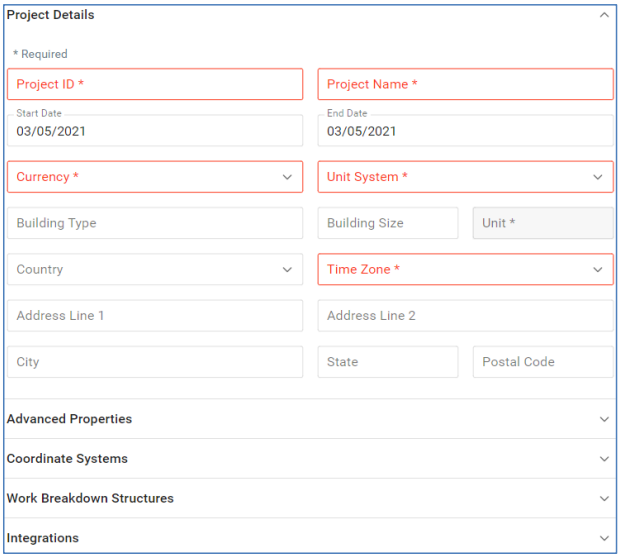
Create a new HxGN Smart Build project. However, a different project will be used to execute the other workflows in the beta program.

Work process diagram



Step-by-step – Details Section

1. Log in to Smart Build as Admin: **Beta_admin@smartplantcloud**
2. Select **MANAGE PROJECTS** from the Project List drop-down at the top right of the screen.
3. Click **+ NEW PROJECT** at the top right of the **Manage Projects** screen. This opens the **Create New Project** pane.



Create New Project

You can create a new project using this command, which displays the *Create New Project* pane.

You can specify a name for the new project and other details required to create a project.

In this exercise, you will learn how to create a new project and add project information.

On the **Create New Project > Project Details** section,

1. Fill-in the appropriate project details in the **Project Details** section
2. In the Project Details, you need to specify all the required details (*). Enter the following information: Project ID, Project Name, Currency, Unit System and Time Zone

***Note**: You cannot save the project until you enter all the required details (*).*

3. Click **SAVE** to create a new project in Smart Build

You have successfully created a new project. The software automatically assigns a default coordinate system when you save the project. You can also specify a different coordinate system.

Tip: You can also provide additional details. To add, click **Advanced Properties** and specify the details. Additionally, you can add a Coordinate System, Work Breakdown Structures, and Integrations however it is not required at the time of creation.

Video: 1.1a-Admin Role-Create Project-Overview.mp4

Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   B. Project Manager ☐
   C. Planner ☐
   D. Trades Manager ☐
   E. Tradesman ☐
   F. Engineer Consultant ☐
   G. Field Engineer ☐
   H. Estimator ☐
   I. Others _____ ☐

2. What is your expertise level working with Smart Build?

   A. Fundamental Awareness ☐
   B. Novice ☐
   C. Intermediate ☐
   D. Expert ☐
   E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Create a project

   A. Very satisfied ☐
   B. Somewhat satisfied ☐
   C. Neither satisfied nor dissatisfied ☐
   D. Somewhat dissatisfied ☐
   E. Very dissatisfied ☐
   F. N/A ☐

   Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

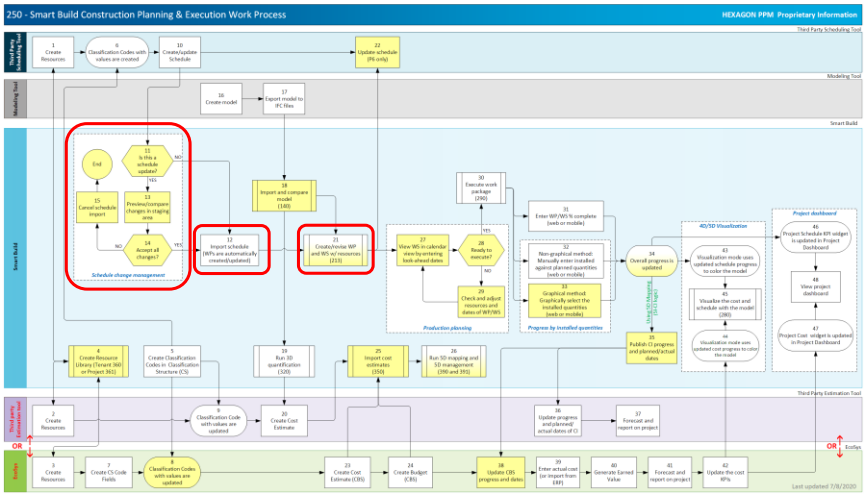
2. Planner - Work Packaging on Web Client

2.1. Schedule management

Purpose

An introduction to Schedule Management – Scheduling Mode. Here you will learn to navigate the loaded schedule and make observation on the timeline (Gantt chart).

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured.

Step-by-step – Scheduling Mode

In this exercise you will learn where to retrieve the schedule from a P6 integration, navigate the tree structure, view the timeline (Gantt chart) and switch to model viewing.

1. Login to Smart Build as Planner: **Beta_Planner@smartplantcloud**.
2. After logging in, make sure the active project is the one assigned to you.
3. Click on the hamburger menu button to the left of Overview  . This displays the individual modules full name, easier for initial navigation
4. Select **Schedule Management**  . You'll see a submenu with 5 additional options:
   - Scheduling
   - Smart Visualization
   - Production Planning
   - My Work Packages
   - Work Package Recipes
5. Select **Scheduling**  .

Tip: *You can again click the hamburger menu button to the left of Scheduling at the top of the screen. This will hide the individual module names and return to just icons again.*

General layout: *The left-side panel shows the schedule, represented by the Work Breakdown Structure (WBS) shown in a hierarchal tree. The centre and right makes up the timeline view (Gantt chart).*

6. Click the 3-dot overflow menu button located at the top-right of the WBS panel.

Note: *Because we have an integration to P6 already established, in this menu you're shown 'Retrieve from P6' and 'Publish to P6". Normally, upon first entering a new project, you would click Retrieve from P6 to fetch the schedule for the first time. After which, you'll see items listed in the WBS tree structure below. For the exercises in section 2 to 6, the schedule has already been retrieved into Smart Build, so do not click "Retrieve from P6" at this point. We will do this later in section 7, when we learn how to compare a new schedule with the existing schedule.*

7. Click the overflow menu again to close it.
8. In the **Scheduling** panel, navigate the tree structure after opening it using the chevron ">" as needed, to:

   1 Intergraph-305 > 1.3 Structural > ***1.3.1 Level B1***

Note: *Clicking on the name selects that item in the list and highlights it in blue in the Gantt chart.*

9. Click on the 3-dot overflow menu for this WBS item. Select **View Details**.

Tip: *Explore the details panel. Notice the two tabs on top:* ***PROPERTIES*** *and* ***WORK PACKAGES****. Close the details panel when finished.*

10. Click Home  from hamburger menu to navigate to the Overview section. Here you can see the model on full screen, as well as the collapsed dashboard. The dashboard can

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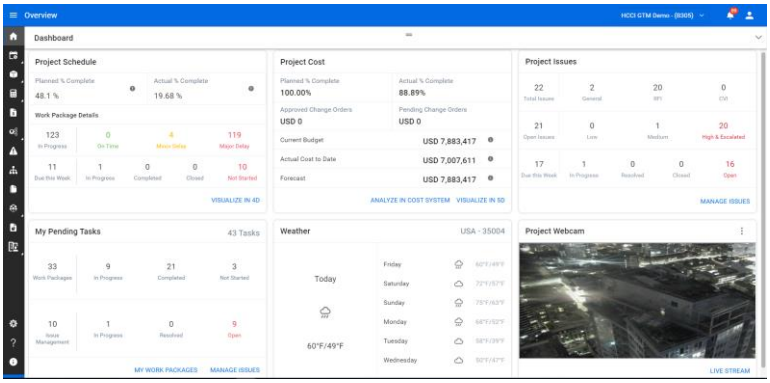
be resized (using the **“^”** chevron on the right or grabbing the double-line handle in the centre and pulling it up) to see data on the dashboard.



***Video*: 2.1 - Schedule Management.mp4**

2.2. 3D viewing / navigation

Purpose

An introduction to Schedule Management – Scheduling Mode. Here you will learn how to view the model in 3D.

Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

It will also assume you understand some general layout and navigation of the Scheduling mode.

Step-by-step – Scheduling Mode

In this exercise you will learn how to view the 3D model while still in Scheduling mode. As well as general navigation within the 3D viewer.

1. You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**
2. On 3D model space in **Overview** page, you can see the floating tool bar with few tools.

You can pause over each button to see its function.

Function of buttons from left to right:

- **Select**:
  - Select = <left mouse> to select a model item
  - Select = <left mouse> + drag to rotate the model
- **Select Overlap**: <left mouse> + drag to select all objects inside the window and those overlapping the window
- **Select Inside**: left mouse> + drag to select all objects that are fully inside the window
- **Zoom Area**: <left mouse> + drag to draw a zoom window
- **Reset View**: rest the view to the initial view (zoom extents)
- **Load Model Files**: to control which files are currently loaded into the view
- **Filter**: to control (filter) what model elements are displayed, such as files, levels, structures, and WBS.
- **Settings**: to display the Model View settings, such as shading and the transparency slider

Video: 2.2 - 3D Viewing and Navigation.mp4

2.3. Assign weightages

Purpose

An introduction to Schedule Management – Scheduling Mode. Here you will learn how to view, edit and balance WBS's weightages. This is necessary for correct roll-up of percent-complete

Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

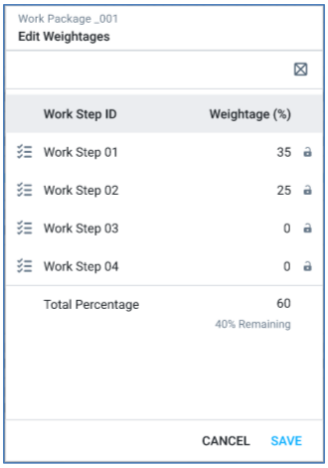
It will also assume you understand some general layout and navigation of the Scheduling mode.

Step-by-step

1. You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**
2. Click **Schedule Management** from hamburger menu and select **Scheduling**.
3. Navigate to WBS: **1 Intergraph-305**. Expand it to see its child WBS items. Notice the small circular icon  , next to **1 Intergraph-305,** with an exclamation mark "!" inside, near the overflow menu. This is an indicator that the weightage of the children does not add up to 100%.
4. Click the overflow menu for WBS: **1.1 Sitework**. This is a child of **1 Intergraph-305**
5. Select **Edit.**
6. The **Edit WBS** pane appears. In **Overview** section, you can find **Weightage** filed. Enter 10% for the weightage. Click Save.
7. Repeat this operation for all other children by giving appropriate weightages.

Notice after entering appropriate weightage for all child WBS's, the parent WBS (**1 Intergraph-305**) no longer has the circular icon indicating incorrect weightage.

*In a future version you will be able to select **Edit Weightage** on any parent item and the popup will have not only the parent item but all the children items as well, making it easier to perform bulk weightage updates.*



Entering weightages manually is the only method today, but in the future, when 5D mapping is implemented, weightages will be automatically set based on the cost data.

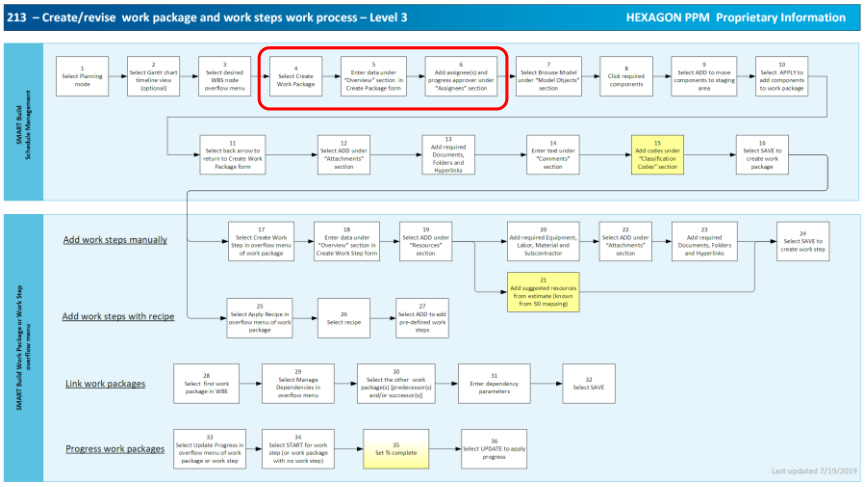
Video: 2.3 - Assigning Weightages.mp4

2.4. Create work package

Purpose

An introduction to Schedule Management – Scheduling Mode. Here you will learn how to create a work package, assign someone to this WP, and add additional comments.

Work process diagram



Pre-requisites

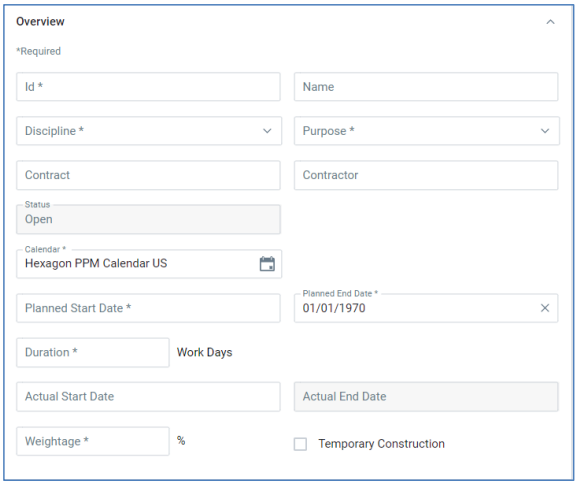
It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

It will also assume you understand some general layout and navigation of the Scheduling mode.

Step-by-step

In this exercise, we will Create a new work package for this project. We'll be completing sections Overview, Assignees and Comments. Other sections are covered more in depth in additional exercises.

1. You should be logged in to Smart Build as: **Beta_Planner.**
2. Click **Schedule Management** from hamburger menu and select **Scheduling**
3. Navigate to WBS item: ***1.3.1 Level B1.***
4. Click on the overflow menu for this WBS item. Select **Create Work Package.**
5. On the **Create Work Package** form, now in the centre of screen, fill out the formation in the **Overview** section as shown below:



use the data shown:

Id - *LDCP-1*

Name - *Loading Dock Concrete Pad*

Discipline - *Structural*

Purpose - *Construction*

Contract - *<leave blank>*

Contractor - *<leave blank>*

Status - *<Open> (read-only)*

Calendar - *<Pre-populated with project default>*

Planned Start Date - *4 days before today*

Duration - *<do not enter a value; it will be calculated after entering the planned end date>*

Planned End Date - *4 days after today*

Actual Start Date - *<leave blank>*

Actual End Date - *<leave blank>*

Weightage - *20%*

Temporary Construction - *<do not check>*

6. Next, expand the **Assignees** section. Click **ADD** button and add an assignee: "*Beta_TradeMngr1*" to the work package. Click **ADD** to confirm.
7. Next, expand the **Comments** section. Click inside the textbox and add a comment.

8. Click **SAVE** at the bottom of the Create Work Package form. You can now see the newly created work package in the WBS structure, under WBS ***1.3.1 Level B1.***

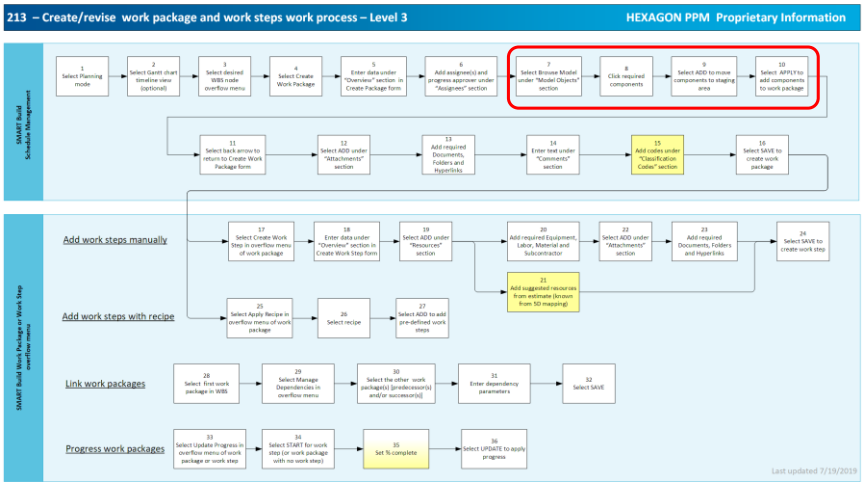
Video: 2.4 - Create Work Package.mp4

2.5. Associate model objects

Purpose

An introduction to Schedule Management – Scheduling Mode. Here you will learn how to associate model objects to a work package. This could be done during the Create Work Package form or can be done later using the Edit Work Package form. The forms are identical and therefore both procedures are the same.

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

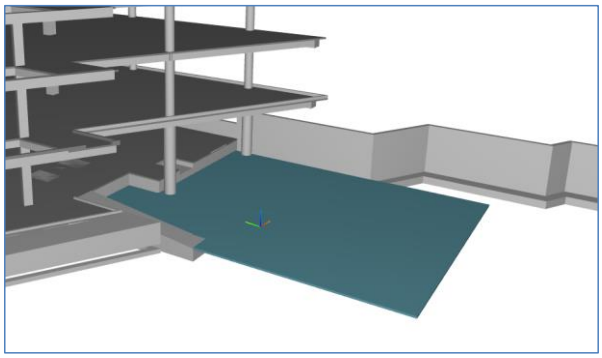
It will also assume you understand some general layout and navigation of the Scheduling mode.

Finally, we'll assume you've successfully created the new work package: **LDCP-1(Loading Dock Concrete Pad)**

Step-by-step

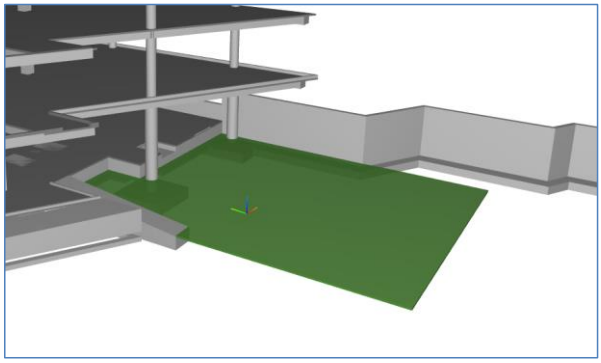
1. You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**
2. Click **Schedule Management** from hamburger menu and select **Scheduling.**

3. Navigate to work package: **LDCP-1(Loading Dock Concrete Pad).**
4. Click on the overflow menu for this schedule item. Select **Edit**.
5. Expand the **Model Elements** section. Since we have not added any model components yet, this section is empty.
6. Click on **BROWSE MODEL** button. The 3D model is shown in the viewer. The panel on the left is empty.
7. Click the large flat slab that sits mostly outside the structure (see image below). It will highlight in blue. You may have to first select the “Select” arrow in the view controls (floating toolbar).

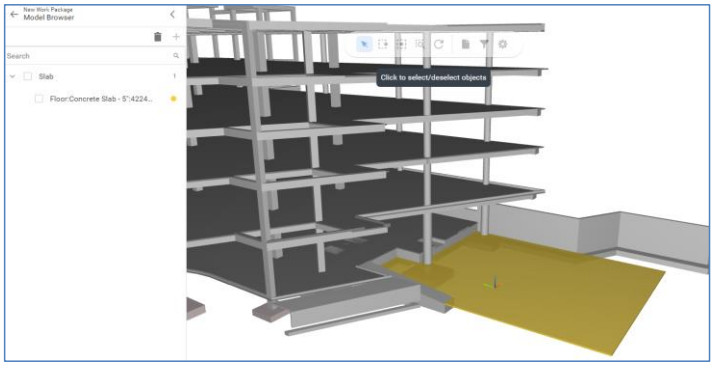


8. Click the **ADD** button on the left side panel.

   Notice the slab turns green. This component is now added to the staging area in the left side panel.



9. Now click **APPLY** on the left side panel. The slab turns yellow in the model, as well as in the staging area. You may have to expand the structure in the staging area to see the yellow dot next to the slab.



10. Click any other component in the model. It becomes highlighted (blue), then click the plus (+) sign at the top-right corner of staging area. The component turns green.

    Notice how the staging area will become a tree structure based on the selected components' classification.

11. Again, click **APPLY** to add this component. It turns yellow in the model and in the staging area.
12. In the model, select the same component you just added. It's highlighted (blue) in the model as well as in the staging area.
13. Click **Delete** (trash can icon) top-right of staging area. The component turns red.
14. Click **APPLY**. The component is removed from this work package.

Note: *You should be back to just one component in this work package*

15. Click the back arrow, top left of the staging area, to return to the **Edit Work Package** form

    Notice the one new component now showing in the **Model Elements** section

16. Click **SAVE**.

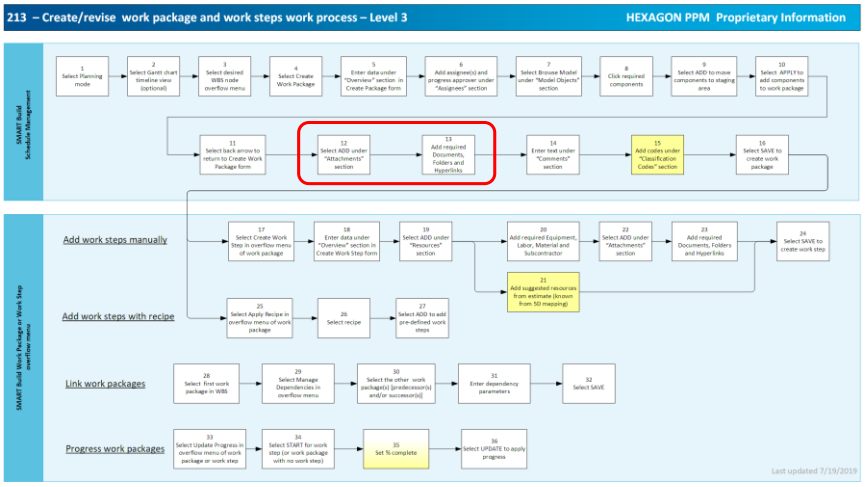
Video: 2.5 - Associate Model Components.mp4

2.6. Associate documents and hyperlinks

Purpose

An introduction to Schedule Management – Scheduling Mode. Here you will learn how to associate documents, folders and hyperlinks to a work package. This could be done during the Create Work Package form or can be done later using an Edit Work Package form. The forms are identical and therefore both procedures are the same.

Work process diagram



Pre-requisites

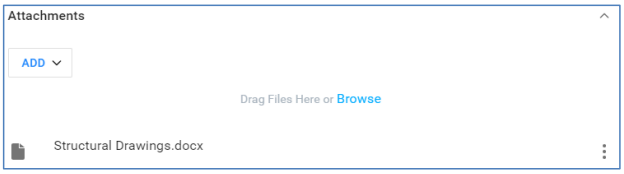
It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

It will also assume you understand some general layout and navigation of the Scheduling mode.

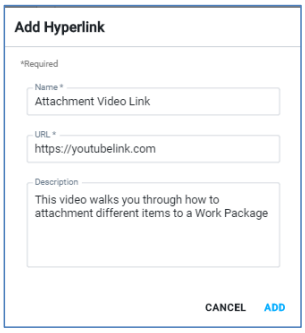
Finally, we'll assume you've successfully created the new work package: **LDCP-1(Loading Dock Concrete Pad)**

Step-by-step

1. You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**
2. Click **Schedule Management** from hamburger menu and select **Scheduling**
3. Navigate to work package: ***LDCP-1(Loading Dock Concrete Pad).***
4. Click on the overflow menu for this schedule item. Select **Edit.**
5. Click on **Attachments** section. Click **Browse** to select a local file on your computer or **ADD** to select a document from the *Company* or *Project* library.
6. While the file is being attached, a progress bar will show the current status:



7. Click **ADD** again. Select **Hyperlinks**.
8. Enter the following:



9. Click **ADD**. You can now see the hyperlink is a part of the attachments section of this work package.
10. Click **SAVE** at the bottom of the **Edit Work Package** form.

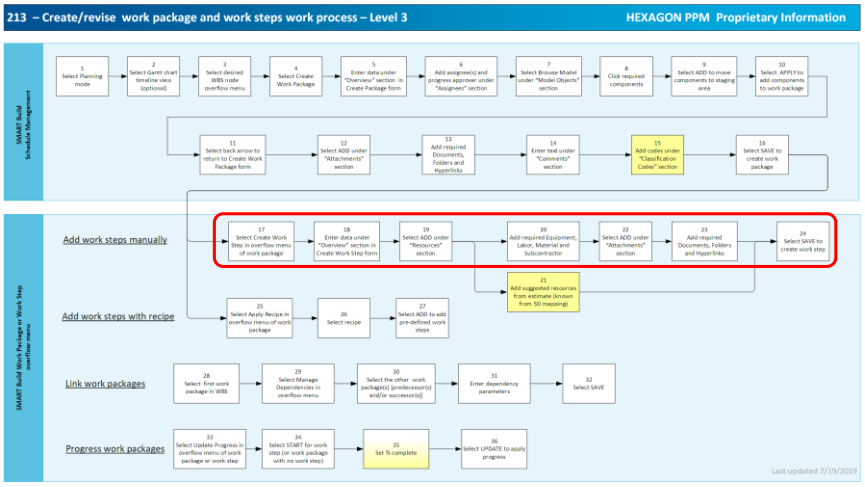
Video: 2.6 - Associate Documents and Hyperlinks.mp4

2.7. Create Work Steps

Purpose

An introduction to Schedule Management – Scheduling Mode. Here you will learn how to manually create individual work steps for a particular work package. These work steps can only be added to an existing or previously created work package.

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

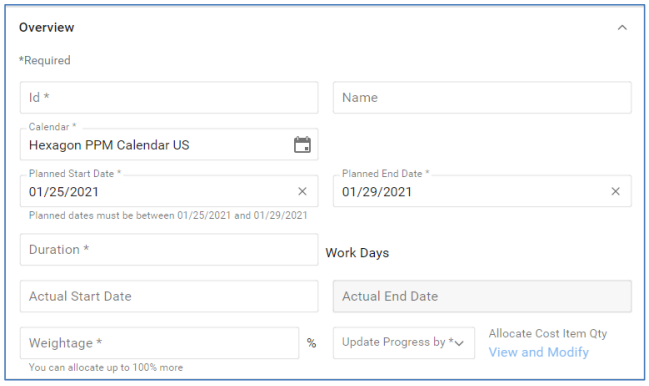
It will also assume you understand some general layout and navigation of the Scheduling mode.

Finally, we'll assume you've successfully created the new work package: **LDCP-1(Loading Dock Concrete Pad)**

Step-by-step

1. You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**
2. Click **Schedule Management** from hamburger menu and select **Scheduling**
3. Navigate to work package: ***LDCP-1(Loading Dock Concrete Pad).***
4. Click on the overflow menu for this schedule item. Select **Create Work Step**
5. The **Create Work Step** form is shown in the centre of the screen. Fill out the **Overview** section as follows:

Note: *The* ***Planned Start Date*** *and* ***Planned End Date*** *will be prepopulated for you as it takes the Start/End date from the parent work package. Although this is not realistic,* ***do not change*** *them for this exercise.*



Enter the following data:

Id - *LDCP-1-WS1*

Name - *Digital Layout of Formwork*

Duration – *10*

Weightage - *20%*

Update Progress by - *Percentage*

Note: *In a real workflow, you would likely select different Planned Start/End Dates for each work step (instead of using the same start/end dates for each work step as shown here), such as staggered dates, as long as they all fall within the start and end dates of the work package.*

Currently, the default will be the order for the work steps is the order in which they were created. However, in the future the user will be able to reorder the work steps as needed.

6. Click **SAVE** at the bottom of the form.
7. Repeat this process 4 more times to create 4 additional work steps. You should have 5 work steps when completed. Fill out only the 3 fields in the **Overview** section, for each of the 4 additional work steps, as follows:

   Enter the following data for the second work step:

   Id - *LDCP-1-WS2*

   Name - *Formwork & Prep*

   Weightage - *20%*

   Update Progress by - *Percentage*

   Enter the following data for the third work step:

   Id - *LDCP-1-WS3*

   Name - *Pour Concrete*

   Weightage - *30%*

   Update Progress by - *Percentage*

Enter the following data for the fourth work step:

Id - *LDCP-1-WS4*

Name -*Strip Formwork*

Weightage - *10%*

Update Progress by - *Percentage*

Enter the following data for the fifth work step:

Id - *LDCP-1-WS5*

Name - *QA/Acceptance*

Weightage - *10%*

Update Progress by - *Percentage*

8. Upon finishing, your **Loading Dock Concrete Pad** work package should have 5 child work steps in the WBS:

    Digital Layout of Formwork

    Formwork & Prep

    Pour Concrete

    Strip Formwork

    QA/Acceptance

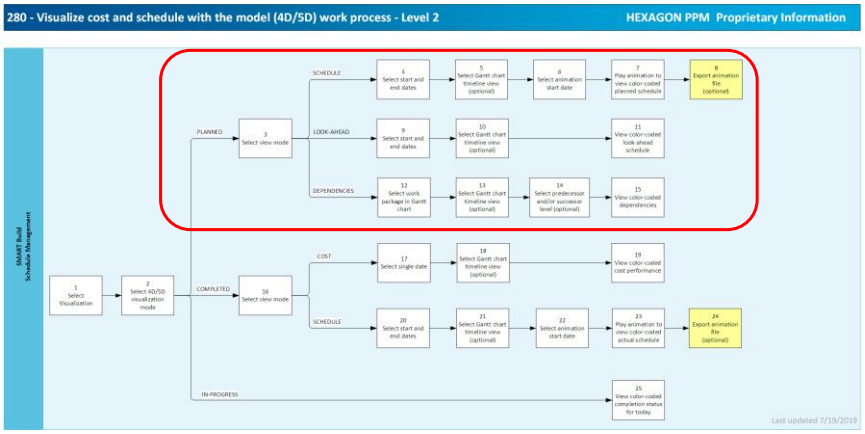
Video: 2.7 - Creating Work Steps.mp4

2.8. 4D model visualization (Planned)

Purpose

An introduction to Schedule Management – Smart Visualization Mode. Here you will learn how to animate the model with Planned Start/End data and visualize planned construction of the entire model.

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

Also, we'll assume you've successfully created the new work package **Level B1 North Concrete Slab on Grade** with the correct planned start/end dates as well as added the one slab component.

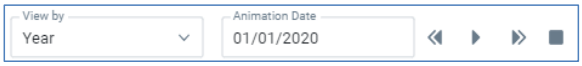
Step-by-step

1. You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**
2. Select **Schedule Management** from hamburger menu. Select **Smart Visualization** .

   Note: *The default 4D/5D Visualization mode is In-Progress. This will be updated in future sprint to always be the last-used mode (of the 3 choices).*
3. At top left, click the dropdown menu for **4D/5D Visualization** and select: **Planned**.
4. Leave the **View** dropdown menu on: **Schedule**.

   Observe the dates given by default for Start and End Date calendar boxes. These dates encompass the entire project timeline.

   Notice the animation date calendar box, and the animation buttons, on top of the timeline (Gantt chart). The Animation date matches the Start Date above (default).

5. Click the **Play** button. Watch as the model changes from being all grey-transparent (future work), to green (in progress work), to dark grey (completed work).

6. With the animation still playing, click the forward button once. Notice the speed (tag bottom centre of model viewer) changes from 1 day/s to 1 week/s. This rapidly accelerates the model construction timeline.

Try playing with the animation buttons to speed up and slow down, or reverse, the model's construction.

Tip: to slow down the forward progress (i.e. change it from Speed = 1-week back to Speed = 1-day), you must first click reverse once, then forward once again. *This is changing in a future version to make it more user friendly.*

Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   B. Project Manager ☐
   C. Planner ☐
   D. Trades Manager ☐
   E. Tradesman ☐
   F. Engineer Consultant ☐
   G. Field Engineer ☐
   H. Estimator ☐
   I. Others _____ ☐

2. What is your expertise level working with Smart Build?

   A. Fundamental Awareness ☐
   B. Novice ☐
   C. Intermediate ☐
   D. Expert ☐
   E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Schedule management

   A. Very satisfied ☐
   B. Somewhat satisfied ☐
   C. Neither satisfied nor dissatisfied ☐
   D. Somewhat dissatisfied ☐
   E. Very dissatisfied ☐
   F. N/A ☐

Comments:

ii. 3D viewing / navigation

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

iii. Assign weightages

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

iv. Create work package

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

v. Associate model objects

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐

E. Very dissatisfied ☐
F. N/A ☐

Comments:

vi. Associate documents and hyperlinks

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

vii. Create Work Steps

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

viii. 4D model visualization (Planned)

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

3. Production Planning

3.1. Manage Dependencies between work packages

Purpose:

An introduction to Production Planning. Production Planning is used to view the Project's work packages in a calendar-like format. This format allows the user to easily view details about the upcoming 1, 2, 3, 4 or 6 weeks' worth of work. The user can analyse or modify all aspects of the work package and work steps, making the final adjustments needed before marking a work package ready to be executed in the field.

Here you will learn how to add dependencies between work packages and how to view the schedule in Work Package Only View format.

Pre-requisites:

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured. Project Calendar must have 26th February 2021 as a Holiday

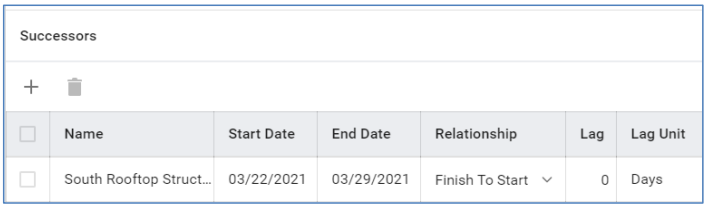
Step-by-step:

1. Login to Smart Build as Planner: **Beta_Planner@smartplantcloud.**

2. Click on the Hamburger menu to the left of Overview. This displays the individual modules full name, easier for initial navigation
3. Click **Schedule Management** on the hamburger menu and select **Production Planning**.

Tip: You can again click the menu button to the left of Production Planning at the top of the screen. This will hide the individual module names and return to just icons again.

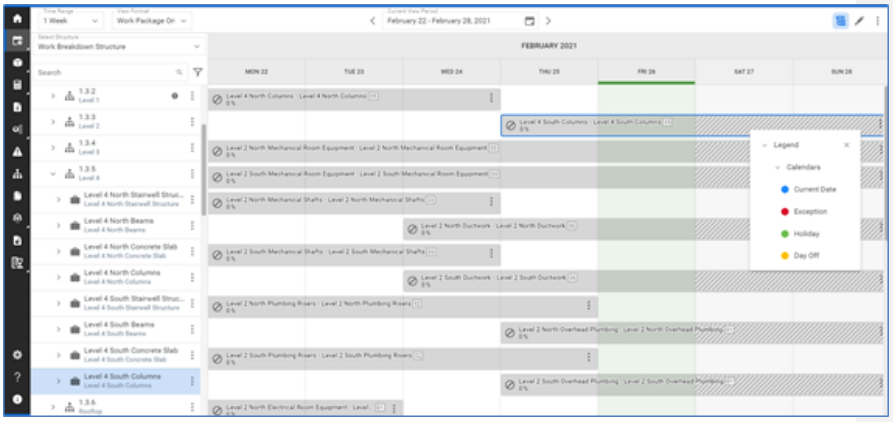
4. Select **Time Range** as **1 Week**, **View Format** as **Work Package Only** and Current view period as **February 22, 2021 – February 28, 2021**
5. Click edit icon on the top right, navigate to the work package "*1.3.5- Level 4 South Columns*" in the Calendar view and click overflow icon .
6. Select **Manage Dependencies** and click in **Successors** section.
7. Fill the details as shown below and click **SAVE.**



Note: *Now, dependencies will be created between the work packages "1.3.5- Level 4 North Columns" and "South Rooftop Structures".*

8. You can see the work package progress
9. Click on Overflow Button next to edit icon and select **Show Legend**

Note: *You can also see that 26th February is been highlighted as green as it is marked as a Holiday in Calendar.*



3.2. Edit the details of Work Package and Work Steps

Purpose:

Here you will learn how to view the schedule in Compact View format and edit the details of work package and work steps.

Pre-requisites:

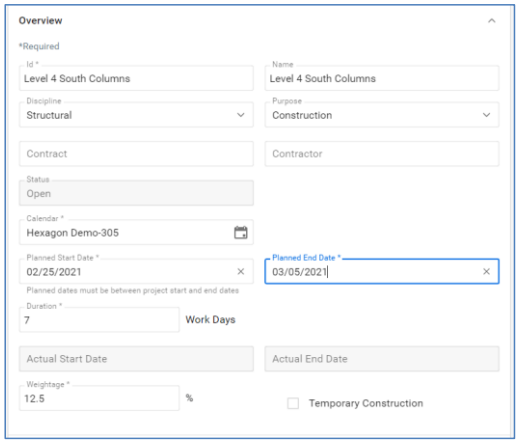
It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured.

Step-by-step:

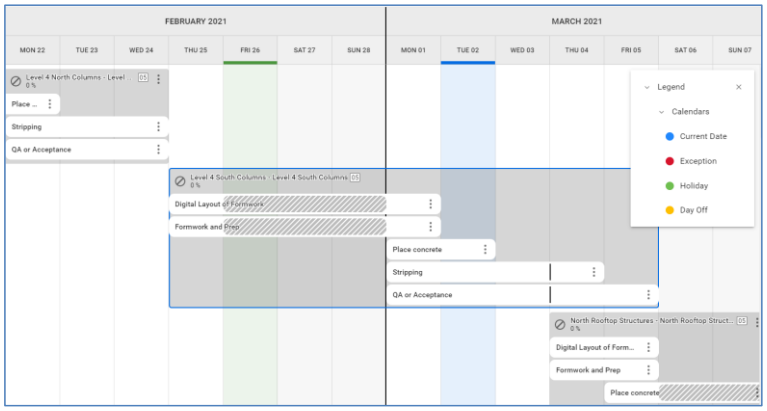
1. Login to Smart Build as Planner: **Beta_Planner@smartplantcloud.**
2. Click **Schedule Management** on the hamburger menu and select **Production Planning**.
3. Select **Time Range** as **2 Weeks**, **View Format** as **Compact** and Current view period as **February 22, 2021 – March 7, 2021**
4. Click edit icon on the top right and navigate to the work package "*Level 4 South Columnse*".
5. Click overflow icon and select **Edit**.

Note: *Work packages which are kept on hold cannot be edited.*

6. Change the Planned End Date to "*03/10/2021*" and click **SAVE**.

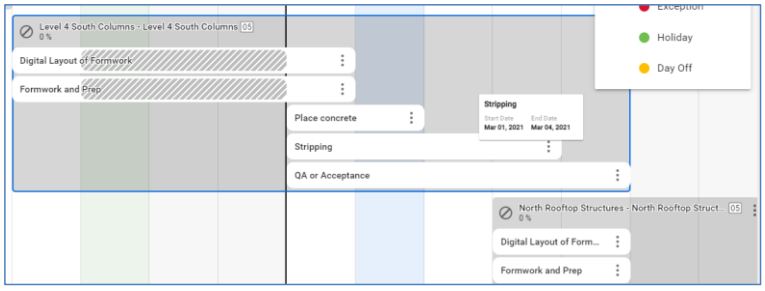


7. Now, place the cursor on right border of the work step "*Stripping*" and drag it till March 4th & "QA or Acceptance" to March 5th 2021.



Note: Shaded region on the work step indicates that the days are non working days.

8. Click **SAVE** and hover the mouse on above work step.
9. A tooltip is populated displaying Name, Start and End dates of that particular work step.



3.3. View Details of work package and Update Progress

Purpose:

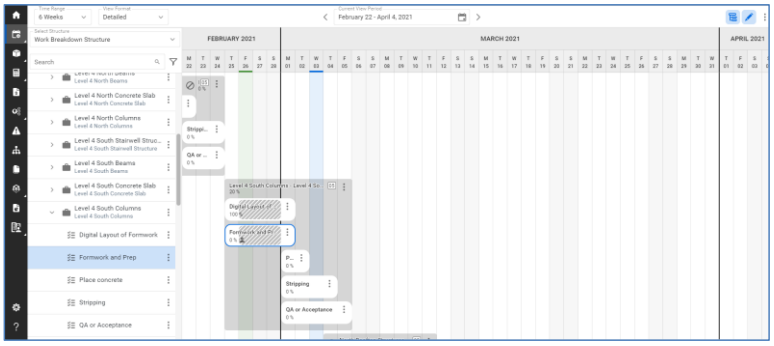
Here you will learn how to view the schedule in Detailed format, i.e., you can see resources if they are added to work steps and you will learn how to update the progress.

Pre-requisites:

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured. You must assign resource to work step "*Formwork and Prep* " under the work package "Level 4 South Columns" (1 Intergraph-305 > 1.3 Structural > 1.3.5 Level 4 > South Columns).

Step-by-step:

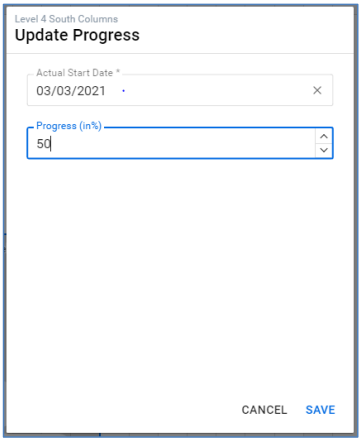
1. Login to Smart Build as Planner: **Beta_Planner@smartplantcloud.**
2. Click **Schedule Management** on the hamburger menu and select **Production Planning** .
3. Select **Time Range** as **6 Weeks, View Format** as **Detailed** and Current view period as **February 22, 2021 – April 4, 2021**
4. Click edit icon on the top right and navigate to the work package "Level 4 South Columns".
5. You can view Detailed plan of the schedule as shown below.



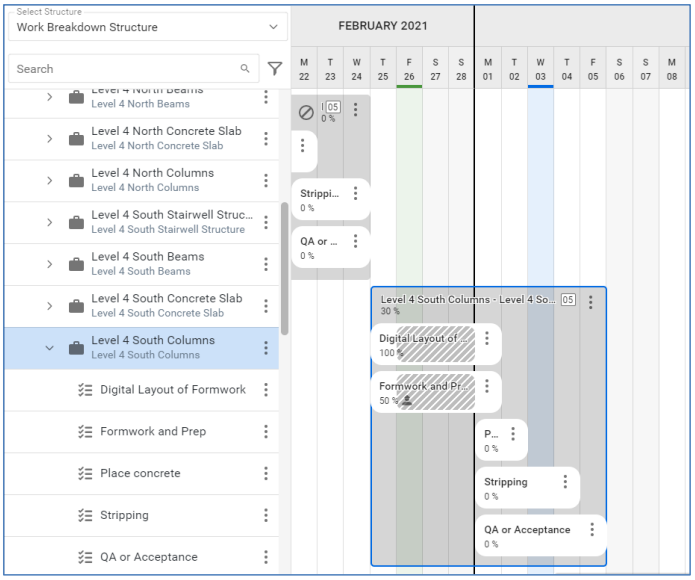
Note: *You can see that the resource has been assigned to "Formwork and Prep" in Level 4 South Columns.*

6. Click Overflow button next to "Level 4 South Columns" > "*Formwork and Prep*" and select **Update Progress.**

7. Click **Start** and . Enter the progress as "*50*" and respective percentage for all the work steps and click **UPDATE, SAVE**.



8. You can see the progress of work package "*Level 4 South Columns*" and work step "*Formwork and Prep*" has been updated.



Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   B. Project Manager ☐
   C. Planner ☐
   D. Trades Manager ☐
   E. Tradesman ☐
   F. Engineer Consultant ☐
   G. Field Engineer ☐
   H. Estimator ☐
   I. Others _____ ☐

2. What is your expertise level working with Smart Build?

   A. Fundamental Awareness ☐
   B. Novice ☐
   C. Intermediate ☐
   D. Expert ☐
   E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Manage Dependencies between work packages

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

ii. Edit the details of Work Package and Work Steps

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

iii. View Details of work package and Update Progress

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

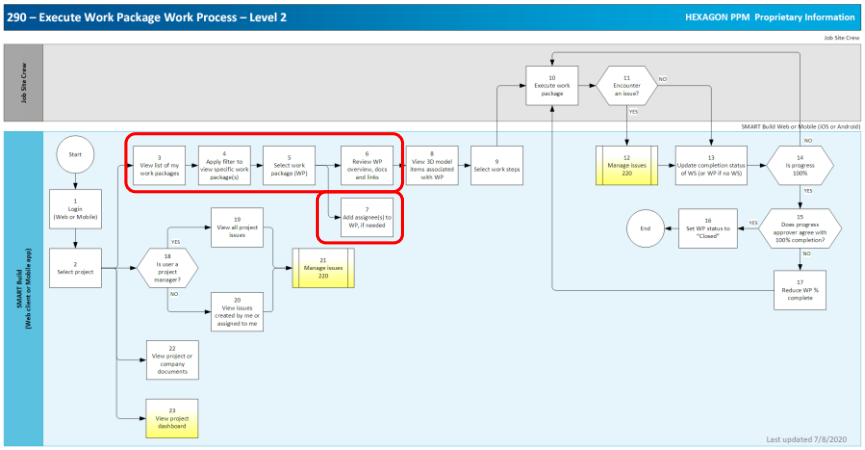
4. Trade Manager - Work Packaging on Mobile App

4.1. Review work package in field and assign to tradesman

Purpose

Once the Planner assigns the Work Package to the respective Trade Manager, the Trade Manager reviews the task in detail and assigns it to the respective Trade crew member (the Tradesman). In this workflow, we will do this in the Mobile app, but it could also be done in the Web Client.

Work process diagram



Pre-requisites

An already planned Work Package is assigned to the Trade Manager.

Step-by-step – Review the Work Package

1. Login to the Smart Build on the Mobile app as the Trade Manager **(Beta_TradeMngr1)**.
2. Click on the User icon on the top-left corner to select the required project assigned to you from the project list.
3. You can select the **Work Package** tab (from the bottom-left of the screen on the Mobile app).
4. By default, it will display the list of all the work packages assigned to you.
5. From the list of assigned Work Packages, select the Work Package *"LDCP-1(Loading Dock Concrete Pad)"* and review the Work Package details (Overview, Worksteps, Documents, Hyperlinks, Components, 3D Model, and Resources).

Step-by-step – Assign to field crews (ad-hoc routing)

6. Click on the **Assignees** button at the bottom of the overview tab.
7. From the list of users, select ***Beta_Tradesman2*** to assign the task and click on **ADD**.

Video: 3.1 Review work package and assign to tradesman.mp4

Scope subject to change

- Mobile: Ability to see the predecessor WP and the successor WP for the current WP
- Mobile: Viewing, editing or deleting comments
- Mobile: When viewing the 3D model items for a WP, display the gridlines
- Mobile & Web: "Ready to Execute" WP flag
- Mobile & Web: New, Modified and Read WP indicators
- Mobile & Web: WP Progress by installed quantities

Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   B. Project Manager ☐
   C. Planner ☐
   D. Trades Manager ☐
   E. Tradesman ☐
   F. Engineer Consultant ☐
   G. Field Engineer ☐
   H. Estimator ☐
   I. Others _____ ☐

2. What is your expertise level working with Smart Build?

   A. Fundamental Awareness ☐
   B. Novice ☐
   C. Intermediate ☐
   D. Expert ☐
   E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Review work package in field and assign to tradesman

   A. Very satisfied ☐
   B. Somewhat satisfied ☐
   C. Neither satisfied nor dissatisfied ☐
   D. Somewhat dissatisfied ☐
   E. Very dissatisfied ☐
   F. N/A ☐

   Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

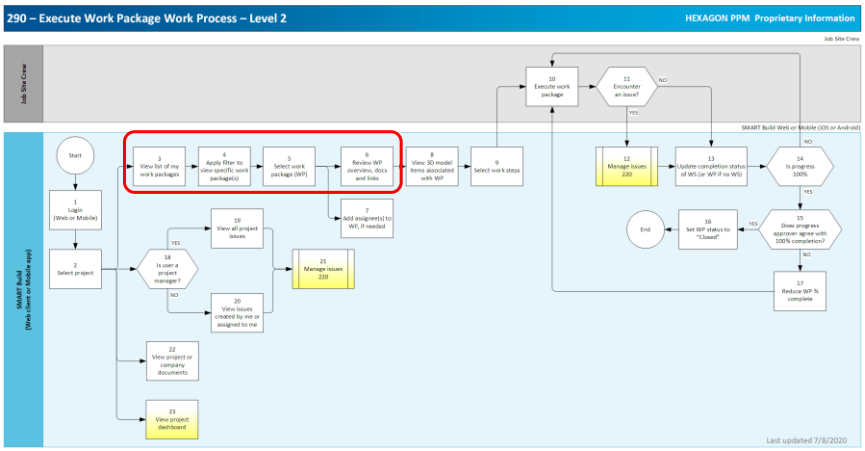
5. Tradesman - Work Packaging, Issues on Mobile App

5.1. Review work package assigned

Purpose

The Tradesman in the field needs to review the work package as he oversees the tasks. The tradesman executes the work, progresses it and may create issues.

Work process diagram



Pre-requisites

Only after the planning and high-level review, an already created Work Package is assigned to the Tradesman

Step-by-step

1. You should be logged in to Smart Build mobile Application as the Tradesman**:** **Beta_Tradesman2**.
2. Click on the User icon on the top-left corner to select the required Project for the project list.
3. You can select the **Work Package** tab from the bottom-left of the screen.
4. By default, it will display the list of all the work packages assigned to you.
5. From the list of assigned work packages, select the work package and review the Work Package details (Overview, Worksteps, Documents, Hyperlinks, Components, 3D Model, and Resources) attached to the work package.

5.2. Progress work steps and work package

Purpose

In this section, we will learn how to progress the Work Steps and Work Package regarding the executed tasks in field. As per the status of the task performed by the field construction workers, you can now progress the Work Steps and the Work Package.

Pre-requisites

Only after the planning and high-level review, an already created Work Package is assigned to the Tradesman

Step-by-step

1. You should be logged in to Smart Build mobile Application as the Tradesman**:** **Beta_Tradesman2**.
2. You can select the **Work Package** tab from the bottom-left of the screen. Select the work package "*LDCP-1*".
3. Click on the **Work Steps** Tab on the top of the **Work Package** overview screen in order the view the list of Work Steps.
4. In order to progress the Work Steps, the user can click on the specific Work Steps and change the completion percentage.
5. You can now close the Work Steps overview screen.
6. You can also view the documents/images and hyperlinks linked to that particular Work Step by clicking on the **Documents** and the **Hyperlinks** tab on top of the Work Steps overview screen.
7. After progressing the relevant Work Steps based on the tasks completed, you can close the Work Steps overview screen by clicking "<" on the top left of the overview screen and see the respective change in completion percentage for the entire Work Package.
8. FOR OUR EXERCISE:

   Go to the **LDCP-1** work package and progress the work steps as follows:

   - Digital Layout of Formwork: 100%
   - Formwork & Prep: 100%
   - Place concrete: 50%
   - Strip Formwork: 0%
   - QA/Acceptance: 0%

Video: 4.2 - Tradesman_Progress.mp4

5.3. Create and route issue in the field with attached photo

Purpose

While performing tasks in the field, the Tradesman might face issues, problems, or questions, potentially leading schedule delays. Hence, the Tradesman needs to create and route issues from the field using the mobile application.

Step-by-step

1. You should be logged in to Smart Build mobile Application as the Tradesman**:** **Beta_Tradesman2**.
2. You can select the **Work Package** tab from the bottom-left of the screen. Select the work package "*LDCP-1*".
3. Click on the **+** icon on the top right of the Work Package overview screen to launch "Add new Issue" screen.
4. Select the required **Category**: General, CVI, RFI, to launch the Issue creation form.
5. Select the required **Issue Type** from the drop down. (* Mandatory)
6. Enter the **Subject** and the **Description** for the Issue in the respective fields.
7. Select the correct Discipline from the **Discipline** dropdown list.
8. Set the priority for the Issue from the **Priority** dropdown list: **Low**, **Medium**, **High**, **Escalated**.
9. Set a **Due Date** by selecting the date by which the Issue needs to be resolved.
10. To attach an image from your device, click the **ADD FILES** tab and select the source **From Device Photos**. This allows you to browse through your device gallery.
11. Attach a photo from the photo gallery on your device.
12. Once you select the image, it opens on the screen and you can click on the **Edit** icon on the top right corner on the image viewer to get a dropdown menu.
13. From the dropdown menu, select the Annotate icon to highlight the area in question. You can also add comments to the image by selecting the **Text** icon.
14. Click on **Done** on the top-left and select a resolution **High**, **Medium**, or **Low**.
15. Once you select the resolution, click **Done** on the top-right of the screen to attach the image with mark-ups to your Issue.
16. To add an assignee, click on the **ASSIGN** tab to view the list of users on the project and select the check box next to the user you would like to add as an assignee (**Beta_Engineer** for our exercise) from the list of users and click **Done** on the top-right of the screen.
17. Click the **Create** button at the bottom of the Issue Creation form to create the Issue. A pop-up appears, stating Success!!

Video: 4.3 Tradesman_Issue.mp4

Questions and Feedback

1. What is your role in your company?
   A. Project Administrator ☐

B. Project Manager ☐
C. Planner ☐
D. Trades Manager ☐
E. Tradesman ☐
F. Engineer Consultant ☐
G. Field Engineer ☐
H. Estimator ☐
I. Others _____ ☐

2. What is your expertise level working with Smart Build?

A. Fundamental Awareness ☐
B. Novice ☐
C. Intermediate ☐
D. Expert ☐
E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Review work package assigned

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

ii. Progress work steps and work package

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

iii. Create and route issue in the field with attached photo

A. Very satisfied ☐

B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

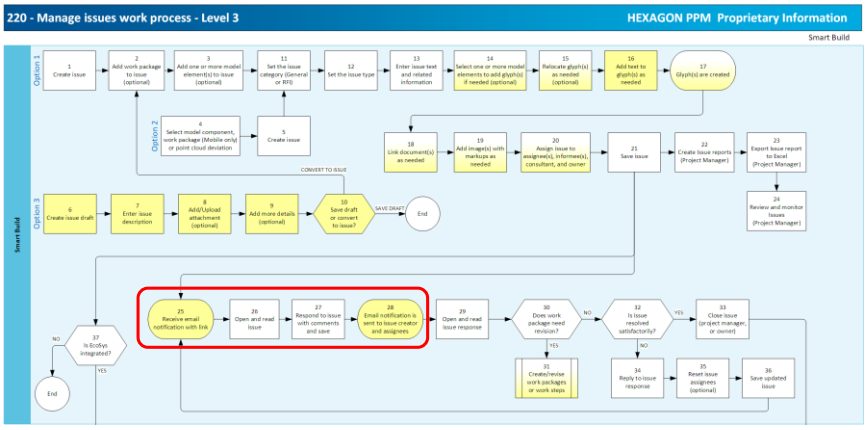
6. Architect/Engineer Consultant – Issues

6.1. Receive issue

Purpose

To filter and view all the Issues “assigned to me”.

Work process diagram



Pre-requisites

The Issue should be created and assigned to you.

You can view the list of Issues assigned to you by filtering the list view. The trigger for filtering is the filter on the top right-hand side of the Issue List view panel. You can select the necessary filters and click **SUBMIT** to view the list of Issues assigned to you in the Issue List view.

In this exercise, you will learn how to filter and view the Issues assigned to you.

Step-by-step – Filtering and viewing assigned Issue

1. Login to the Smart Build Web Client as the Architect/Engineer: **Beta_Engineer**
2. Click on the **Issue Management** icon in the Overview menu; this launches the Issues List view panel.
3. In the top right of the Issue List view panel, click on the filter icon , and select **Assigned to me** in the **Filter By** drop-down list to view the Issues assigned to you
4. You can further filter the list by selecting the different filters **Due Date**, **Status**, **Priority**, and the **Category**.
5. Click on **SUBMIT** to apply the filters to the Issues List view.
6. From the filtered Issues List view, click on the Issue card to view the Issue details.

Video: 5.1 - Consultant Issue Response.mp4

6.2. Respond to issue and attach document

Purpose

To respond to an assigned issue by adding comments, and attaching documents and/or images, and routing the issue by adding new assignees if needed.

In this exercise you will learn, how to respond to an issue assigned to you by adding comments, attaching documents and/or images and updating the status which is available in the Issue List view panel. The command **RESPOND** is available on the bottom-right of the Issue overview panel once you click on the Issue card from the Issue list view.

Pre-requisites

You can respond to an Issue assigned to you, once you have filtered your list view using the appropriate filters.

Step-by-step – Responding to an Issue

1. Login to the Smart Build Web Client as the Architect/Engineer: **Beta_Engineer**
2. Click on the **Issue Management** icon in the Overview menu; this launches the Issues List view panel. Select the issue assigned.
3. Click on the **RESPOND** button on the bottom right of the Issues overview panel. The issue form opens.
4. In the Issues form, you can change the **Status** field of the issue from **Open** to **In Progress**.
5. You should see the photo that was attached earlier. Click on the photo to view it.
6. In the **Attachments** section, click on the **ADD** button and select documents to add documents/ images to the issue from Smart Build Document repository.
7. To add attachments from the local file system, you can drag and drop the documents to the **Attachments** section or click **Browse** to select the files from the required path.
8. In **Comments** section, type your comments in the text box and click  .
9. On the bottom-right of the Issue response form, click on **SUBMIT** to send your response.

Additional Options

Note: Apart from the Beta workflow, you can also perform the following actions when responding to an Issue.

10. In **Assignees** section, if you want to add another assignee when responding, you can click on **ADD** and select a user from the list of users in the project.
11. You can add a model component to the issue by clicking **BROWSE MODEL** in **Model Elements** section and selecting the model component(s) from the model.
12. If you want to add a Work Package to the Issue, click **ADD** and select the work package component/components from the model in **Work Packages** section.

Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   B. Project Manager ☐
   C. Planner ☐
   D. Trades Manager ☐
   E. Tradesman ☐
   F. Engineer Consultant ☐
   G. Field Engineer ☐
   H. Estimator ☐
   I. Others _____ ☐

2. What is your expertise level working with Smart Build?

   A. Fundamental Awareness ☐
   B. Novice ☐
   C. Intermediate ☐
   D. Expert ☐
   E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Receive issue

   A. Very satisfied ☐
   B. Somewhat satisfied ☐
   C. Neither satisfied nor dissatisfied ☐
   D. Somewhat dissatisfied ☐
   E. Very dissatisfied ☐
   F. N/A ☐

Comments:

ii. Progress work steps and work package

   A. Very satisfied ☐
   B. Somewhat satisfied ☐
   C. Neither satisfied nor dissatisfied ☐
   D. Somewhat dissatisfied ☐
   E. Very dissatisfied ☐
   F. N/A ☐

Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

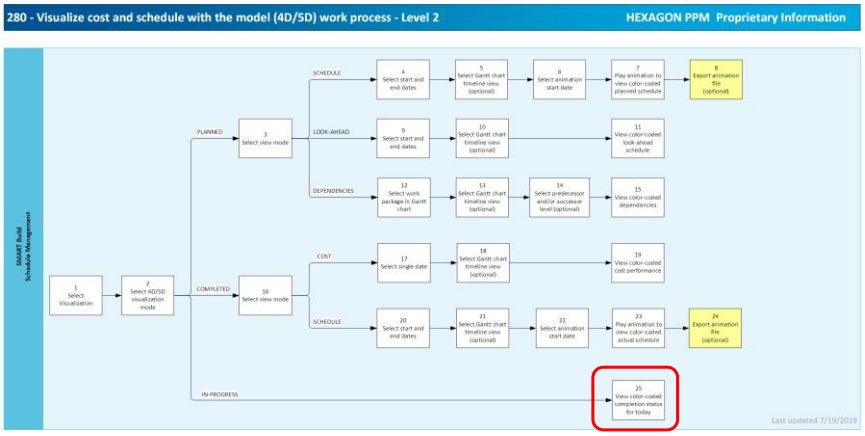
7. Project Manager - Work Packaging and Issues on Web Client

7.1. 4D model visualization (In-Progress)

Purpose

An introduction to Schedule Management – Smart Visualization Mode. Here you will learn how to check the current status of a project. Through color-coding of the work packages, you will be able to determine areas of the project that are: currently in progress (and if they are on-time, slightly behind, or very late), already completed, or yet to be started.

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

Also, we'll assume you've successfully created the new work package **Loading Dock Concrete Pad** with the correct planned start/end dates as well as added the one slab component.

Finally, we'll assume this work package has been routed to the field crew and progressed a bit.

Step-by-step

1. Login to Smart Build as Project Manager: **Beta_ProjectMngr@smartplantcloud.**
2. Click **Schedule Management** from hamburger menu. Select **Smart Visualization**.

   Note: *The default 4D/5D Visualization mode is In-Progress. This will be updated in a future version to always be the last-used mode (of the 3 choices).*

3. Notice the slab on the end of the building (the component from WP creation earlier) and its colour, which may be green (on-time), yellow (minor delay), or red (major delay), depending on its actual % complete vs. the planned % complete. Select this component in the model view. The component is highlighted (blue).

   Here, the WBS tree is highlighting for the user the WP this component is located within.

4. Click the overflow menu (3-dot) for this selected/highlighted work package. Select **View Details**.
5. The **View Details** panel opens on the right side of screen. Notice the **Planned Start/End Dates** for this WP. Gauge today's date against the **Planned End Date**. Now look at the progress %. The WP is X% done and there are Y days left to complete it.

6. Let's find out which work steps are falling behind. Click the **Work Step** tab in the Properties panel. Notice the percent complete of each work step. Identify the work step which seems to be falling behind. Expand it to view its details.

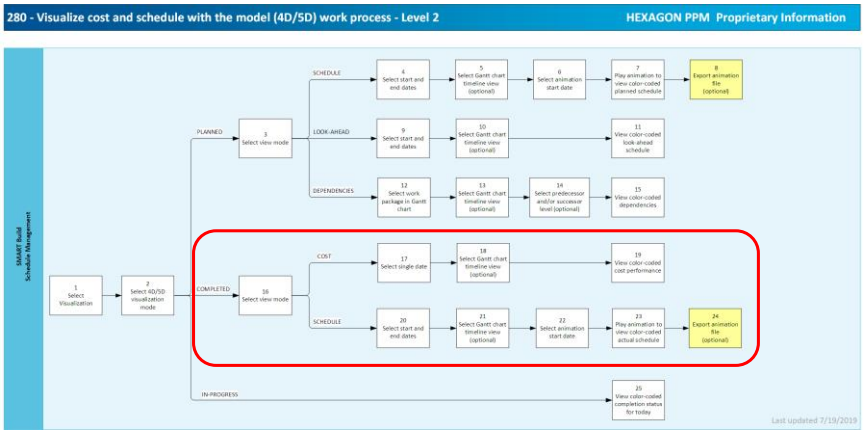
Video: 6.1 - 4D Visualization (In-Progress).mp4

7.2. 4D model visualization (Completed)

Purpose

An introduction to Schedule Management – Smart Visualization Mode. Here you will learn how to analyse completed portions of the project and identify which WP's were finished on-time, slightly behind schedule or very late.

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

Step-by-step

1. You should be logged in to Smart Build as: **Beta_ProjectMngr@smartplantcloud.**
2. Click **Schedule Management** from hamburger menu. Select **Smart Visualization**.

***Note**: The default 4D/5D Visualization mode is In-Progress. This will be updated in a future version to always be the last-used mode (of the 3 choices).*

3. Select the dropdown menu for **4D/5D Visualization** and select **Completed**.

4. Leave the **View** dropdown menu on **Schedule**. Observe the dates given by default for **Start** and **End Date** calendar boxes. These dates encompass the entire project timeline.
5. Change the **End Date** to today's date.

   Notice the bottom side-to-side scrollbar. Use it as necessary to view different areas of the timeline (Gantt chart) left to right.
6. Make sure on the timeline you can see both the green (start) and red (end) bars. These should match the Start/End dates above.
7. Locate the animation buttons above the timeline view. Click Play.

   The animation now plays, one day at a time, from Start to End dates. Notice how after **Play** is clicked the entire model goes grey transparent. As the animation plays (1day at a time) the work packages start to show colours. This color-coding is indicating how the WP was delivered. Meaning, when it finally reached 100% complete, was it on-time, slightly late (minor delay), or very late (major delay)?
8. Notice as of today (the end of the animation), the large slab on end of building is still grey-transparent. As we just determined in a previous exercise that WP is not yet 100% progressed and therefore not yet delivered and color-coded in this view.

Video: 6.2 - 4D Visualization (completed)

7.3. Visualize, review & close issues

Purpose

An introduction to Issue Management. Here you will learn how to review, respond to, and close Issues that are assigned to you.

Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

Also, we'll assume the tradesmen has created an issue in the field and assigned to the Project Manager for review.

Step-by-step

1. You should be logged in to Smart Build as: **Beta_ProjectMngr@smartplantcloud.**
2. Select **Issue Management** from the hamburger menu.

   As the Project Manager, you see all issues 'cards' created for the project. Let's determine if Beta_ProjectMngr specifically has any issue to review
3. Click the filter icon top-right corner of the issue panel.

   Select: **Filter By**. Select: **Assigned to me**.

   Select: **Status**. Select: **In Progress**

   Under Category, check the 3 boxes **CVI**, **General**, and **RFI**

Click **SUBMIT**

4. You are returned to the main list of Issue cards. The list now only has one Issue.

   Issue: **General000000**

   This issue is being worked and the **Beta_ProjectMngr** is an assignee on it.

5. Click on the Issue card to see the details

   After reading the description and some comments it's determined the issue is related to the slab being shorter than expected.

   It would be at this time that you would also see any work packages (and their components) attached to this issue, highlighted in the model. Additionally, you would see a marker pin (glyph) attached to a specific component identifying (perhaps) a more specific location of the issue. This functionality is coming in a future version.

6. Click the **RESPOND** button at bottom-right.
7. In the Overview section, change the **Status** drop down to: **Closed.**
8. In the **Official Response** field, add the comment "*We will not increase the size of the pad. This is as designed. Closing issue.*".
9. Click **SUBMIT** in bottom-right of panel.

You are returned again to the list of Issue cards. You should see issue **General000000** now has a status of **Closed**.

Video: 6.3 - Visualize, review and close issue

Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   B. Project Manager ☐
   C. Planner ☐
   D. Trades Manager ☐
   E. Tradesman ☐
   F. Engineer Consultant ☐
   G. Field Engineer ☐
   H. Estimator ☐
   I. Others _____ ☐

2. What is your expertise level working with Smart Build?

   A. Fundamental Awareness ☐
   B. Novice ☐
   C. Intermediate ☐
   D. Expert ☐
   E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. 4D model visualization (In-Progress)

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

ii. 4D model visualization (Completed)

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

iii. Visualize, review & close issues

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

8. Retrieve Updated Schedule – Schedule Compare

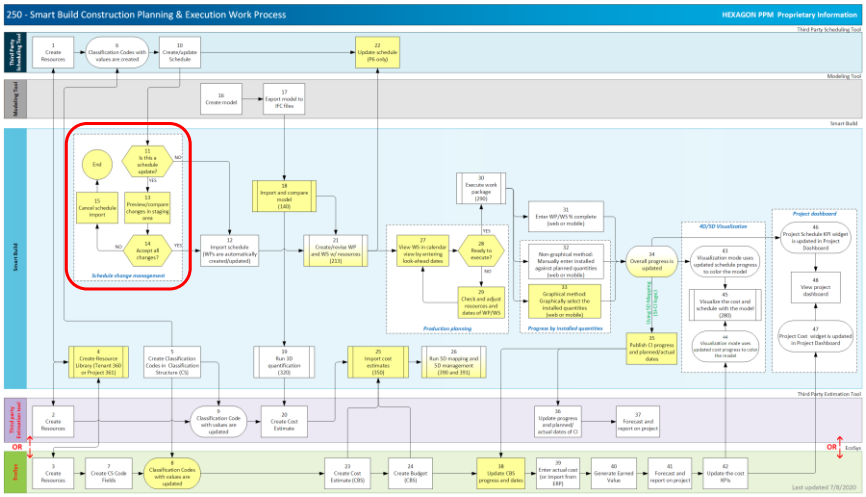
8.1. Retrieve Schedule from P6 and View changes

Purpose

When a new version of the schedule is available for use in Smart Build, retrieving from P6 brings the new schedule version into a temporary staging area. Smart Build analyses and compares this new version with the schedule that currently exist in Smart Build. The changes are displayed to the user (highlighting the new, deleted and revised schedule items) so the user can make a decision to import the new schedule into the working area of Smart Build, thereby overwriting the existing schedule, or to reject the new schedule and keep the existing schedule.

In the current version of Smart Build, the user can import or reject the entire new schedule version. In a future version of Smart Build, the user will be able to selectively accept or reject individual schedule items for import.

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

Step-by-step

1. You should be logged in to Smart Build as Planner : **Beta_Planner@smartplantcloud**
2. Click **Schedule Management**  . Select **Scheduling**
3. Click on the overflow menu on **Scheduling** pane and select **Retrieve from P6.**

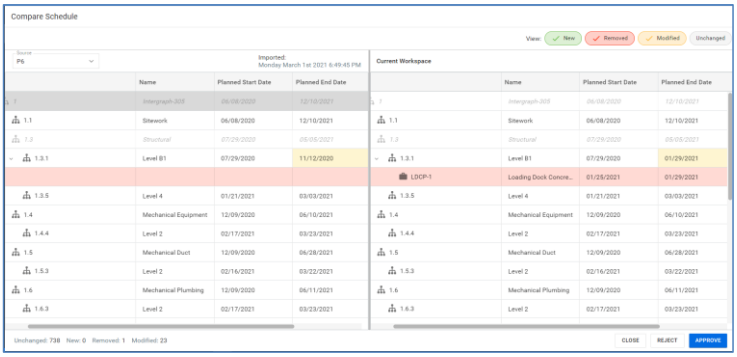
Note: *You can load the schedule using XML file from* ***Work Breakdown Structures*** *section in* ***Edit Project Details*** *page. Go to* ***Manage projects*** *and from Projects List select the Project, Click the overflow menu and select* ***Edit****.*

4. After receiving a notification, click on **Schedule Compare**  from **Scheduling** pane.

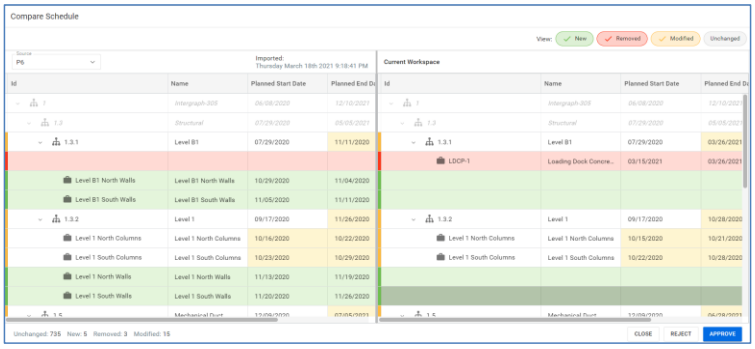
Note: *You can click* ***COMPARE*** *from Notification pane.*

5. Review the changes (new, modified, and deleted items)
6. Notice that the Work Package **LDCP-1** (1 Intergraph-305 -> 1.3 Structural ->1.3.1 Level B1 ->LDCP-1) included in current schedule is marked in Red because it does not exist in latest schedule.

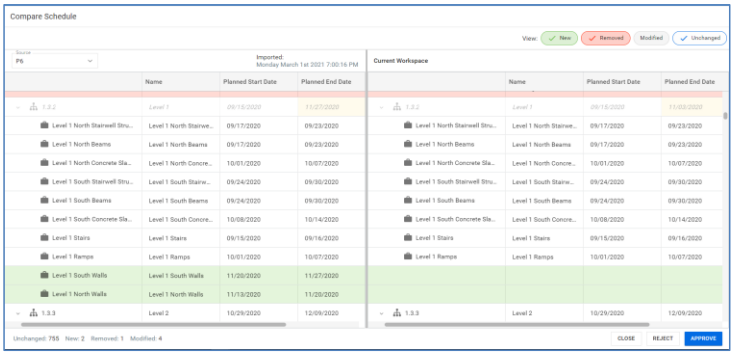
Note: *Number of items unchanged, new, removed and modified items can be seen at the bottom.*



7. Notice that the work packages **Level 1 North Columns** and Level 1 South Columns under the WBS 1.3.2 Level 1 (1 Intergraph-305 -> 1.3 Structural -> 1.3.2 Level 1) are marked in Yellow as the Planned End Date for them has been changed. (Unselect Unchanged)



8. Notice that the work packages **Level 1 North Walls** and **Level 1 South Walls** under the WBS **1.3.2 Level 1** (1 Intergrapg-305 -> 1.3 Structral -> 1.3.2 Level 1) are marked in Green because they are added newly to the latest Schedule.



8.2. Approve new schedule for retrieval into Smart Build

Purpose

Here you will learn how to This overwrite the existing schedule

Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

Also, we will assume that you have retrieved latest schedule from Primavera P6 as discussed in previous section.

Step-by-step

1. You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**
2. Click **Schedule Management** from hamburger menu. Select **Scheduling**
3. Click on **Schedule Compare**
4. Click on **APPROVE**.
5. Once the schedule is imported into project from staging area, you will receive a notification.

Note: *This will overwrite the existing schedule and the manually created WP (Loading Dock Concrete pad) is now deleted, because it did not exist in the new (version 2) schedule*

8.3. View the Schedule

Purpose

Here you will see the updated schedule.

Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document). New Schedule retrieved/loaded should be approved.

Step-by-step

1 You should be logged in to Smart Build as Planner: **Beta_Planner@smartplantcloud**

2 Click **Schedule Management**  from hamburger menu. Select **Scheduling**.

3 In **Scheduling** pane,

- Navigate to WBS item 1 Intergraph-305 > 1.3 Structural > 1.3.1 Level B1 and notice the work package LDCP-1 has been deleted.
- Navigate to Work package 1 Intergraph-305 -> 1.3 Structural -> 1.3.2 Level 1 > Level 1 North Columns, click the overflow menu and select View Details. Notice the change in Planned End Date.

Tip: Repeat the step for work package Level 1 South Columns (1 Intergraph-305 -> 1.3 Structural -> 1.3.2 Level 1 > Level 1 South Columns)

- Navigate to WBS item 1 Intergrapg-305 -> 1.3 Structural -> 1.3.2 Level 1and notice the newly added work packages Level 1 North Walls and Level 1 South Walls.

Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   B. Project Manager ☐
   C. Planner ☐
   D. Trades Manager ☐
   E. Tradesman ☐
   F. Engineer Consultant ☐
   G. Field Engineer ☐
   H. Estimator ☐
   I. Others _____ ☐

2. What is your expertise level working with Smart Build?

   A. Fundamental Awareness ☐
   B. Novice ☐
   C. Intermediate ☐
   D. Expert ☐
   E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Retrieve Schedule from P6 and View changes

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

ii. Approve new schedule for retrieval into Smart Build

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

iii. View the Schedule

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.

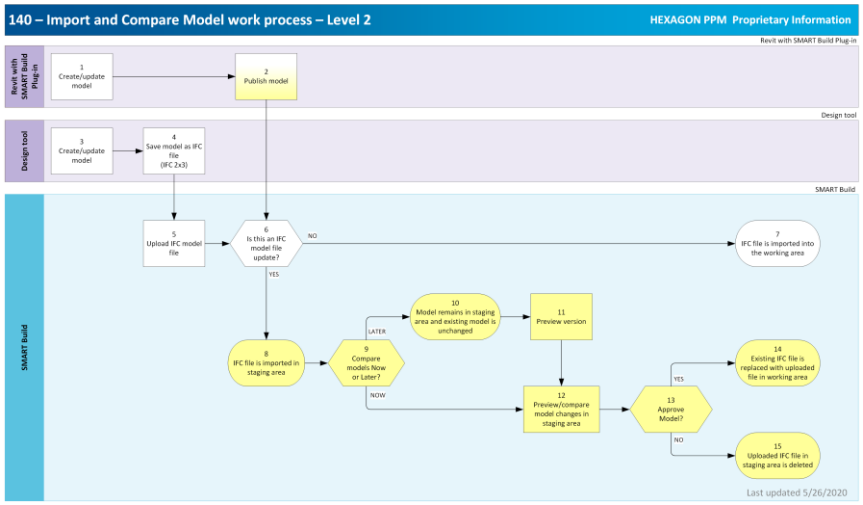
9. Model Compare

9.1. Upload a new version of model and View changes

Purpose

When a new version of the model is available for use in Smart Build, uploading a version brings the new model into a temporary staging area. Smart Build analyses and compares this new version with the model that currently exists in Smart Build. The changes are displayed to the user (highlighting the new, deleted and revised items) so the user can make a decision to import the new model into the working area of Smart Build, thereby overwriting the existing model, or to reject the new model and keep the existing model.

Work process diagram



Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data including model ifc file and integration already configured (procedures which were covered separately earlier in this document).

Note: *Deleting and then recreating any given model item (in a modelling tool) will result in the deletion of the first version of that item from Smart Build, and the creation of the second version of that item within Smart Build with a different UID. Moving model items between model files (e.g. dividing a single model file into multiple model files) is likely to have similar effect, although it would be deleted and recreated with the same UID. You may wonder why deleting one version and replacing it with a new, but similar or even exact version is bad, and that is because any associations (to Work Packages, Classification Structures, Issues, etc.) will be lost when the model item is deleted.* ***Your work process must be designed with these assumptions in mind.***

Step-by-step

1. You should be logged in to Smart Build as Project Manager: **Beta_Projectmngr**
2. Click the hamburger menu button to the left of Overview . This displays the individual modules full name; easier for initial navigation
3. Click **Model Management** > **Manage Models** .

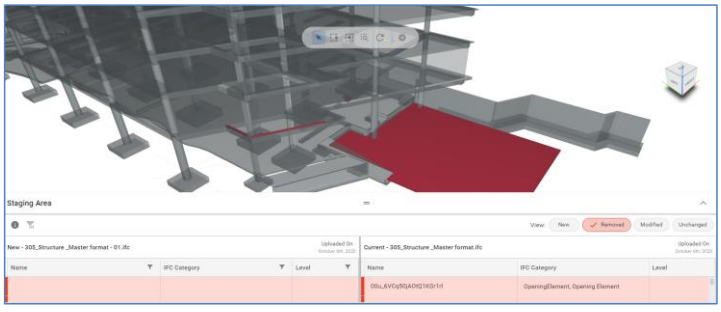
Tip: You can again click the menu button to the left of Manage Models at the top of the screen. This will hide the individual module names and return to just icons again.

4. Click Overflow button next to the "*305_Structural Version1.ifc*" file.
5. Select **Upload Version**.
6. Select the file "*305_Structural Version 2.ifc*" file.
7. When the file gets loaded 100%, **UPLOAD** button is highlighted. Click it.
8. After receiving a notification, click Overflow button next to the Structure file, select **Compare**.

Note: *You can click* ***COMPARE*** *from Notification pane.*

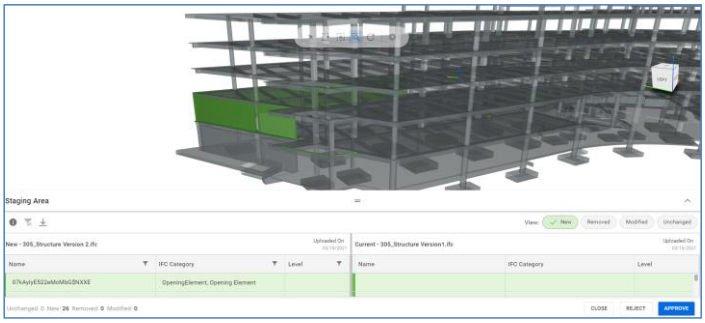
9. Review the changes (new, modified, and deleted items)
10. Click **New, Modified** beside **View**. Notice that the Concrete pad in Level B1 is shown in red as it is deleted in new version.

Note: *Number of items unchanged, new, removed and modified items can be seen at the bottom.*



11. Click **Removed, New** beside **View** and see the walls in Level 1 are highlighted in green because they are added newly in latest Model.

Note: *If you select New and Removed view options at the same time, some model elements might not be visible for selection. Also, the property panel shows a different model's details. This happens due to the overlapping of the model elements. Instead, select either New or Removed view option to avoid the overlapping.*



9.2. Approve new model retrieved into Smart Build

Purpose

Here you will learn how to approve and overwrite the existing Model

Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document).

Also, we will assume that you have uploaded a new version of model.

Step-by-step

1. You should be logged in to Smart Build as Project Manager: **Beta_Projectmngr**
2. Click **Model Management** > **Manage Models** from hamburger menu.
3. After receiving a notification, click Overflow button next to the "*305_Structural.ifc*" file, select **Compare**.
4. Click **APPROVE**.
5. Once the model is imported into project from staging area, you will receive a notification.

Note: *This will overwrite the existing model, (Loading Dock Concrete pad) is now deleted, because it did not exist in the new (version 2) schedule*

9.3. View the model linking

Purpose

Here you will see the updated model.

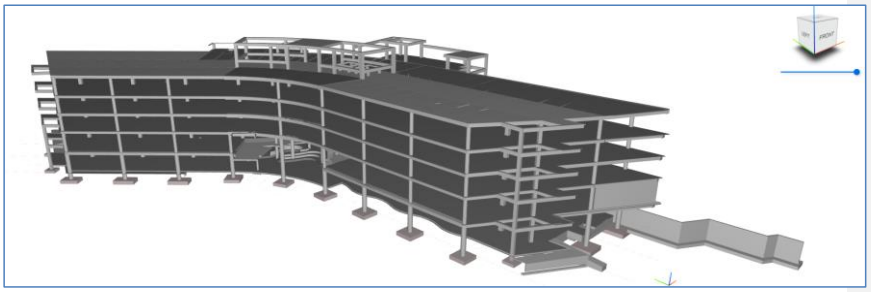
Pre-requisites

It will be assumed you have successfully navigated to the project assigned to you. This project has all necessary data and integration already configured (procedures which were covered separately earlier in this document). Model elements in earlier version file should be linked to work packages before approving the latest version.

Step-by-step

1 You should be logged in to Smart Build as Project Manager: **Beta_Projectmngr**

2 On the Overview page, you can see the deleted slab (Notice the Model for work package LDCP-1 has been deleted.) Similarly, notice the newly added Walls in 3D model.



3 Click **Schedule Management** from Hamburger Menu. Select **Planning**.

4 Navigate to the work package "*Level B1 North Columns"* (1 Intergraph-305 > 1.3 Structural > 1.3.1 Level B1 > Level B1 North Columns).

5 Click the model icon on the top of **Planning** pane and you can see the retained model elements attached to the above work package are highlighted.

Questions and Feedback

1. What is your role in your company?

   A. Project Administrator ☐
   J. Project Manager ☐
   K. Planner ☐
   L. Trades Manager ☐
   M. Tradesman ☐

N. Engineer Consultant ☐
O. Field Engineer ☐
P. Estimator ☐
Q. Others _____ ☐

2. What is your expertise level working with Smart Build?

A. Fundamental Awareness ☐
B. Novice ☐
C. Intermediate ☐
D. Expert ☐
E. Advanced ☐

3. Using the software, please note your impression of following workflows:

i. Upload a new version of model and View changes

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

ii. Approve new model retrieved into Smart Build

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐
F. N/A ☐

Comments:

iii. View the model linking

A. Very satisfied ☐
B. Somewhat satisfied ☐
C. Neither satisfied nor dissatisfied ☐
D. Somewhat dissatisfied ☐
E. Very dissatisfied ☐

F. N/A ☐

Comments:

4. Are there any improvements you would like to see in the Workflows?

5. Comment about User Interface.

6. What is your impression of Smart Build?

7. If you would be willing to communicate further with Smart Build Development and Product Management, please provide your email address.