National Highways

Benchmark Apps

Parametric Models User Guide

Copyright

The information contained in this document and the software described in this document (the *software*) has been prepared with due care. This document and the software are offered only for the purpose of providing useful information to assist those interested in matters associated with the cost estimating on a resource basis for projects.

Whilst every effort has been made to ensure that this document and the software are in accordance with current practice, they are not intended as exhaustive statements on estimating and the methods used for estimating. Benchmark Global Pty Ltd. accepts no responsibility for errors in, or omissions from, the document or the software, nor work is done or omitted to be done in reliance on this document or the software.

Benchmark Estimating Software contact details

Australia - Sydney	**United Kingdom**	**Australia - Nowra**
Level 1, 83-89 Renwick Street,	Level 17,111 Piccadilly,	PO Box 952, 49 Berry Street,
Redfern, NSW 2016	Manchester M1 2HY	Nowra, NSW 2540
Office Phone: +61 (0)2 8396 6555	Office Phone: +44 (0)161 228 3351	Office Phone: +61 (0)2 4422 3444

Benchmark Estimating Software website: www.benchmarkestimating.com

Benchmark Support and Training

Email Benchmark Support (support@benchmarkestimating.com) or **call**:

- **Australia and New Zealand** - +61 (0)2 4422 3444
- **UK / Europe**
  - **UK** - +44 (0)161 667 1605
  - **France** - +33 (0)1 84 88 53 76
- **USA and Canada** - 1800 469 9405

Produced in Australia

benchmark
estimating software

Table of Contents

Benchmark Apps - Parametric Models Overview

Benchmark apps, built using Microsoft Power Apps, offer an intuitive, cloud-hosted solution for Parametric Models. This application allows Estimators to perform a two-step process, where:

- Estimators can input details about the works to be undertaken in a sophisticated app interface to produce the list of quantities and review these quantities.
- These quantities are then priced in Benchmark i.e., the Bill of Quantity (BQ or BOQ) is then created back in Benchmark.

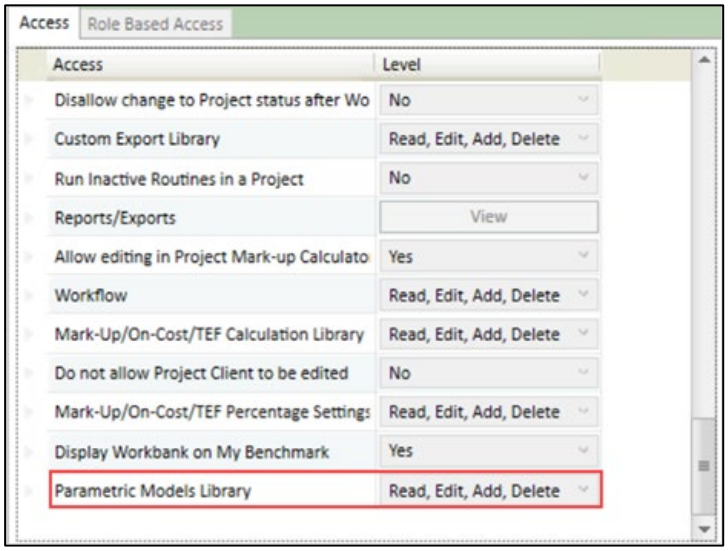
  Estimators can also view a summarised or full version of the BQ in the app. At this stage, the BQ in the app is read-only.

Prerequisites

To use the Parametric Models feature in Benchmark, you must have:

- Access to Microsoft Power Apps in your organisation.
- Permission to use the Parametric Models app in Power Apps.
- PowerApps URL configured in Administration > Integration Settings > PowerApps.

  Contact your system administrator for more information.
- Parametric Models Library role-based or individual access. An administrator can provide the relevant level of this access to the estimator from the Estimator Library or Role Based Access windows.



Accessing Parametric Models

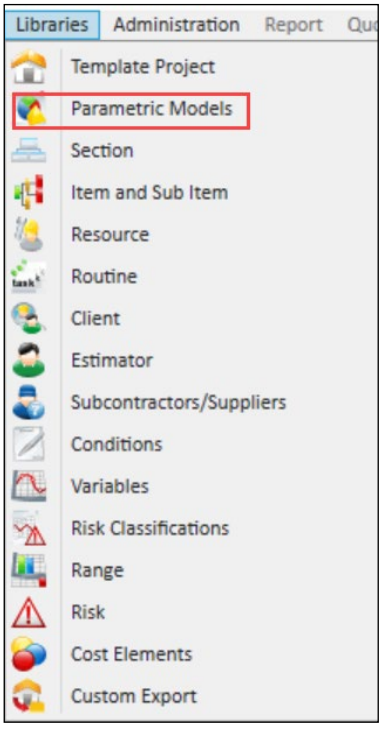
You can access the Parametric Models feature from:

- Benchmark
- LoadSpring Homepage

Accessing the App from Benchmark

From the main Benchmark menu:

1. In the My Benchmark window, select **Libraries**.
2. Select **Parametric Models**.



3. Open the relevant **Project Section** or **Composite Total**.
4. Select the **Parametric Model** icon in the toolbar. Alternatively, use the right-click menu option.
5. The app will open in your web browser.

> You can continue working in Benchmark when the Parametric Models app is open.

Accessing the App from LoadSpring

You can access the Parametric Models app from the LoadSpring Homepage.

1. Go to the LoadSpring homepage.
2. From My Applications section, select Benchmark Apps - Parametric Models.

   The app opens in your web browser.

Navigating the App

There are several model types available and in development for this feature. In this document, we will look at the some of the implemented model types, such as Indirect Works and Regional Investment Programme (RIP).

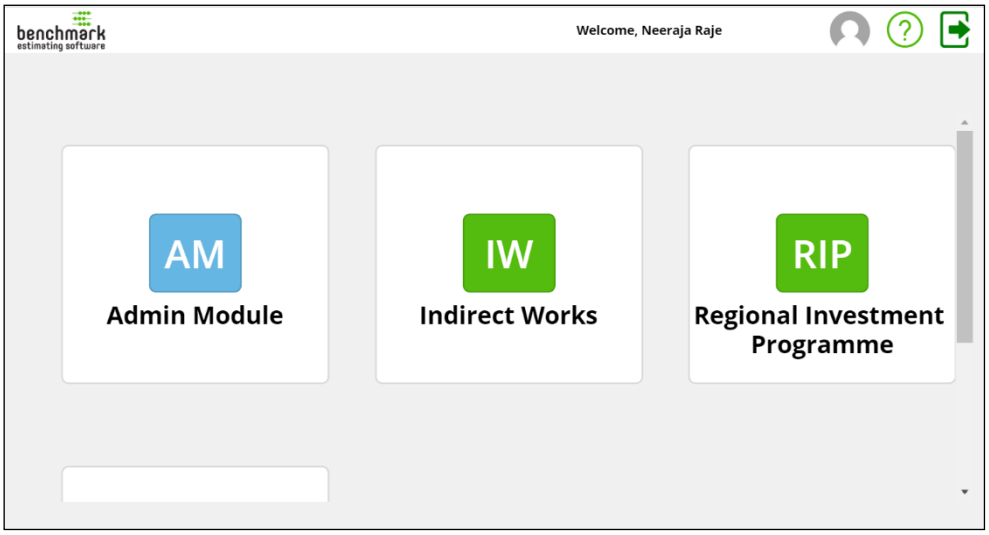
The Indirect Works model is also called the Preliminary model or Prelims model.

Landing Page

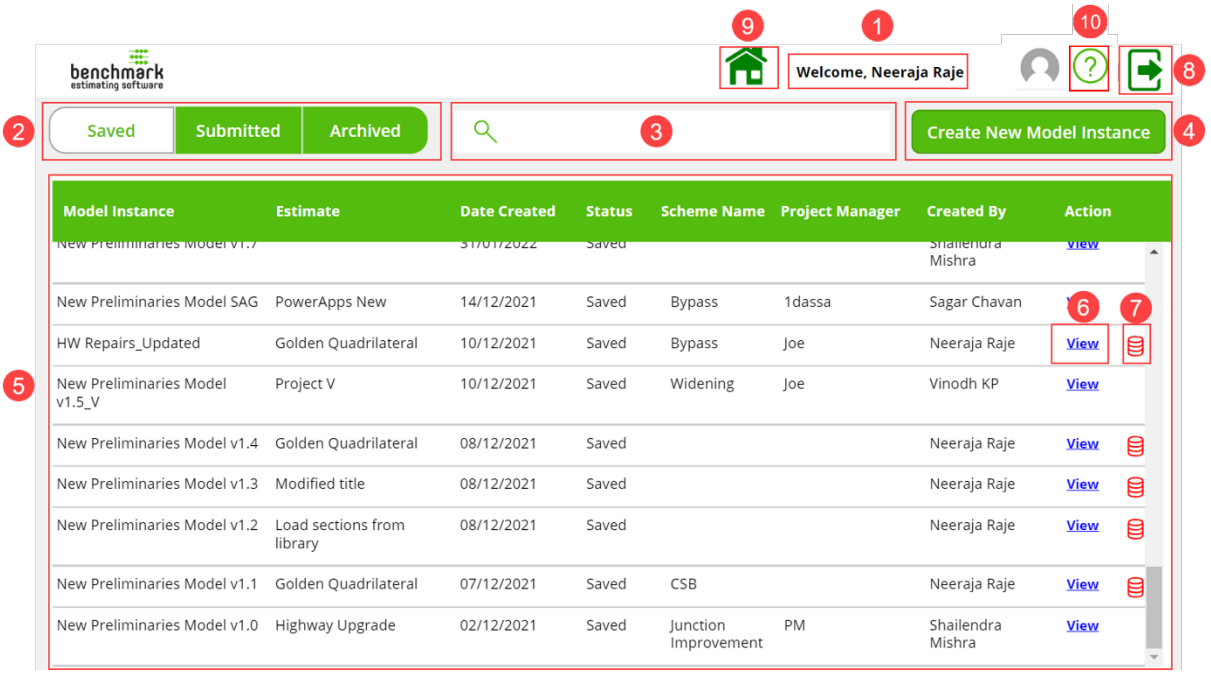
The app landing page allows you to select a model type to view the saved, submitted and archived model instances or create a new one.

Only users with an Administrator role for this application in Power Apps will have access to the Admin Module.

Use the scroll bar on this page to view all the model types available to you.



Summary Page



1 - Displays the name of the logged in user.

2 - Use this toggle to view the list of Saved, Submitted or Archived model instances.

3 - Search for model instances.

4 - Create new model instances.

5 - Displays key information for each of the model instances:

- Model Name
- Estimate Name
- Date the instance was created
- Status of the model instance – *Saved*, *Submitted* or *Archived*
- Scheme Name
- Name of the Project Manager
- Name of the user who created the model instance

6 - View all the details for the selected model instance.

7 - Archive the model instance.

8 - Log out of the application.

9 - Go back to the Home (previous) screen.

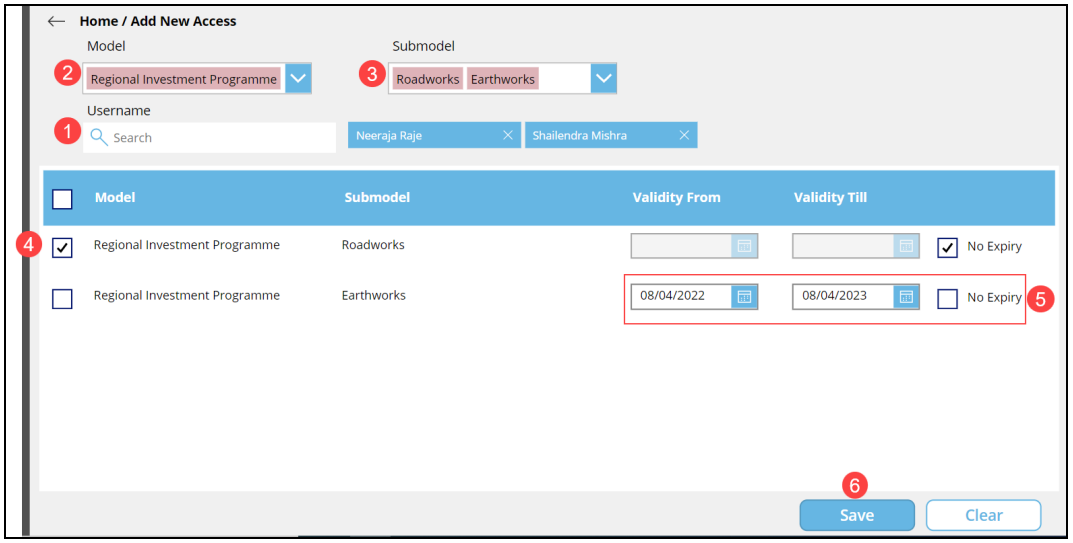
10 - Open this Help document.

Managing User Access

Administrators must grant users access to the relevant model types and sub models. This access can be granted for a set duration, if required.

Setting Up New Access

1. Open the Parametric Models app.
2. Select Admin Module.
3. Select the New Access + button.



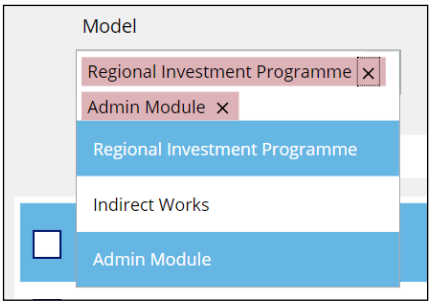
4. From the *Username* 1 dropdown, search and select the relevant user(s).

   To remove a selected user, select x in their username tab.

5. From the *Model* 2 dropdown, select all the model types you want this user to be able to access.

   For example, *Regional Investment Programme*.

   To remove a selected model type, select x.



6. From the *Submodel* 3 dropdown, select all the sub models that you want this user to be able to access.

   For example, if you select the model type *Regional Investment Programme*, then *Roadworks*, *Earthworks*, *Drainage*, *Carriageway*, *Signs & Lighting* will be the sub models available for selection.

   To remove a selected sub model, select x.

7. All the selected models / sub models will be added to the grid, with a default validity of one year.

8. Select the relevant row (model / sub model) 4

   Alternatively, use the checkbox in the header to select all the rows.

9. To modify the default access duration, use the *Validity From* and *Validity To* calendar tools or check *No Expiry* 5

10. Select Save 6

Modifying User Access

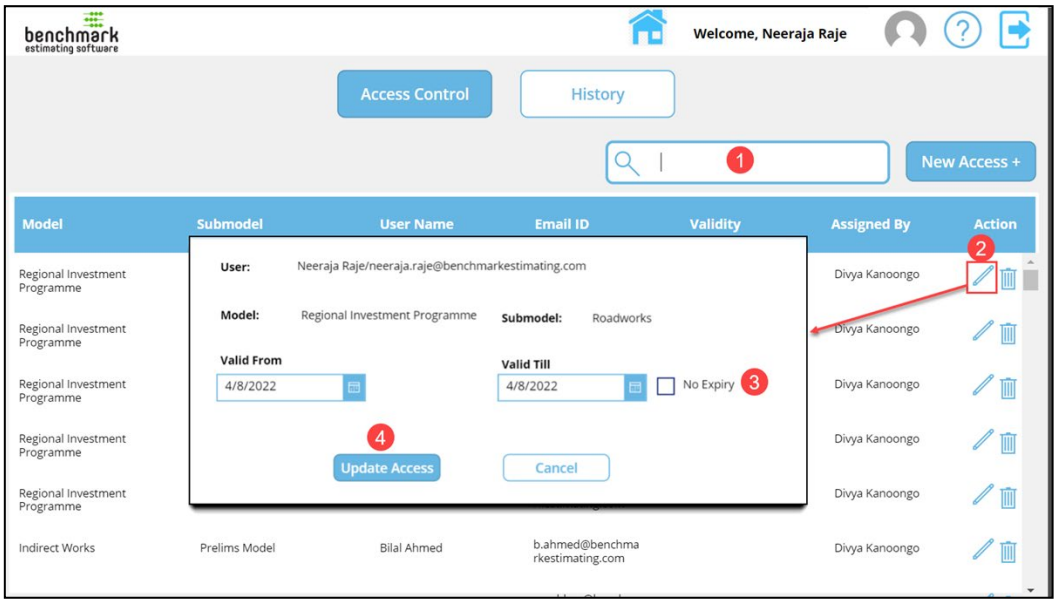
The Access Control tab lists all the users and their access within the application. Administrators can modify the duration for which users can access the assigned models/sub models.

1. In the Access Control tab, search 1 the relevant user.

   You can also search by:

   - Model
   - Sub model
   - Email
   - User who assigned the access

2. Select the Edit 2 icon.
3. In the pop-up screen, modify the validity of the user's access to this model/sub model or select *No Expiry* 3
4. Select Update Access 4



Deleting User Access

Administrators can revoke a user's access to the assigned models / sub models.

1. In the Access Control tab, search the relevant user.
2. Select the Delete icon for the model / sub model you no longer want this user to access.

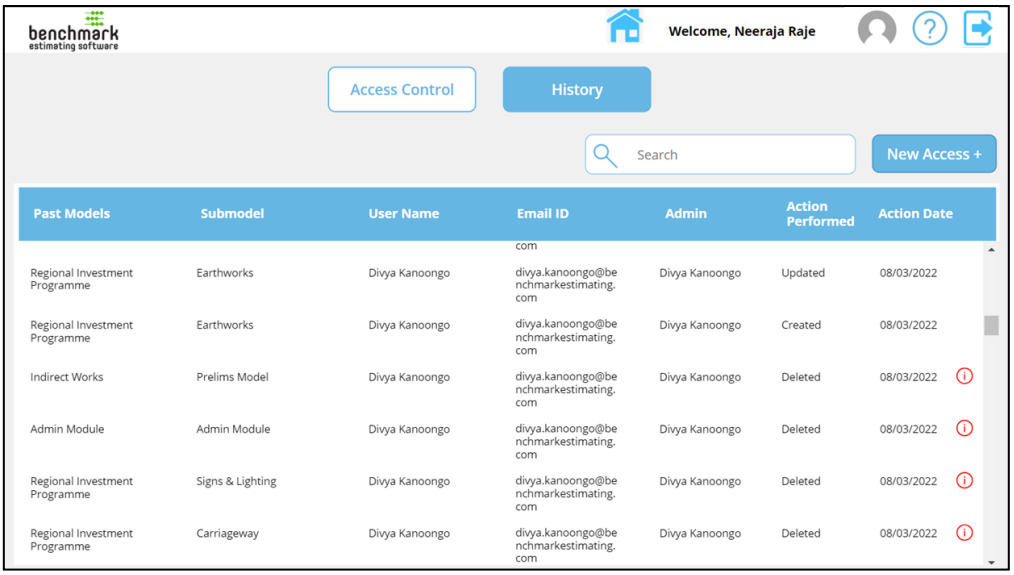
   The following confirmation prompt displays:

"Are you sure you want to delete <Model Type – Sub Model Name> model access for <Username>?"

3. Enter comments in the text area within the prompt, if required.
4. Select Yes.

Viewing Access History

The History tab of the Admin Module shows all the access created, updated and deleted by Administrators.



An information icon ⓘ displays if a comment was added when deleting an access. Select the icon to view the comment.

Creating New Model Instances

You can create model instances for Project Sections and/or Composite Totals within those Sections. Note that, only one model instance (of any model type) can be created for a Project, Section and Composite Total.

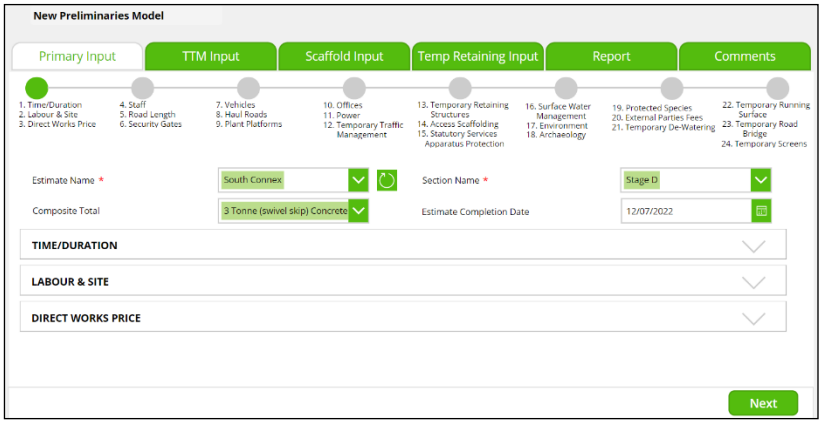
Indirect Works (Prelims)

1. Open the Parametric Models app.
2. Select Indirect Works > Prelims Model.
3. Select Create New Model Instance.
4. In the Primary Input tab, select the *Estimate Name*, *Section Name* and *Composite Total*.

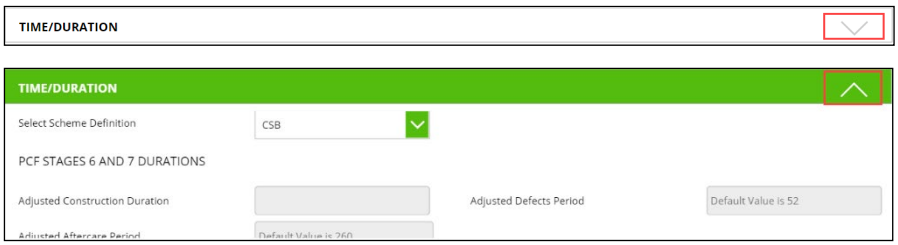
   Estimate Name and *Section Name* are mandatory fields.

   Select the Reload Estimate Name List button to refresh the list of Estimates, if required.

   If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite Total *Description* from Benchmark.



5. Use the up and down arrows on the accordions to expand or collapse panels in the screen.

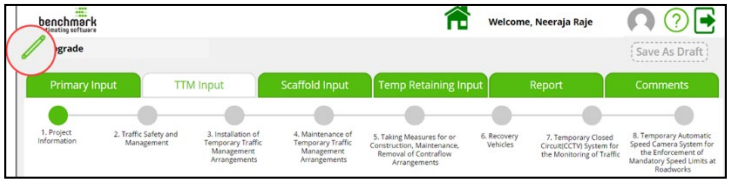


6. Enter / select details for all the relevant fields in each of the panels in the screen.
7. Select Next to continue proceeding to the next screens.

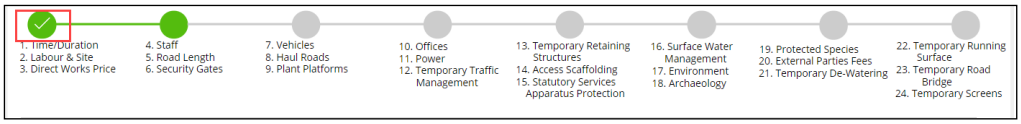
When you proceed from the first screen, you will be prompted to enter the model instance name.

8. Enter a unique name and select Continue.

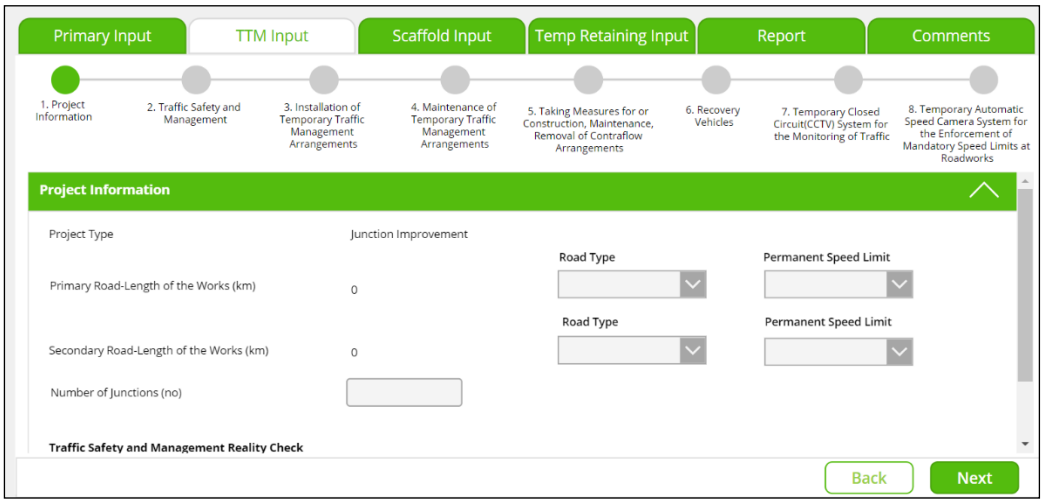
If required, you can edit this name in any of the screens using the Edit icon. Then, Save the new name.



Each completed screen is denoted by a tick within a green circle in the progress line. Active screens are denoted by a green circle. Screens pending completion are denoted by grey circles.



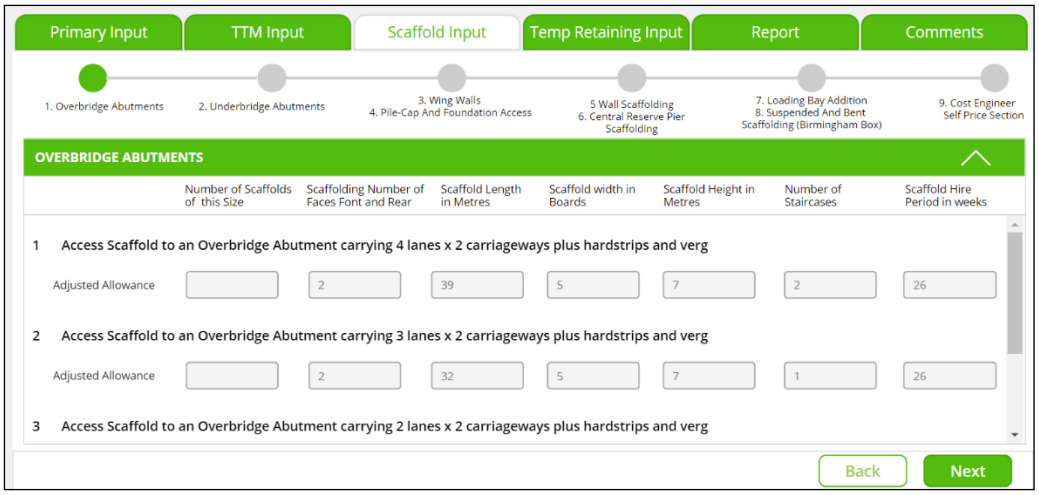
9. Enter / select details for all the relevant fields in each of the panels in the TTM Input tab.



10. Select Next to continue proceeding to the next screens.

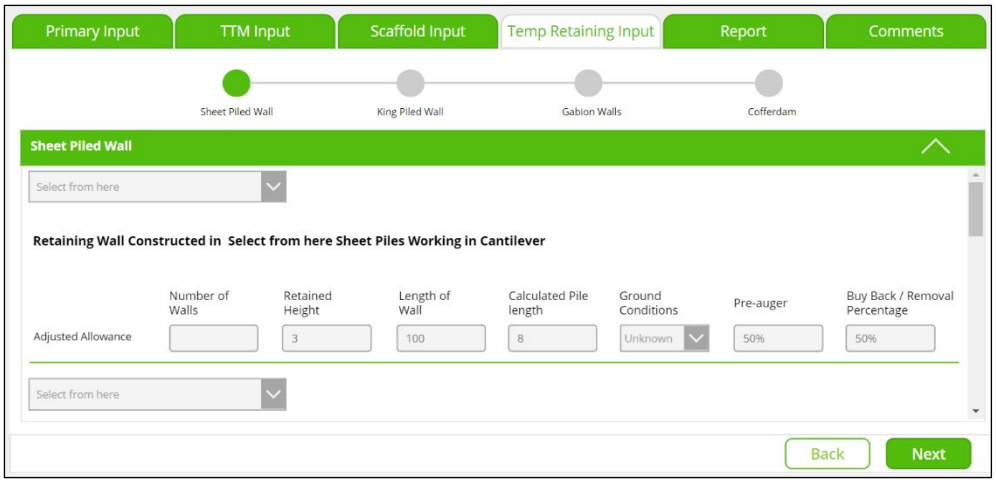
You can select Back to return to the previous screen and make changes.

11. Enter / select details for all the relevant fields in each of the panels in the Scaffold Input tab.



12. Select Next to continue proceeding to the next screens.

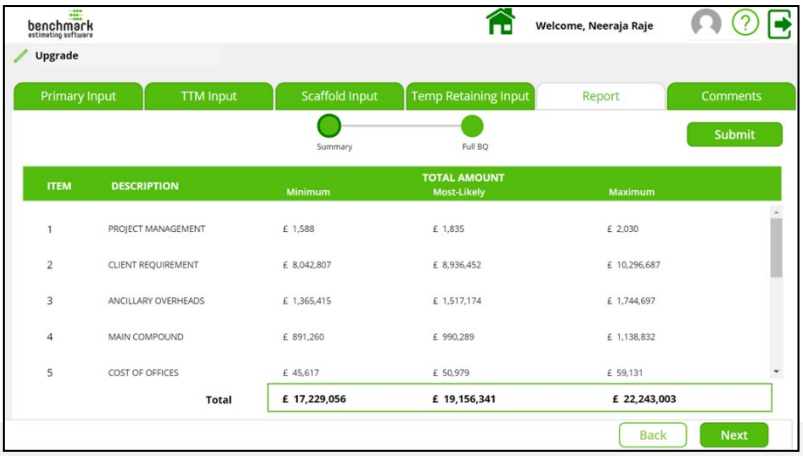
13. Enter / select details for all the relevant fields in each of the panels in the Temp Retaining Input tab.



14. Select Next to continue proceeding to the next screens.

15. In the Report screen, review the summary of the BQ.

Alternatively, select Full BQ to review all the details of the Bill of Quantities.

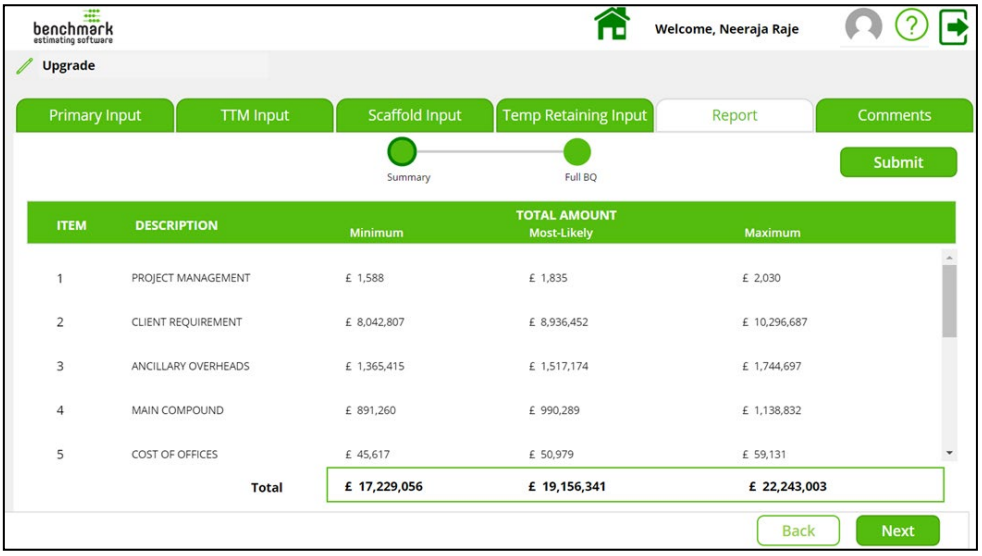


16. Select Submit.

The BQ will be created in Benchmark.

Viewing the BQ

When you submit a model instance from the Parametric Models app:

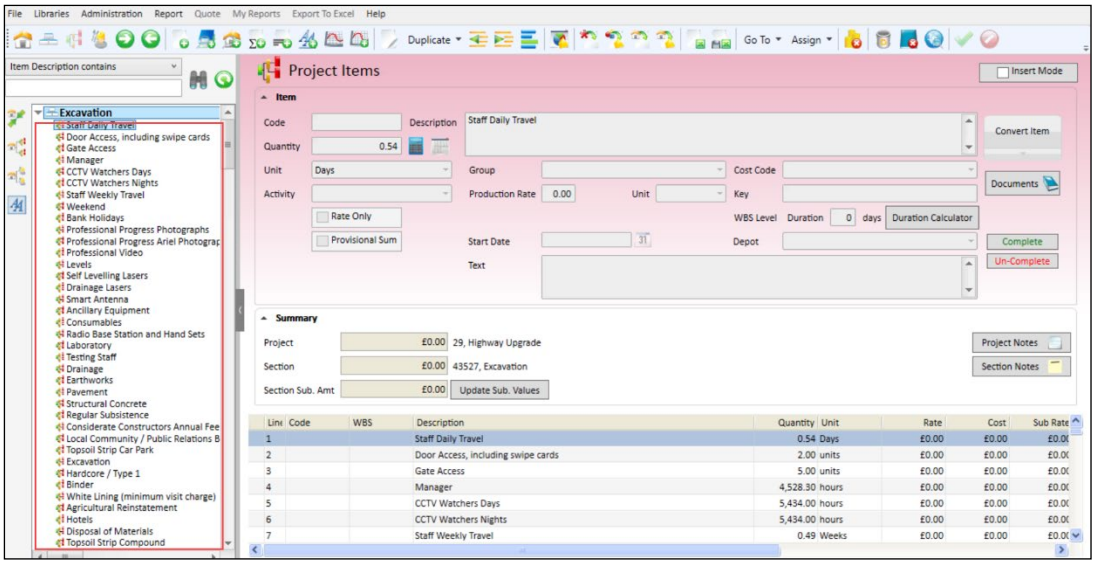


- A BQ is created back in Benchmark.
- BQ line items are created as part of a Section or Composite Total.
- BQ line items with quantity and units are created as normal items.
- BQ line items without quantity and units are created as text items.
- BQ line items with 0 quantity are not created.

To view the BQ created in Benchmark:

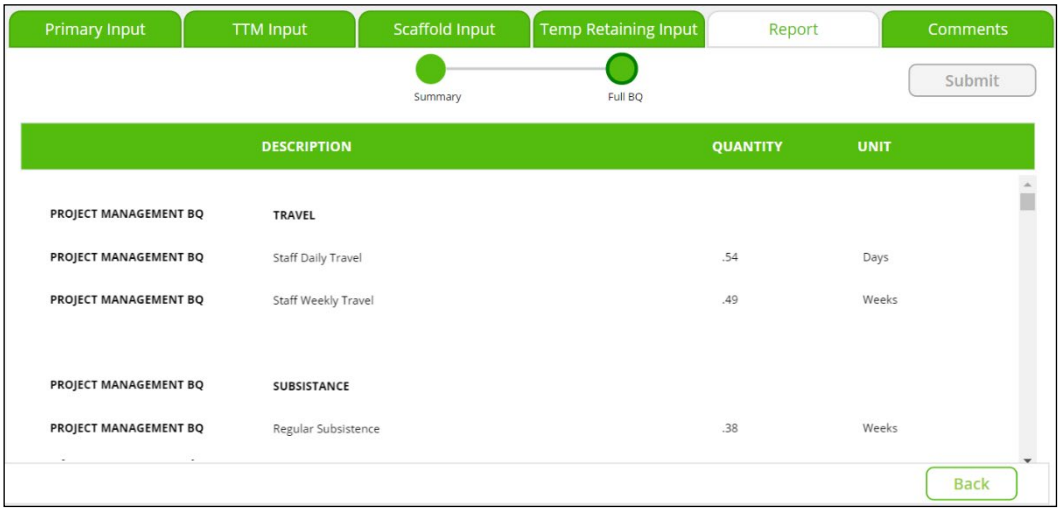
1. Open the Project for which you created the BQ.
2. Select the relevant Section.

   All the BQ line items are created as Project Items.



You can also view these items in the app using the **Full BQ** option (read-only BQ) in the Report tab.

All the Items from the legacy Excel files will be displayed here. Only the non-zero quantity Items will be created in Benchmark.



Regional Investment Programme (RIP)

The RIP model includes the following sub models:

- Roadworks
- Earthworks
- Drainage
- Carriageway
- Signs & Lighting

This topic describes the process of creating a Roadworks submodel instance in the application to generate a Bill of Quantities (BQ). You can create other submodel instances following a similar process.

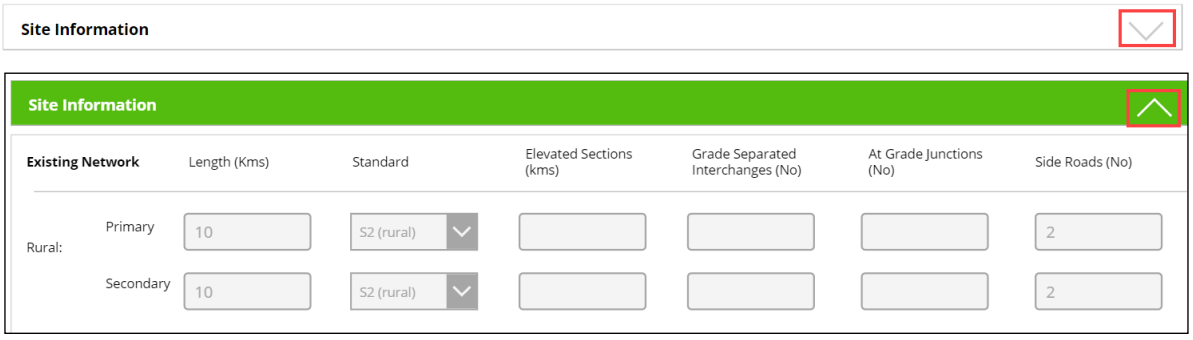
1. Open the Parametric Models app.
2. Select Regional Investment Programme.
3. Select Roadworks.
4. Select Create New Model Instance.
5. In the Options Parameters tab, select the *Estimate Name*, *Section Name* and *Composite Total*.

   Estimate Name and *Section Name* are mandatory fields.

   If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite Total *Description* from Benchmark.

   The Scheme Credentials panel will populate details for the Scheme that this Estimate (Project) is associated with in Benchmark.

6. Use the up and down arrows on the accordions to expand or collapse panels in the screen.



7. Select Next to continue proceeding to the next screens.

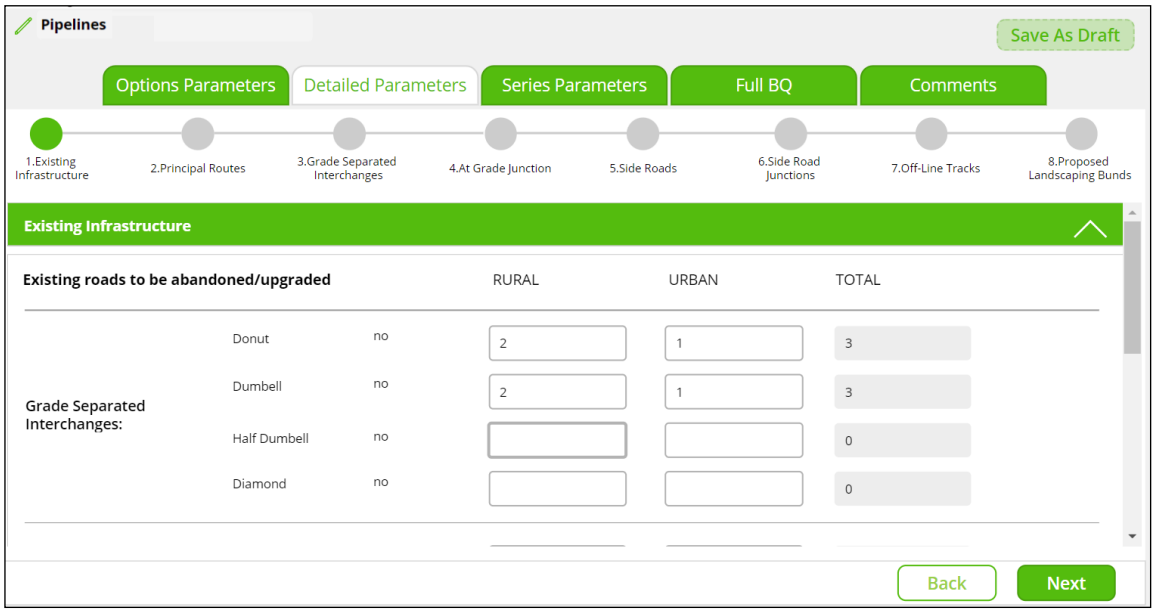
When you proceed from the first screen, you will be prompted to enter the model instance name.

8. Enter a unique name and select Continue.

If required, you can edit this name in any of the screens using the Edit icon. Then, Save the new name.

Each completed screen is denoted by a tick within a green circle in the progress line. Active screens are denoted by a green circle. Screens pending completion are denoted by grey circles.

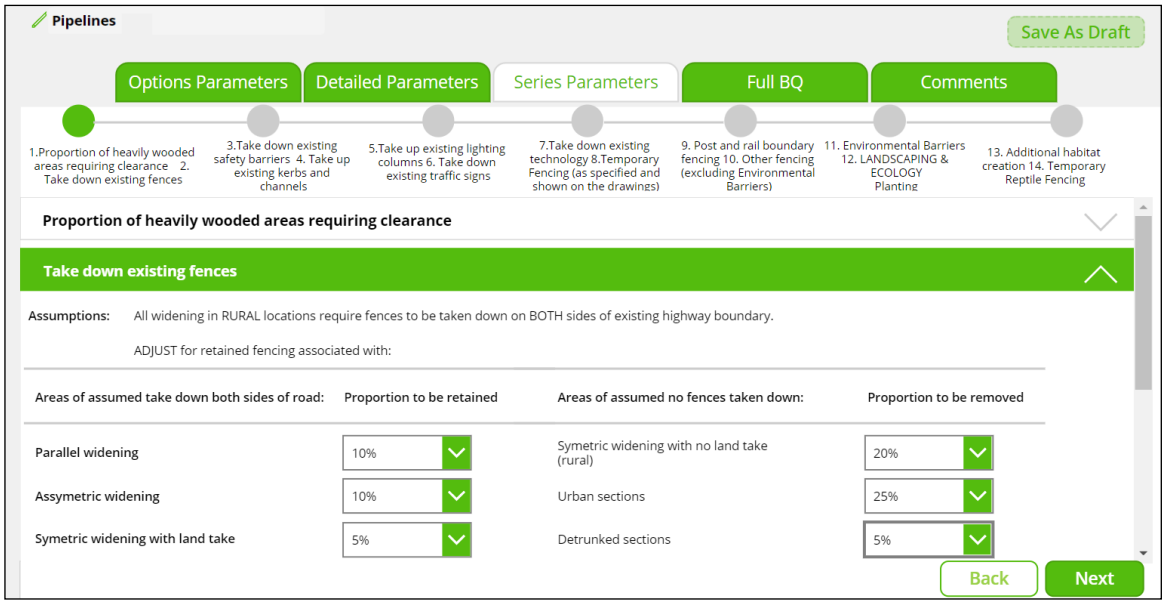
9. Enter / select details for all the relevant fields in each of the panels in the Detailed Parameters screen.



10. Select Next to continue proceeding to the next screens.

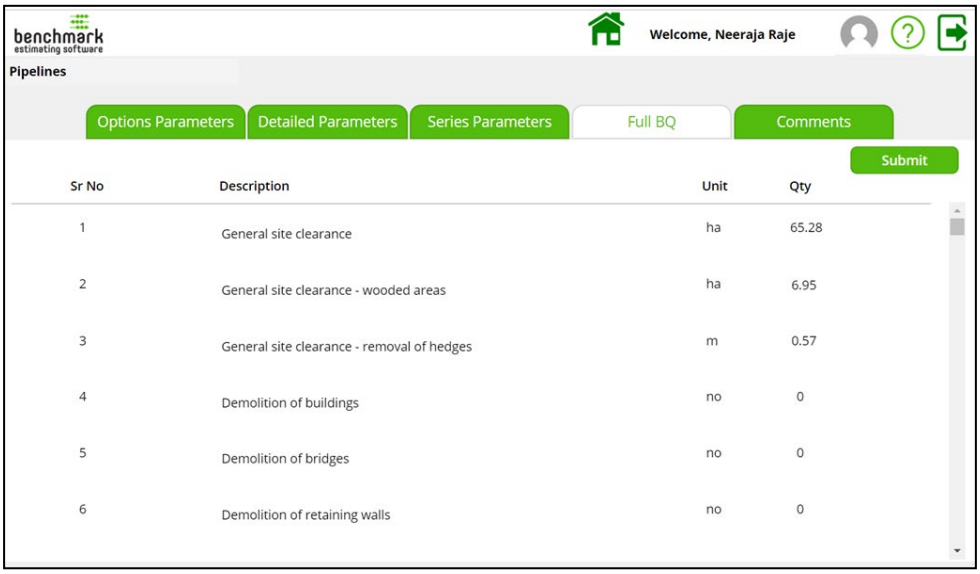
You can select Back to return to the previous screen and make changes.

11. Enter / select details for all the relevant fields in each of the panels in the Series Parameters tab.



12. Select Next to continue proceeding to the next screens.

13. In the Full BQ tab, review all the details of the Bill of Quantities (BQ).



14. Select Submit.

The following confirmation prompt displays:

"No changes to the model are permissible once you submit the item list to Benchmark.

Please press Confirm to continue."

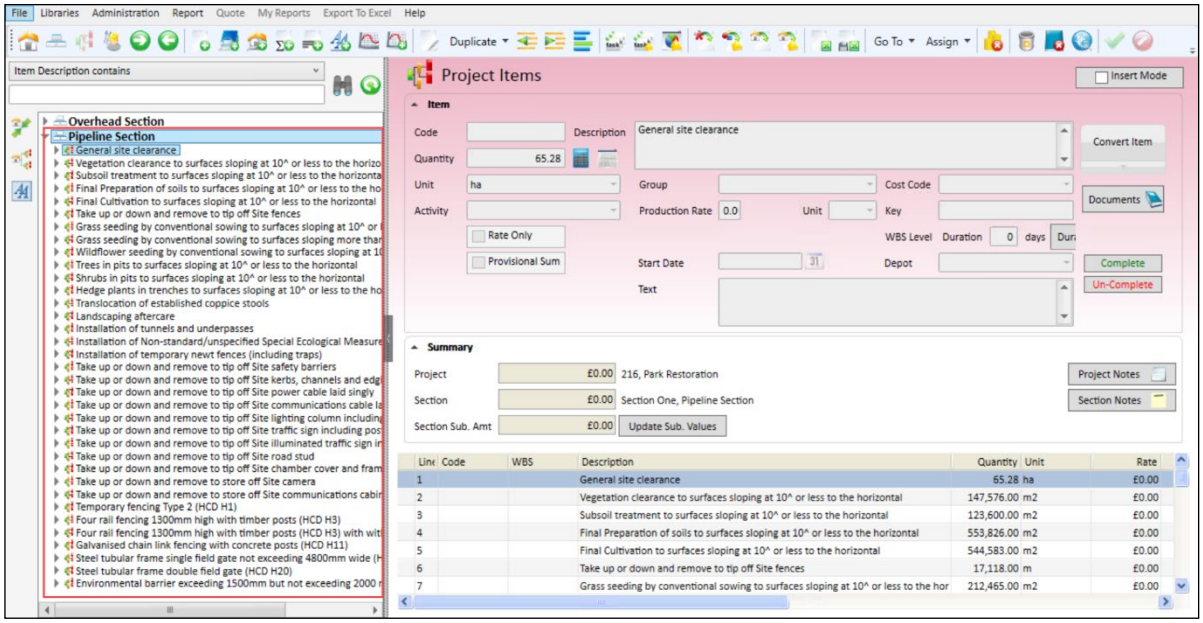
15. Select Confirm.

Viewing the BQ

To view the BQ created in Benchmark:

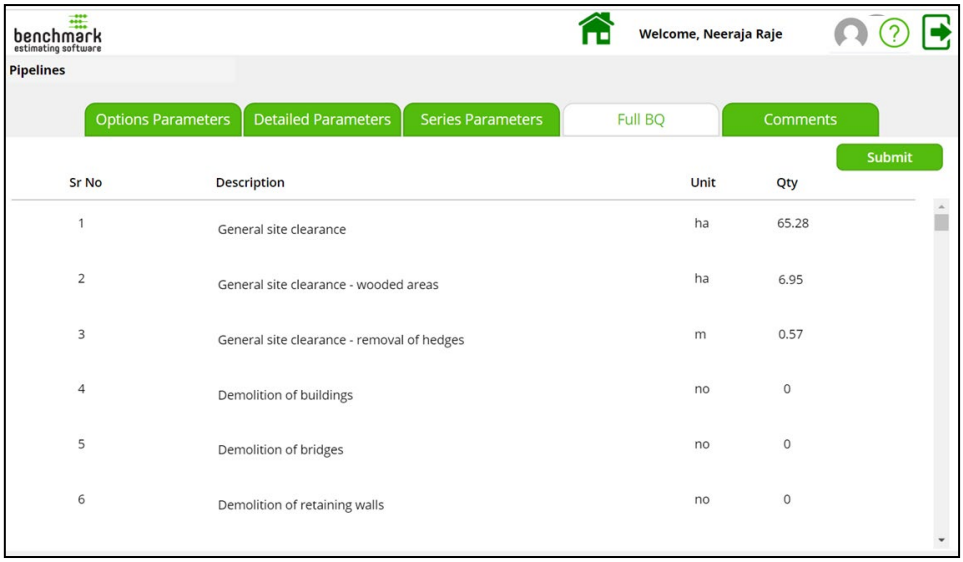
1. Open the Project for which you created the BQ.
2. Select the relevant Section or Composite Total.

   All the BQ line items are created as Project Items.



You can also view these items in the app using the **Full BQ** tab:

All the Items from the legacy Excel files will be displayed here. Only the non-zero quantity Items will be created in Benchmark.



Smart Motorway Program (SMP)

The SMP model includes the following sub models:

- Roadworks
- Earthworks
- Drainage
- Carriageway
- Signs & Lighting

This topic describes the process of creating a Drainage submodel instance in the application to generate a Bill of Quantities (BQ). You can create other submodel instances following a similar process.

1. Open the Parametric Models app.
2. Select Smart Motorway Program.
3. Select Drainage.
4. Select Create New Model Instance.
5. In the Options Parameters tab, select the *Estimate Name*, *Section Name* and *Composite Total*.

   Estimate Name and *Section Name* are mandatory fields.

   If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite Total *Description* from Benchmark.

The Scheme Credentials panel will populate details for the Scheme that this Estimate (Project) is associated with in Benchmark.

6. Use the up and down arrows on the accordions to expand or collapse panels in the screen.

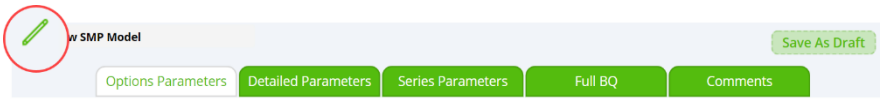
7. Select Next to continue proceeding to the next screens.

When you proceed from the first screen, you will be prompted to enter a model instance name.

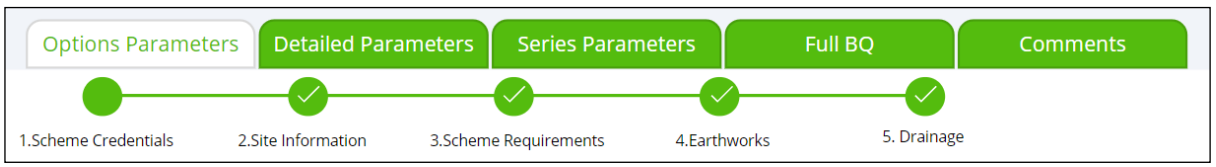
8. Enter a unique name and select Continue.

If required, you can edit this name in any of the screens using the Edit icon.

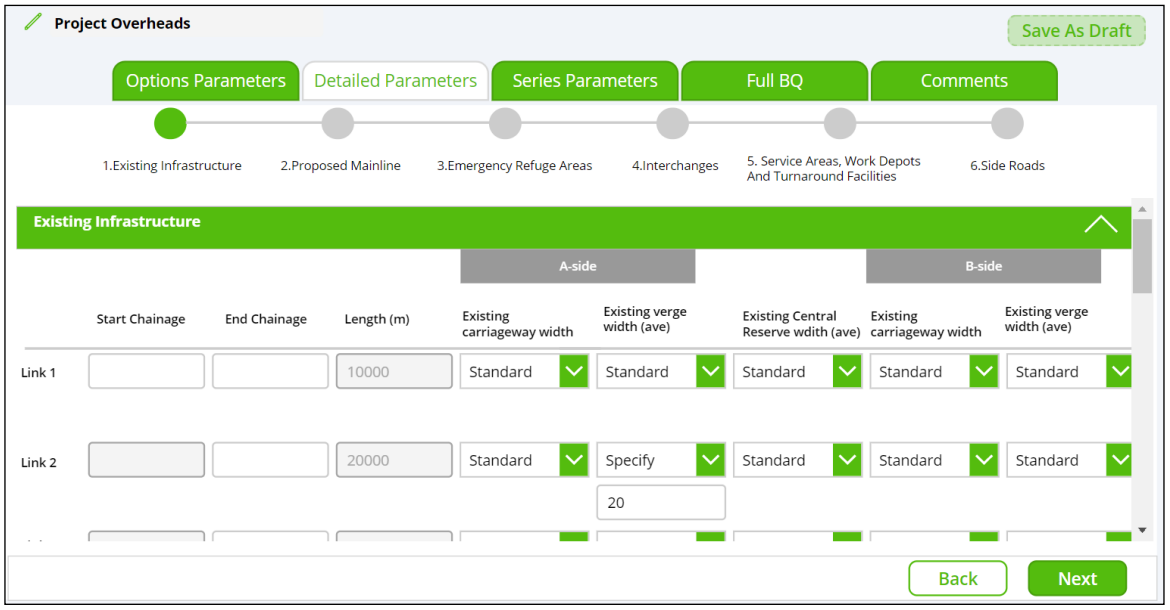
Then, Save the new name.



Each completed screen is denoted by a tick within a green circle in the progress line. Active screens are denoted by a green circle. Screens pending completion are denoted by grey circles.



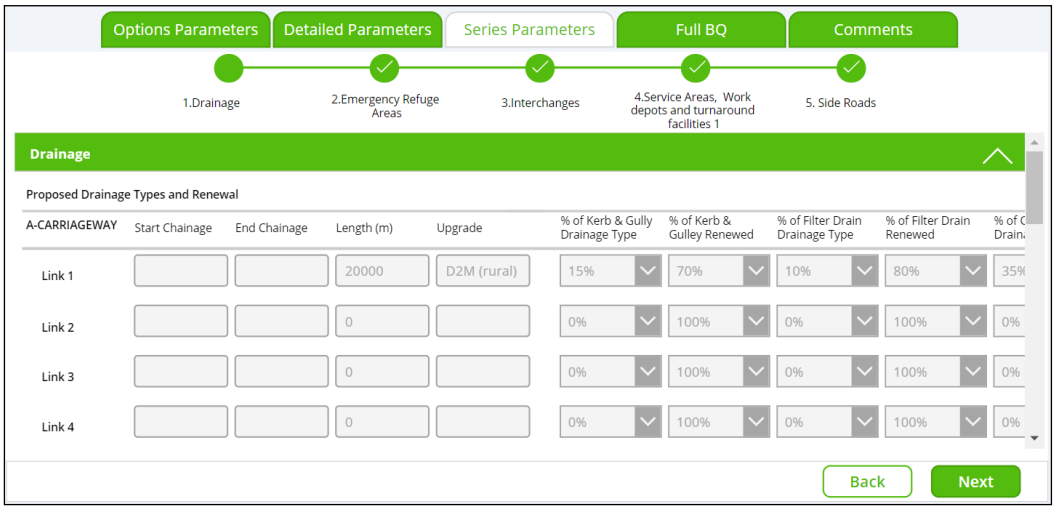
9. Enter / select details for all the relevant fields in each of the panels in the Detailed Parameters screen.



10. Select Next to continue proceeding to the next screens.

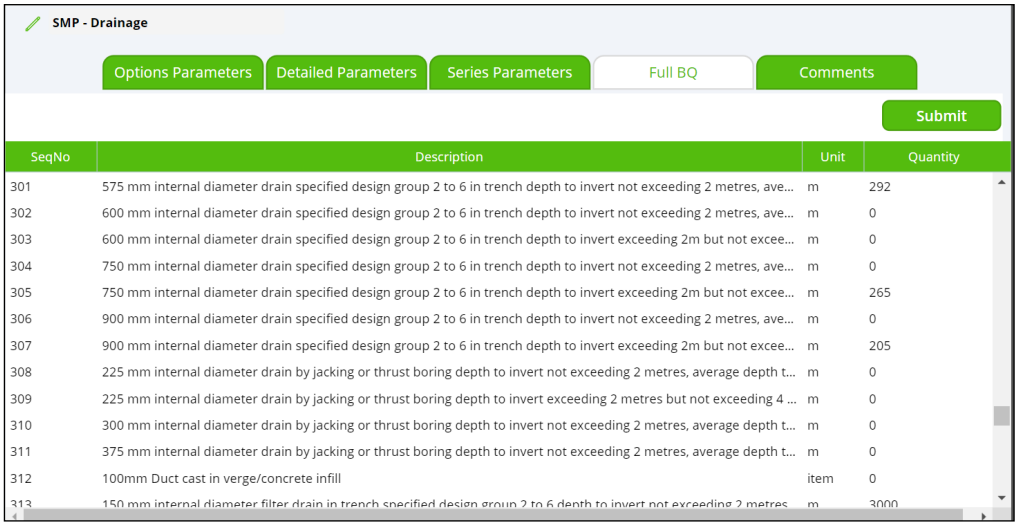
    You can select Back to return to the previous screen and make changes.

11. Enter / select details for all the relevant fields in each of the panels in the Series Parameters tab.



12. Select Next to continue proceeding to the next screens.

13. In the Full BQ tab, review all the details of the Bill of Quantities (BQ).



SeqNo	Description	Unit	Quantity
301	575 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	292
302	600 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	0
303	600 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not excee...	m	0
304	750 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	0
305	750 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not excee...	m	265
306	900 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, ave...	m	0
307	900 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not excee...	m	205
308	225 mm internal diameter drain by jacking or thrust boring depth to invert not exceeding 2 metres, average depth t...	m	0
309	225 mm internal diameter drain by jacking or thrust boring depth to invert exceeding 2 metres but not exceeding 4 ...	m	0
310	300 mm internal diameter drain by jacking or thrust boring depth to invert not exceeding 2 metres, average depth t...	m	0
311	375 mm internal diameter drain by jacking or thrust boring depth to invert not exceeding 2 metres, average depth t...	m	0
312	100mm Duct cast in verge/concrete infill	item	0
313	150 mm internal diameter filter drain in trench specified design group 2 to 6 depth to invert not exceeding 2 metres	m	3000

14. Select Submit.

    The following confirmation prompt displays:

    “No changes to the model are permissible once you submit the item list to Benchmark.

    Please press Confirm to continue.”

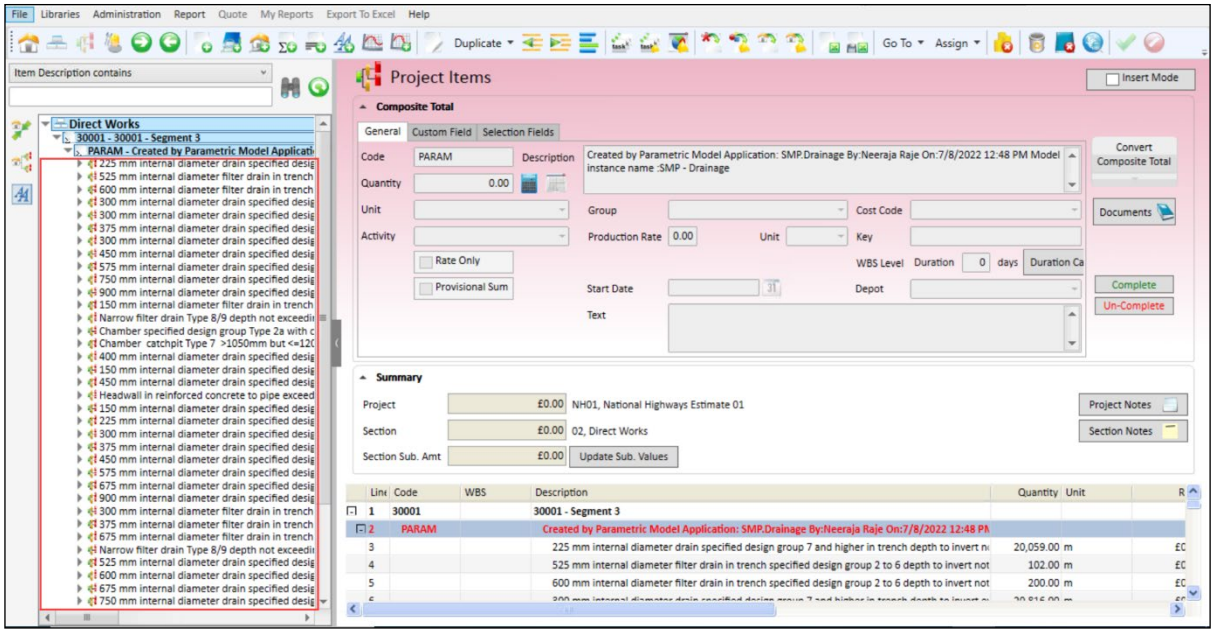
15. Select Confirm.

Viewing the BQ

To view the BQ created in Benchmark:

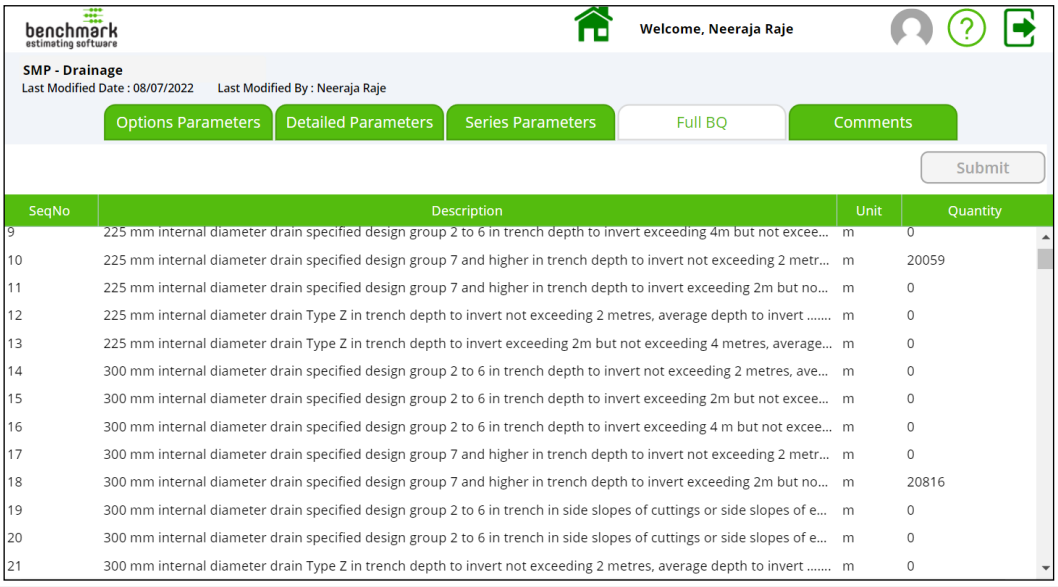
1. Open the Project for which you created the BQ.
2. Select the relevant Section > Composite Total.

   All the BQ line items are created as Project Items.



You can also view these items in the app using the Full BQ tab:

All the Items from the legacy Excel files will be displayed here. Only the non-zero quantity Items will be created in Benchmark.



Structure

The Structure model includes the following sub models:

- Box Culverts
- Footbridges
- Gantries
- Overbridges
- Piped Culverts
- Retaining Walls
- Underbridges
- Viaducts

This topic describes the process of creating a Footbridges submodel instance in the application to generate a Bill of Quantities (BQ). You can create other submodel instances following a similar process.

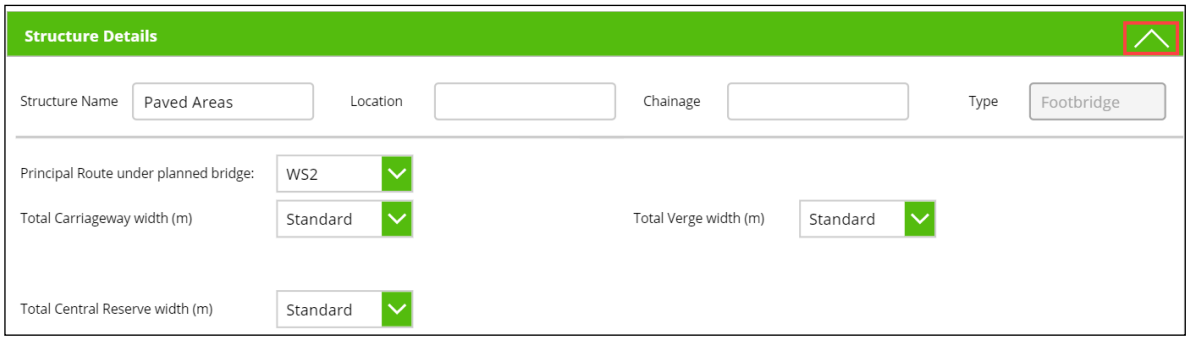
1. Open the Parametric Models app.
2. Select Structure.
3. Select Footbridges.
4. Select Create New Model Instance.
5. In the Scheme Credentials tab, select the *Estimate Name*, *Section Name* and *Composite Total*.

   Estimate Name and *Section Name* are mandatory fields.

   If you have accessed the app from a Project Section / Composite Total in Benchmark, then these fields will automatically populate the Project *Title*, Section *Description* and Composite Total *Description* from Benchmark.

   The Scheme Credentials panel will populate details for the Scheme that this Estimate (Project) is associated with in Benchmark.

6. Use the up and down arrows on the accordions to expand or collapse panels in the screen.



7. Select Next to proceed to the next screen.

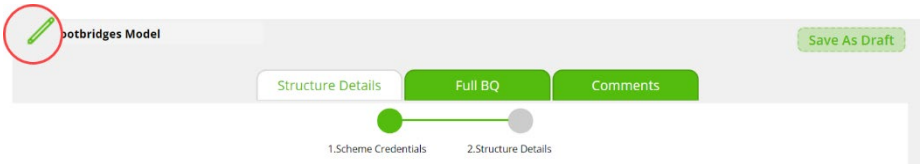
   You can select Back to return to the previous screen and make changes.

   When you proceed from the first screen, you will be prompted to enter the model instance name.

8. Enter a unique name and select Continue.

If required, you can edit this name in any of the screens using the Edit icon.

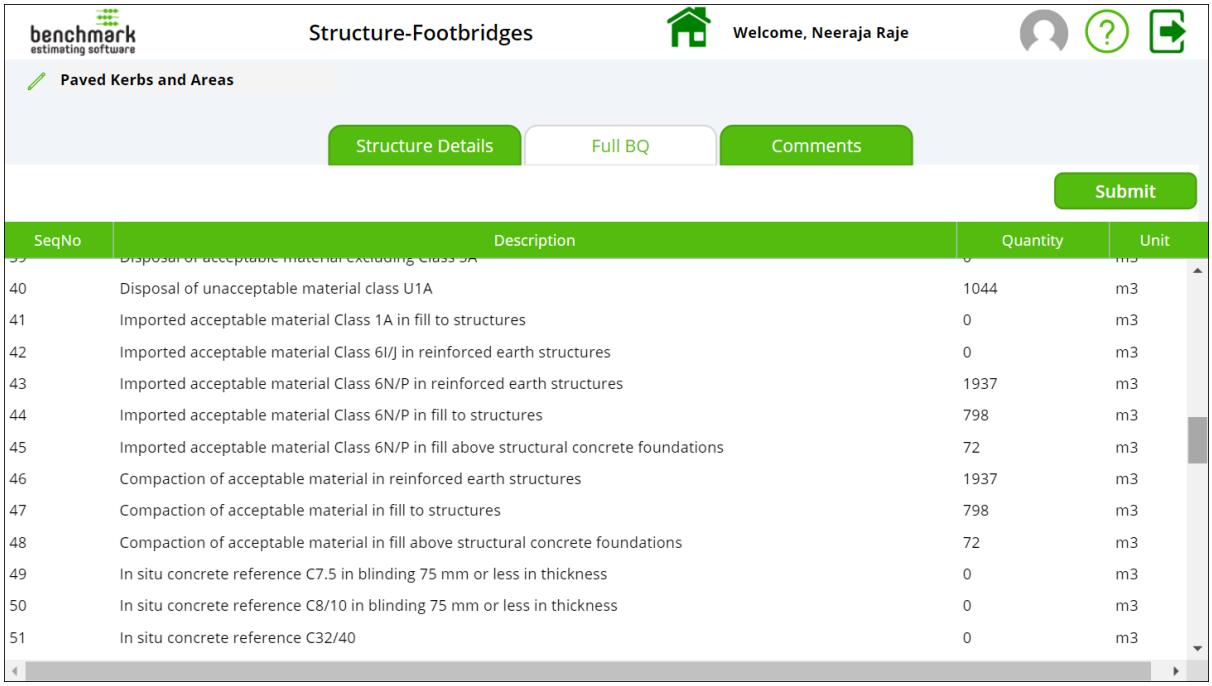
Then, Save the new name.



Each completed screen is denoted by a tick within a green circle in the progress line.

Active screens are denoted by a green circle. Screens pending completion are denoted by grey circles.

9. Enter / select details for all the relevant fields in the Structure Details screen.
10. Select Next to generate and review the Bill of Quantities (BOQ) in the Full BQ tab.



11. Select Submit.

    The following confirmation prompt displays:

    “No changes to the model are permissible once you submit the item list to Benchmark.

    Please press Confirm to continue.”

12. Select Confirm.

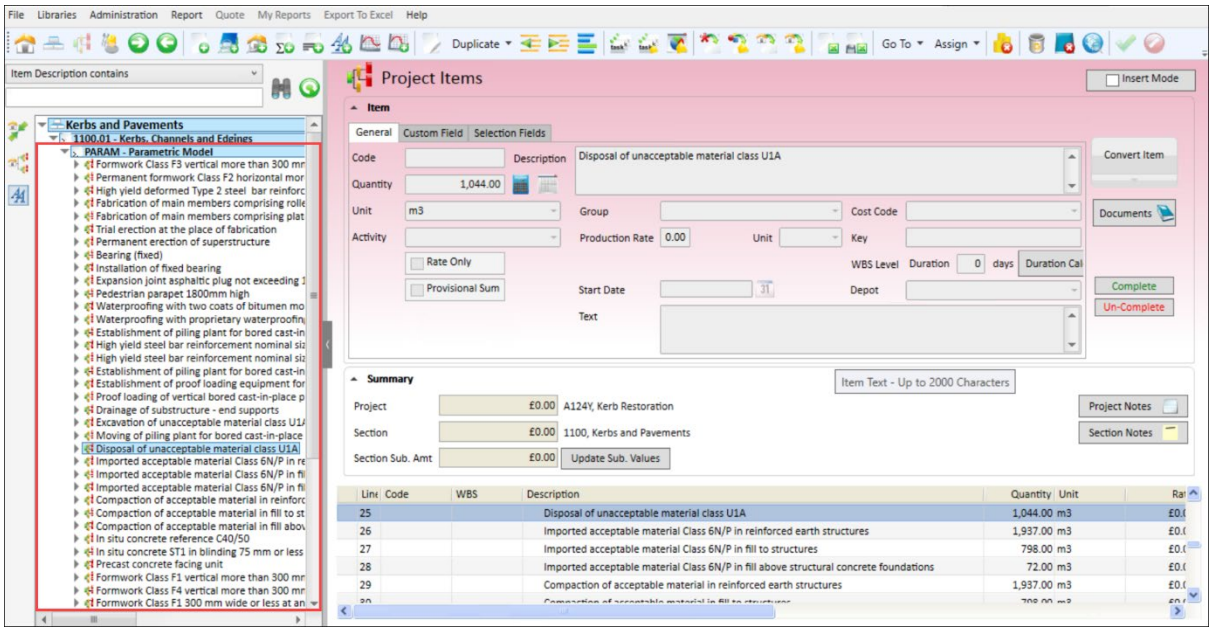
Viewing the BQ

To view the BQ created in Benchmark:

1. Open the Project for which you created the BQ.

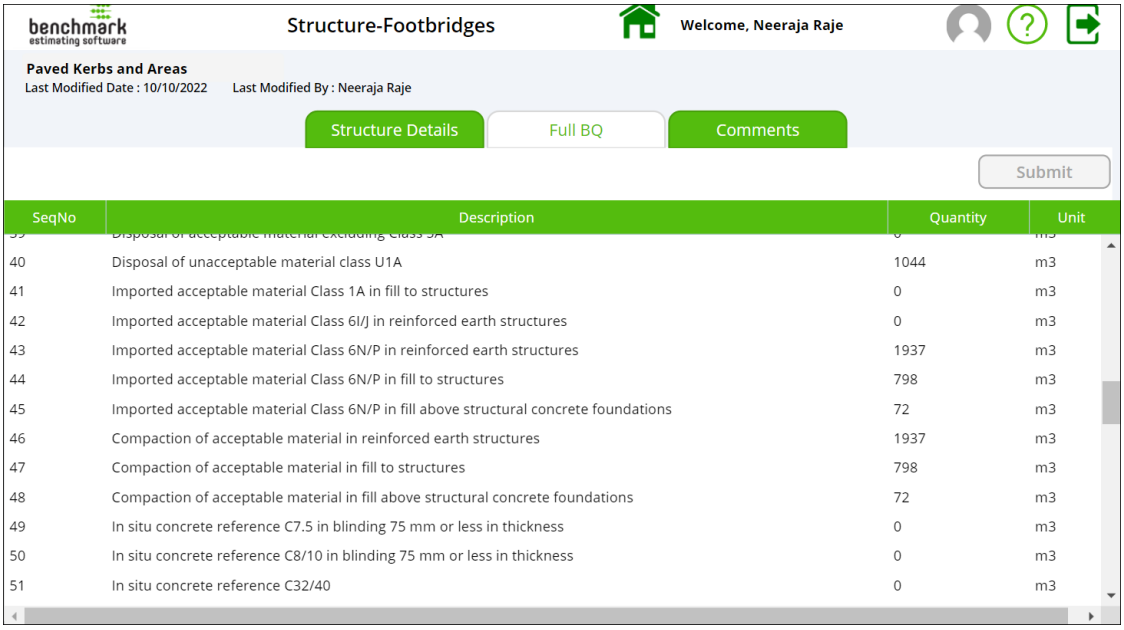
2. Select the relevant Section > Composite Total.

All the BQ line items are created as Project Items.



You can also view these items in the app using the Full BQ tab:

All the Items from the legacy Excel files will be displayed here. Only the non-zero quantity Items will be created in Benchmark.



Other Functions

Searching Model Instances

You can search the model instances by the following search criteria:

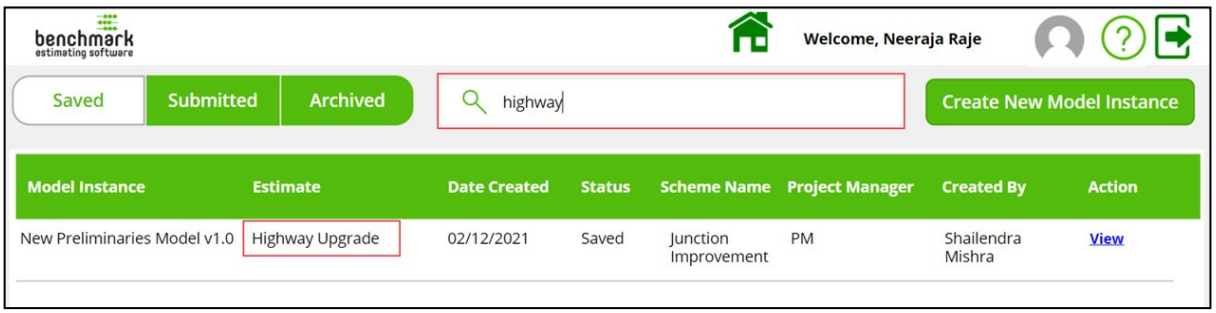
- Model name
- Estimate name
- Creation date
- Scheme name
- Project manager
- User who created the model instance

In the example below, we will search the model instances by Estimate name:

1. Open the Parametric Models app.
2. Select the relevant model type.

   For example, **Indirect Works**.
3. In the Search bar, enter the search term.

   For example, Highway.
4. This displays the list of model instances containing the search term.

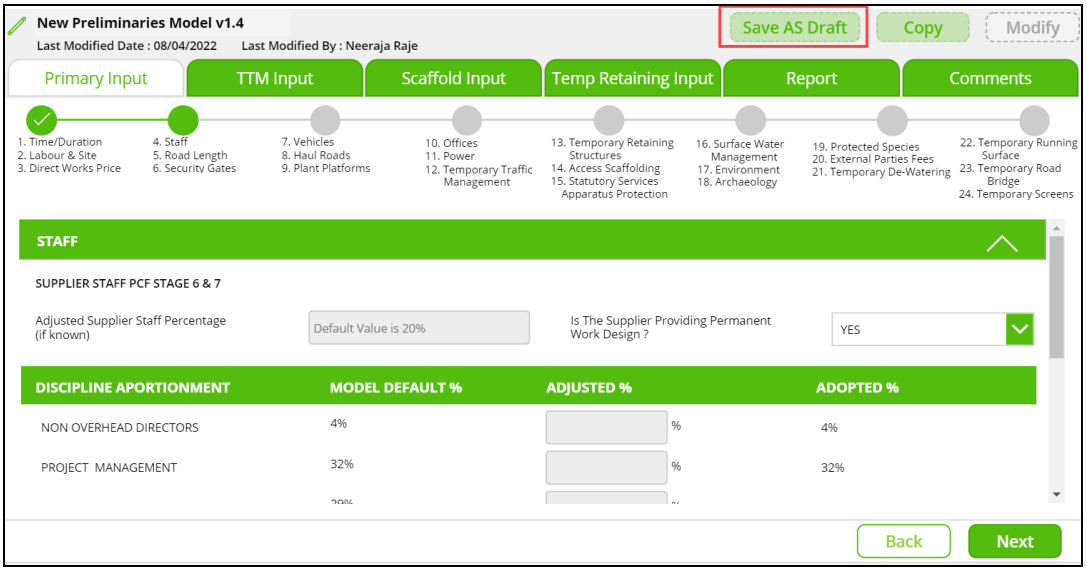


Clear the search term to view the unfiltered list of model instances again.

Saving Model Instances

When working on a model instance, you can choose to save the details and submit it later.

1. Select Save As Draft to save the entered details.

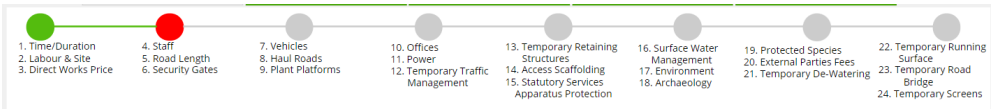


2. These drafts display with a status of **Saved** in the list of model instances.
3. Select **View** to open the draft.
4. Select **Modify** to continue working on the model instance.

You can view but not modify the model instances created by other users.

Errors

A red circle denotes errors in the section. Go to the relevant section and rectify the error.

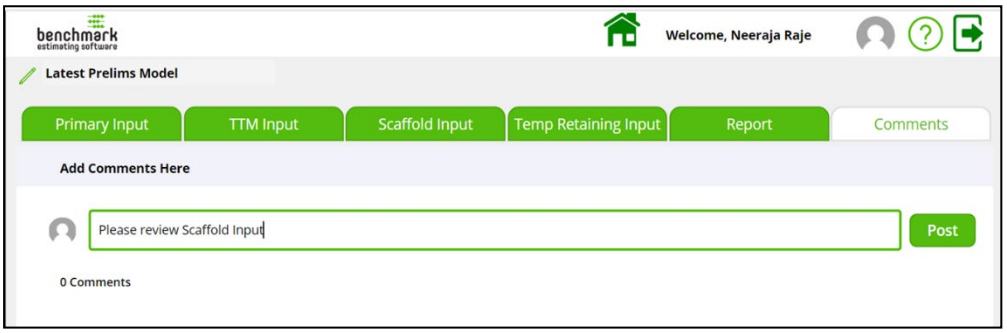


Adding Comments

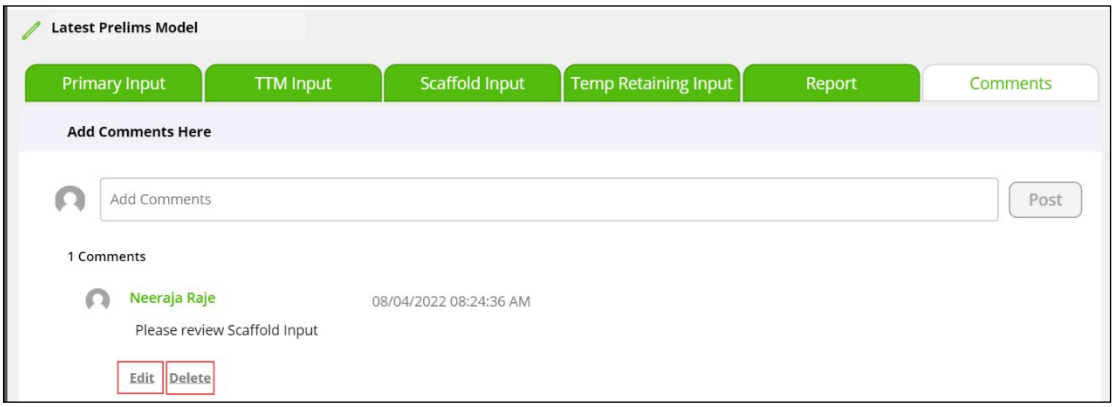
You can add comments to a model instance, when creating it or editing a saved draft. You can also add comments for the model instances created by other users.

To add comments:

1. Select the Comment tab for the relevant model instance.



2. Enter the comment and select Post.
3. Once posted, the comment will be listed in the tab.
4. Select:
   a. Edit to modify and save your comment.
   b. Delete to delete your comment.



Archiving Model Instances

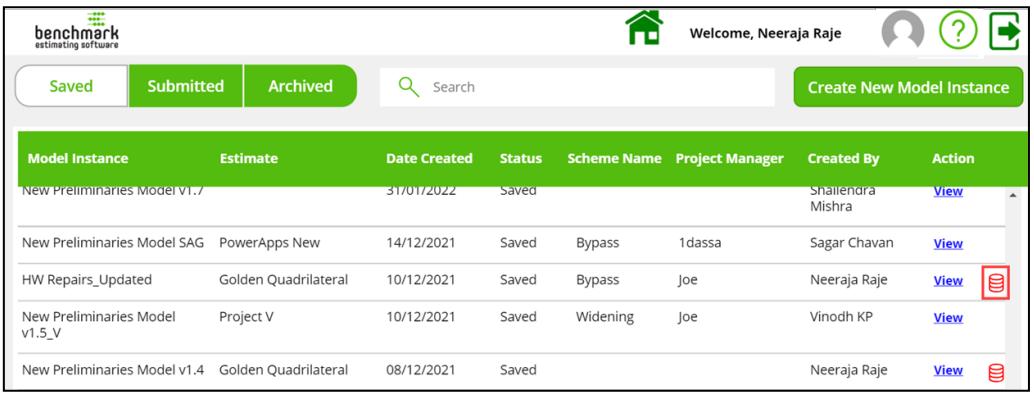
If you no longer need a model instance, you can archive it. This can be particularly useful when you need to manage a large list of model instances in the application.

You can only archive your saved model instances. You cannot archive:

- Your submitted model instances.
- The model instances created by other users.

To archive:

1. Go to the **Saved** tab.
2. Select the **Archive Model** icon for the relevant model instance.



   The following confirmation prompt displays:

   "Are you sure you want to archive <model instance name>?"

3. Add a comment within the text area in the prompt, if required.
4. Select **Yes**.

   The model instance will be removed from the **Saved** tab, and added to the **Archived** tab.

   You can view or copy these archived model instances, but not submit them.

Copying Model Instances

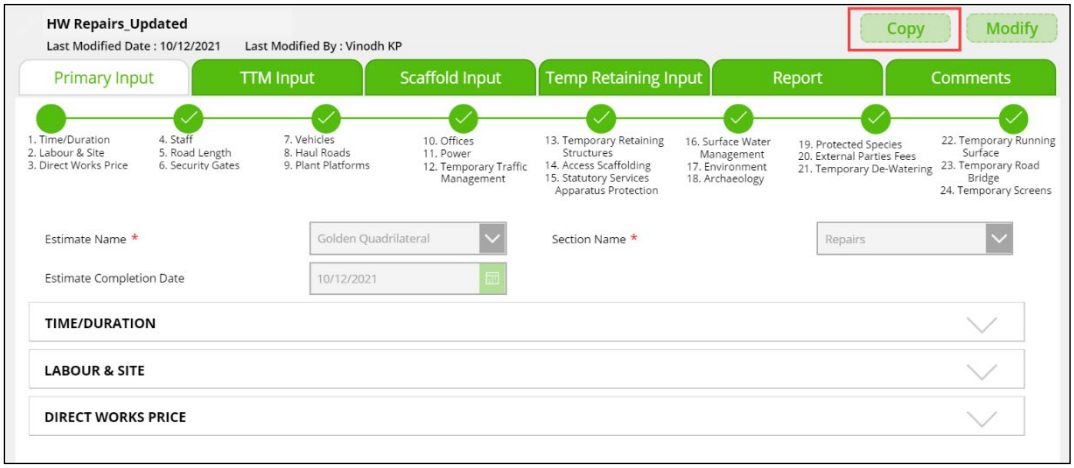
This functionality facilitates:

- Easy reuse of the same model instance between different estimates.
- Creation of multiple versions of the same model instance within the same estimate. Each version may be different from the other. Users can then compare these versions and submit the relevant model instance.

You can only submit one version per model instance. The others can be archived.

To copy a model instance:

1. From the list of saved/submitted/archived model instances, select View to open the model instance you want to copy.
2. Select Copy.

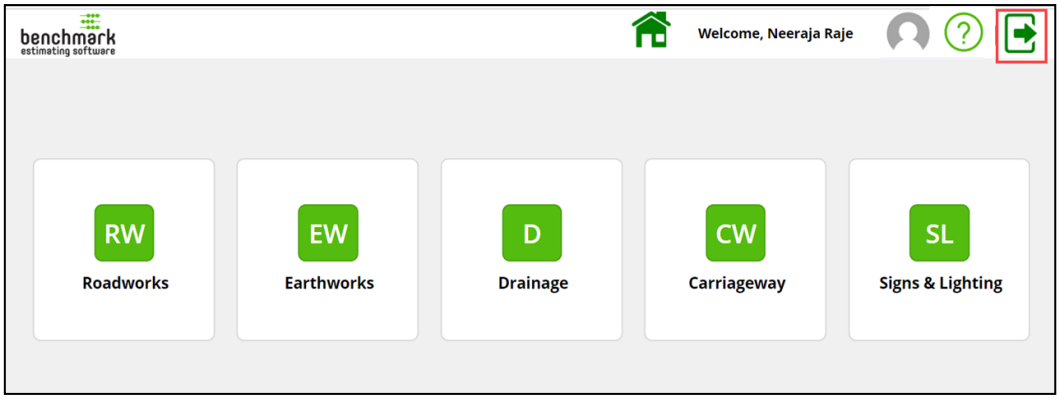


3. This creates a copy of the selected model instance.
4. Select the new Estimate Name and Section Name.
5. Enter/select details for the new model instance using standard functionality.

Logging Out

To log out of this application:

1. From any page within the application, select the Logout icon.



   The following confirmation prompt displays:

   "Are you sure you want to Logout?"

2. Select Yes.

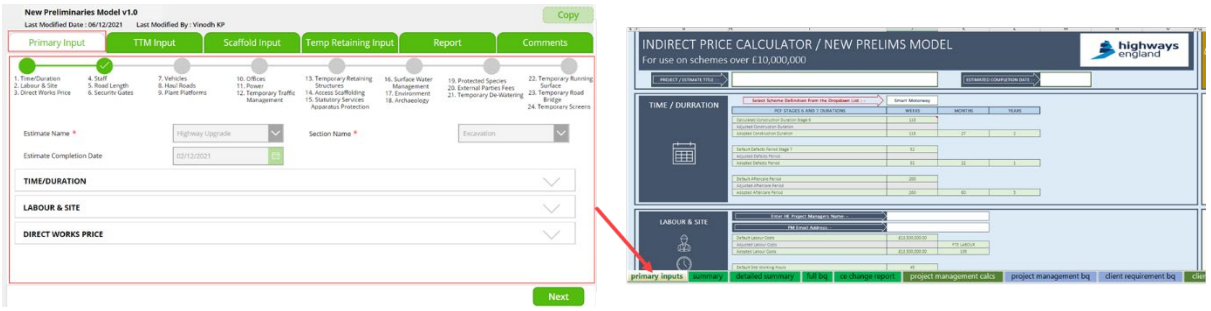
Appendix

The sections below map the input screens in the app to the relevant worksheets.

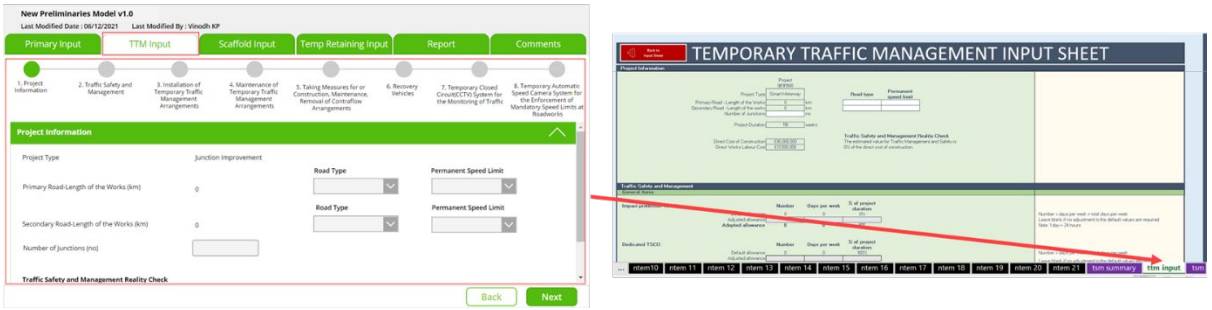
Indirect Works

Forms in the app user interface map to their corresponding Parametric Model worksheets (MP Model v51.5).

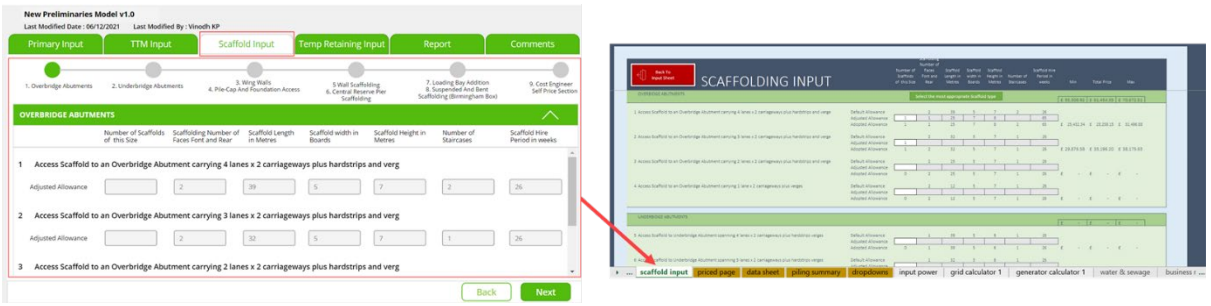
Primary Input



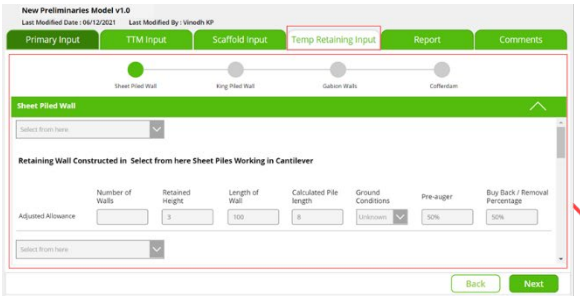
TTM Input

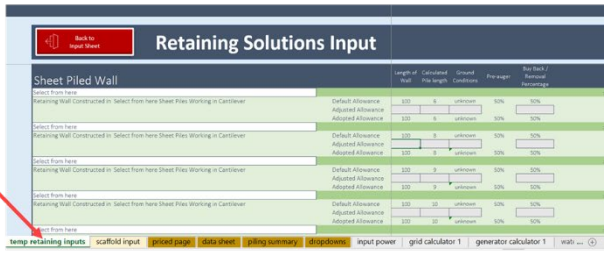


Scaffold Input



Temp Retaining Input



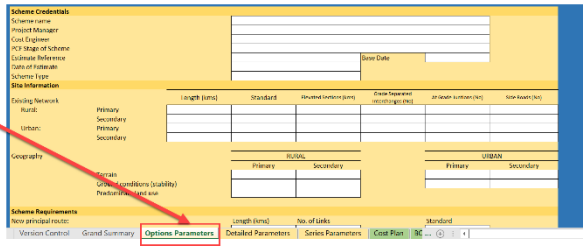


Regional Investment Programme (RIP)

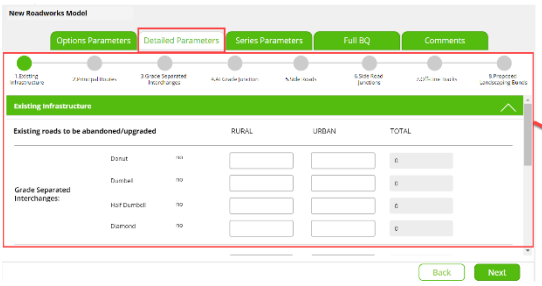
Roadworks

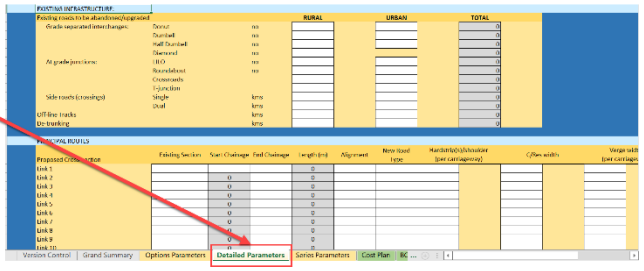
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Roadworks General – RIP – V2.0).

Options Parameters

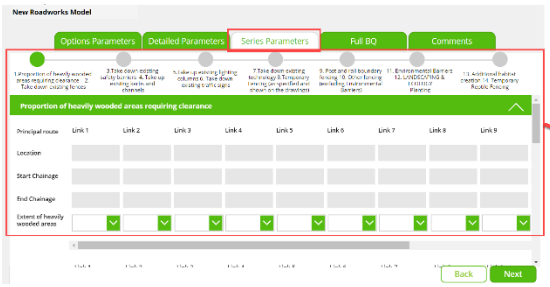


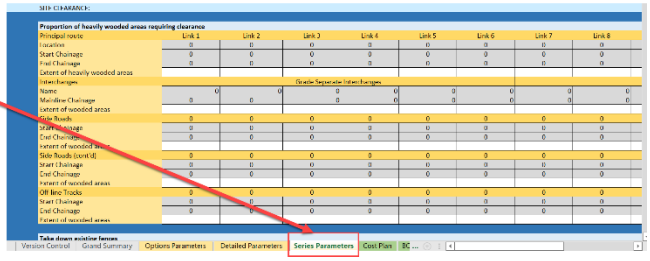
Detailed Parameters





Series Parameters

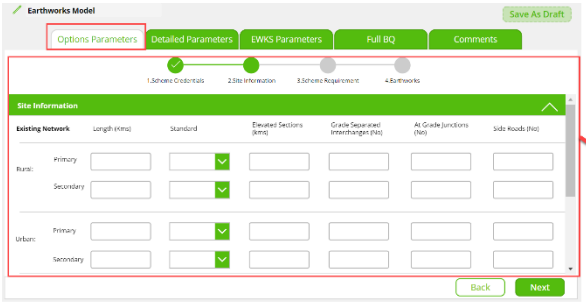


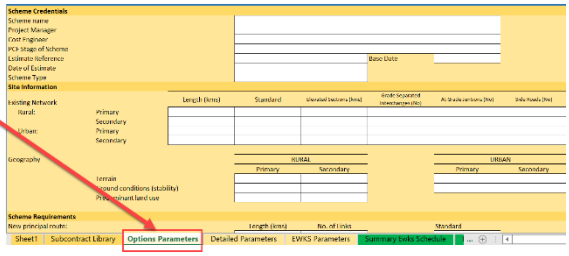


Earthworks

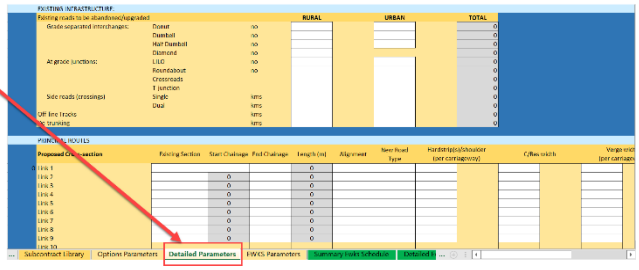
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Earthworks General – RIP – V2.0).

Options Parameters

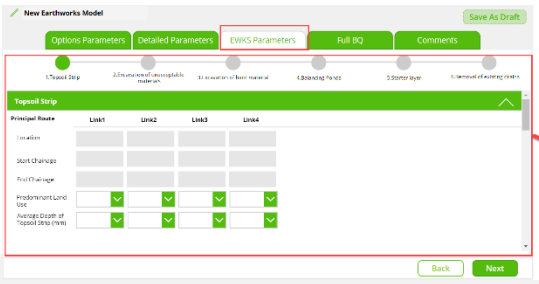


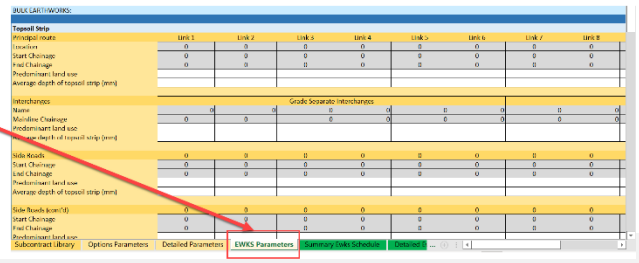


Detailed Parameters



EWKS Parameters

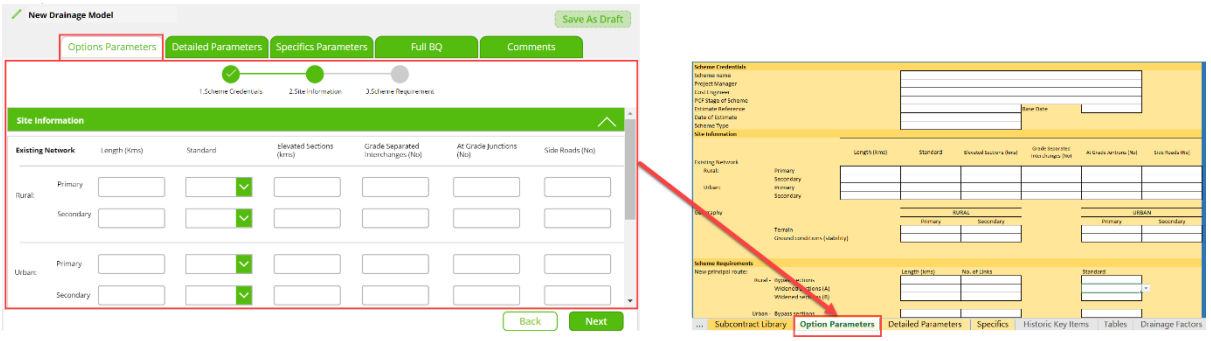




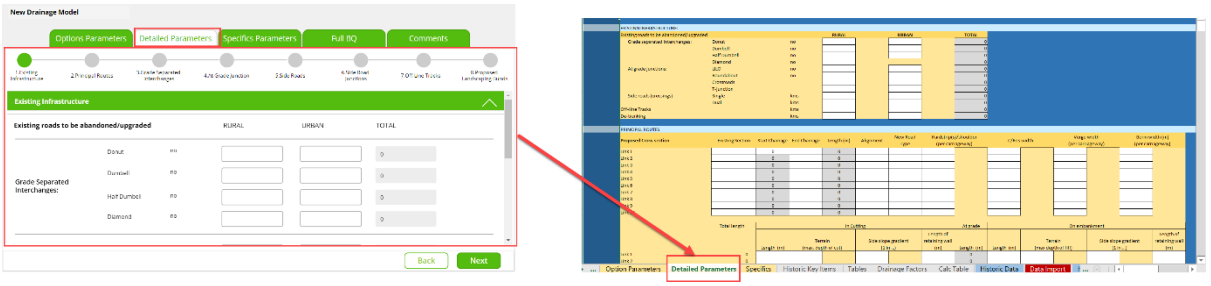
Drainage

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Drainage – RIP – V2.0).

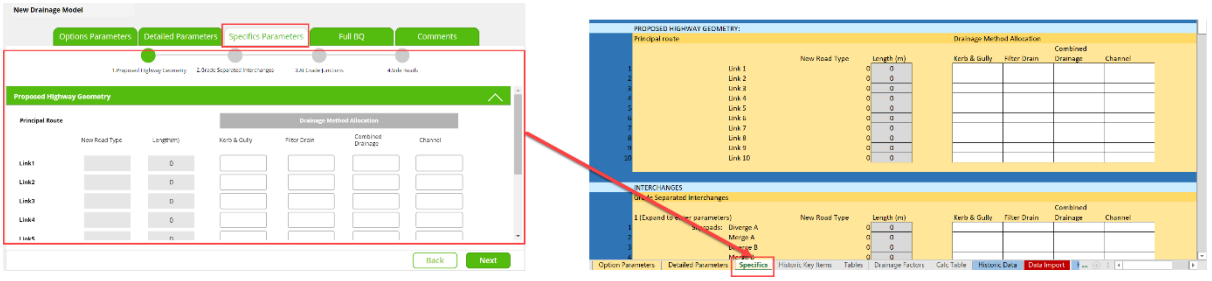
Options Parameters



Detailed Parameters



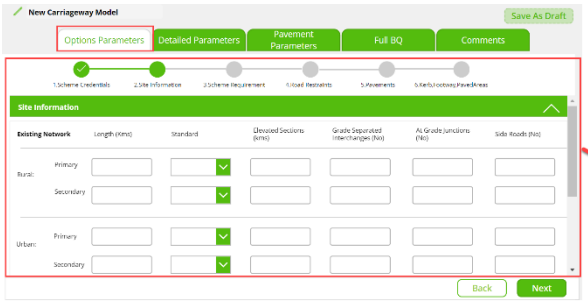
Specifics Parameters

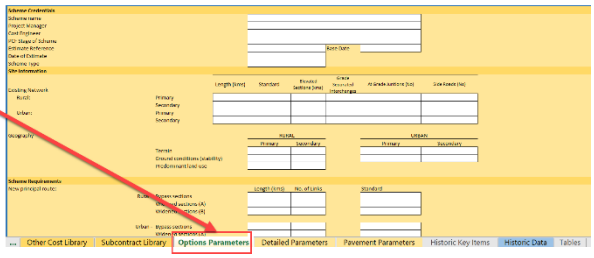


Carriageway

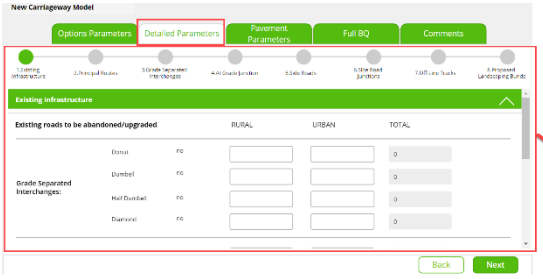
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Carriageway – RIP – V2.1).

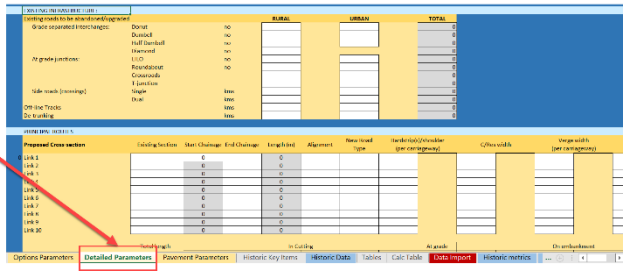
Options Parameters



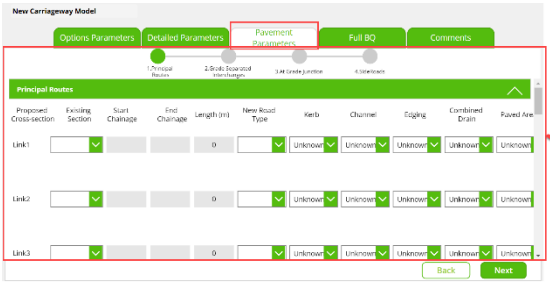


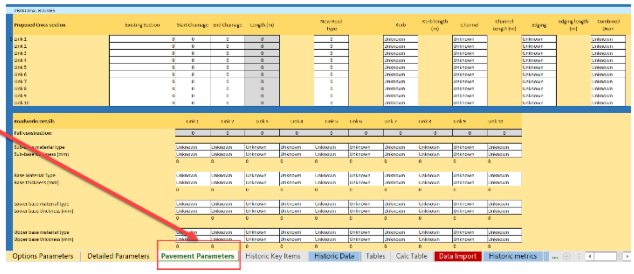
Detailed Parameters





Pavement Parameters

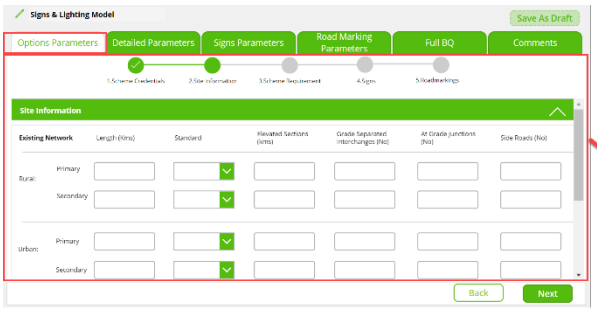


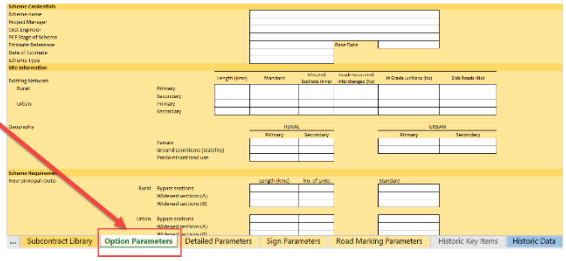


Signs & Lighting

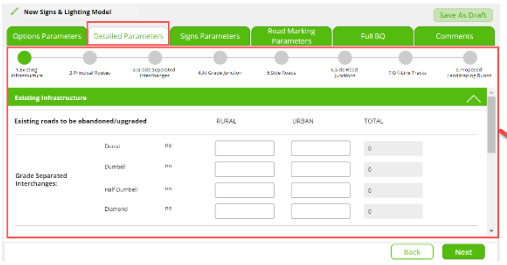
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Signs Lighting – RIP – V2.1).

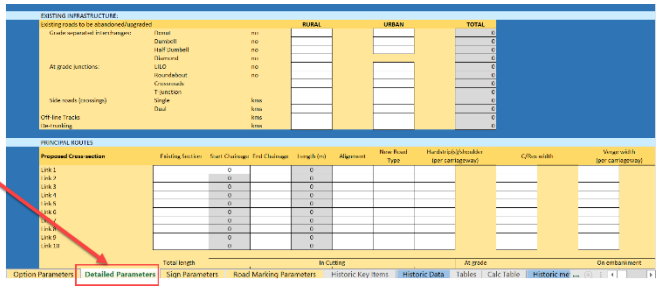
Options Parameters



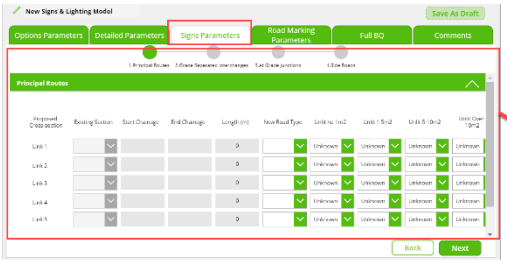


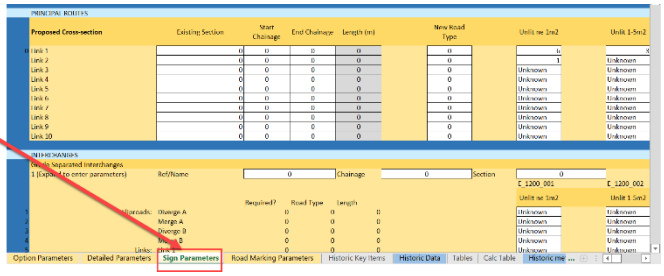
Detailed Parameters



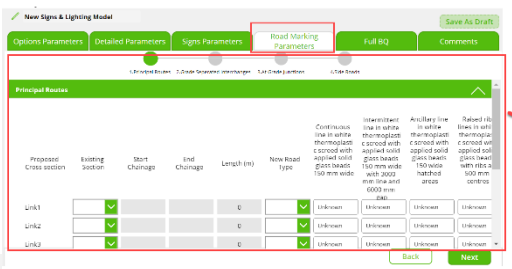


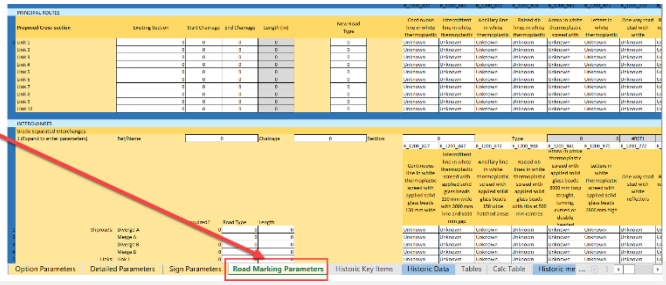
Signs Parameters





Road Marking Parameters



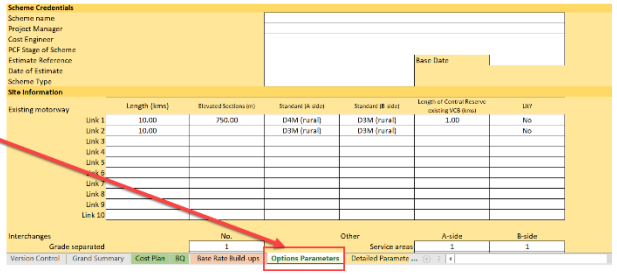


Smart Motorway Program (SMP)

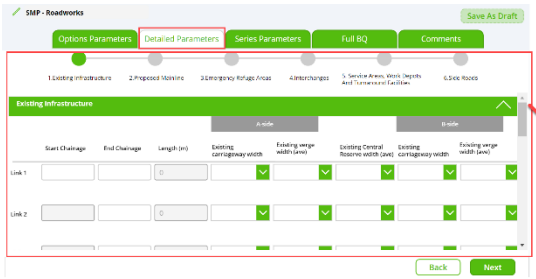
Roadworks

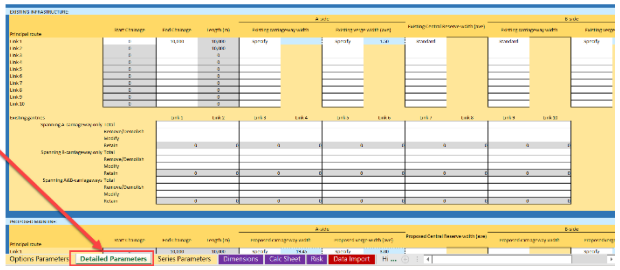
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Roadworks General – SMP – V2.0).

Options Parameters

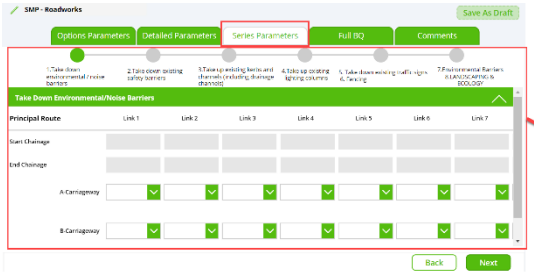


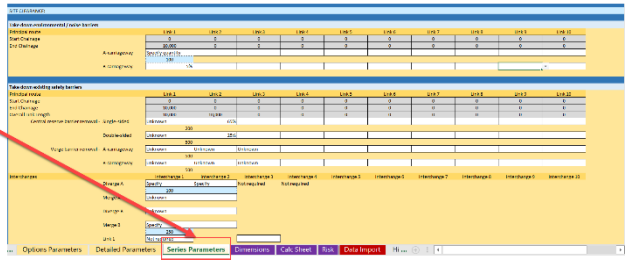
Detailed Parameters





Series Parameters

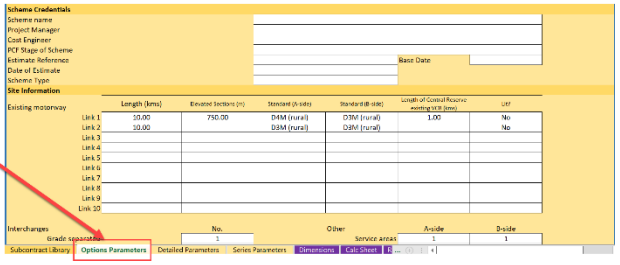




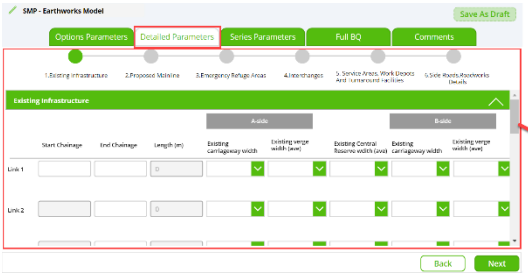
Earthworks

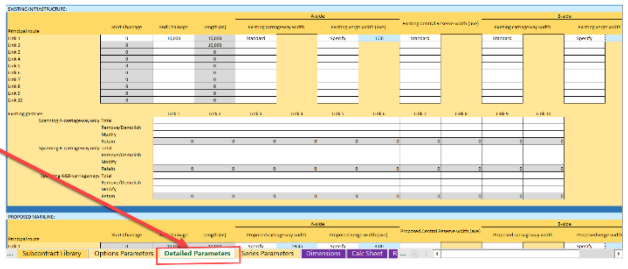
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Earthworks General – SMP – V2.0).

Options Parameters

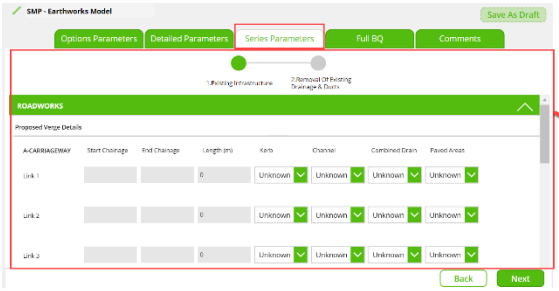


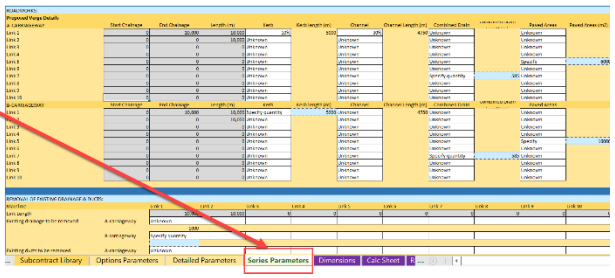
Detailed Parameters





Series Parameters

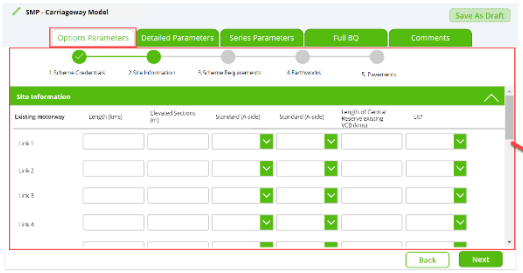


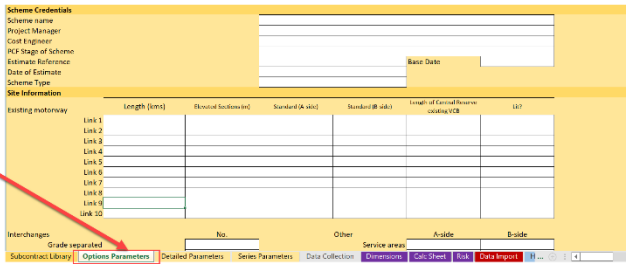


Carriageway

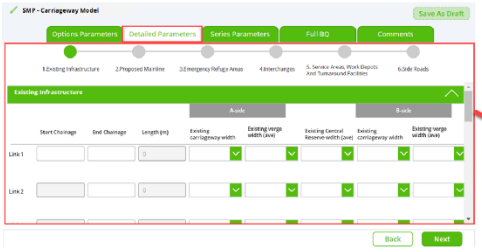
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Carriageway – SMP – V2.1).

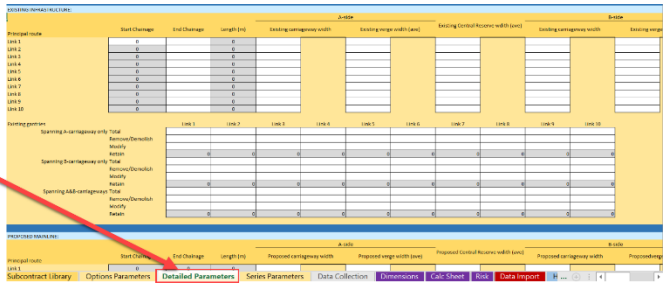
Options Parameters



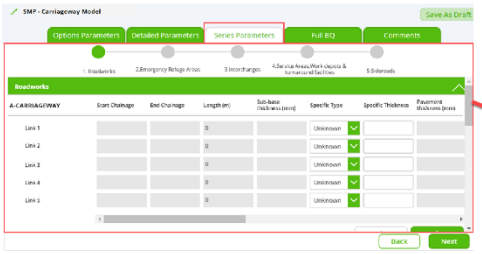


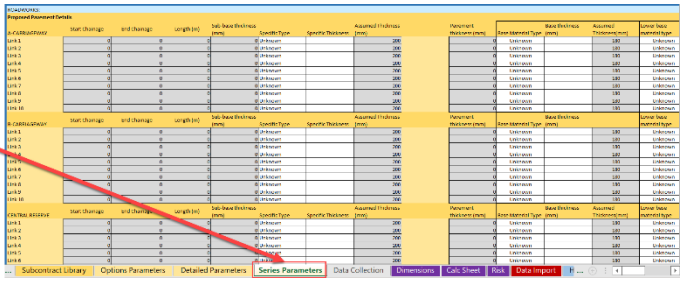
Detailed Parameters





Series Parameters

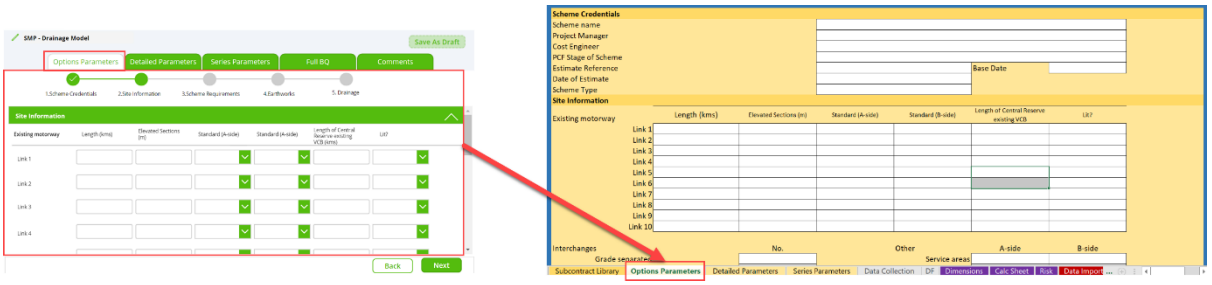




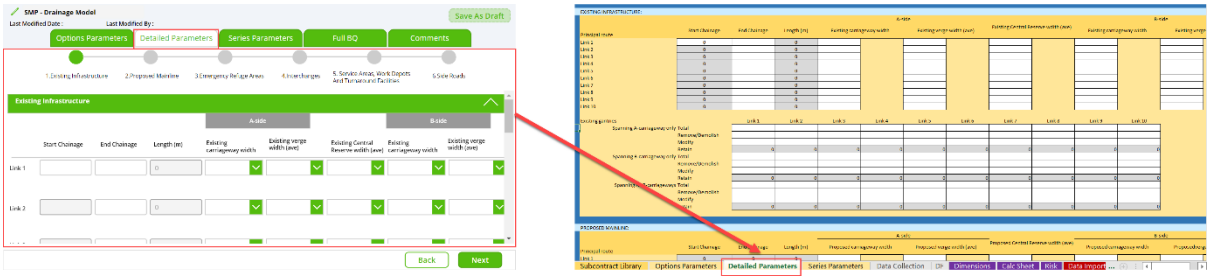
Drainage

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Drainage – SMP – V2.0).

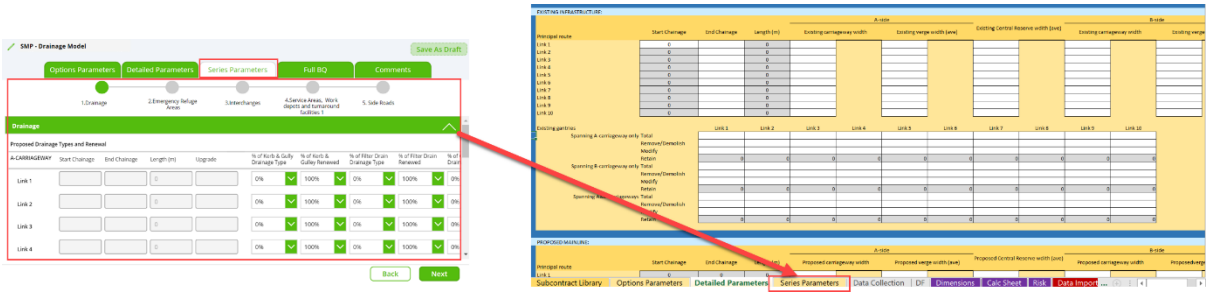
Options Parameters



Detailed Parameters



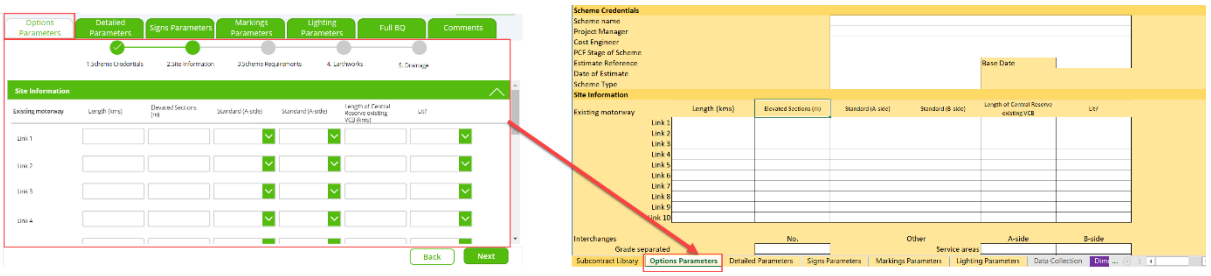
Series Parameters



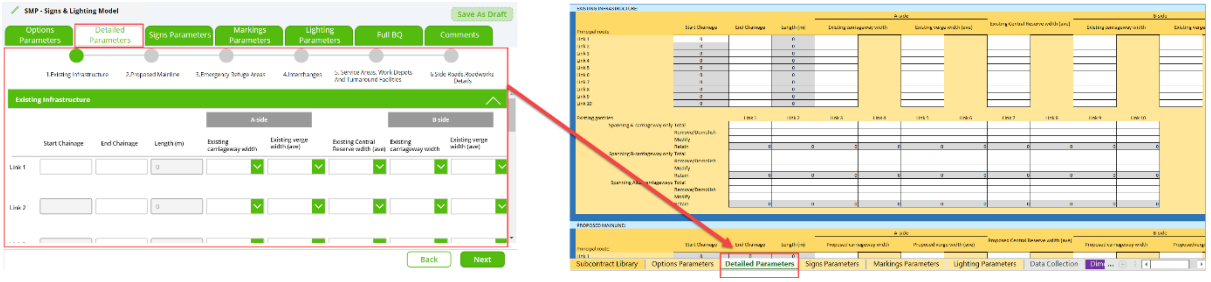
Signs & Lighting

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Signs & Lighting – SMP – V2.0).

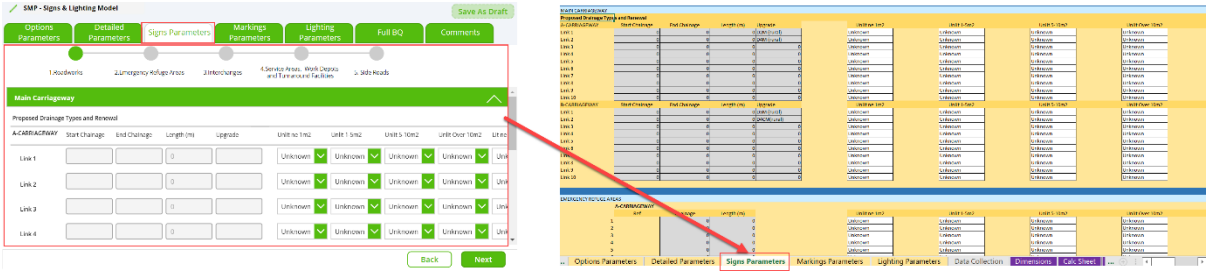
Options Parameters



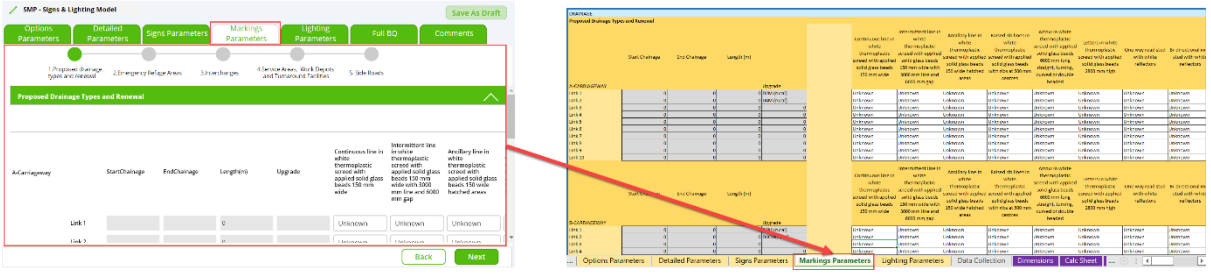
Detailed Parameters



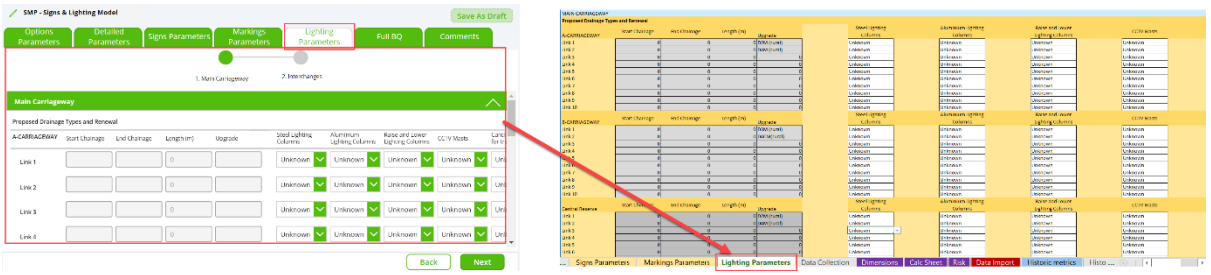
Signs Parameters



Markings Parameters



Lighting Parameters

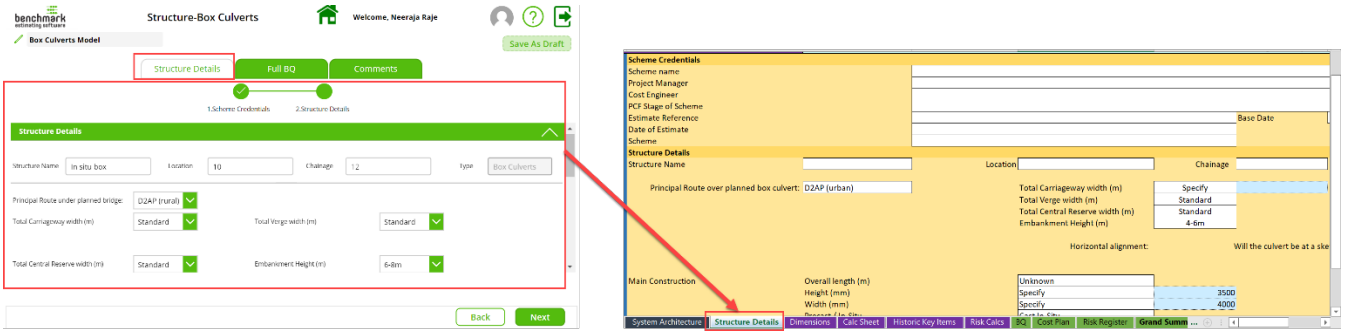


Structure

Box Culverts

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Box Culverts Model – V2.0).

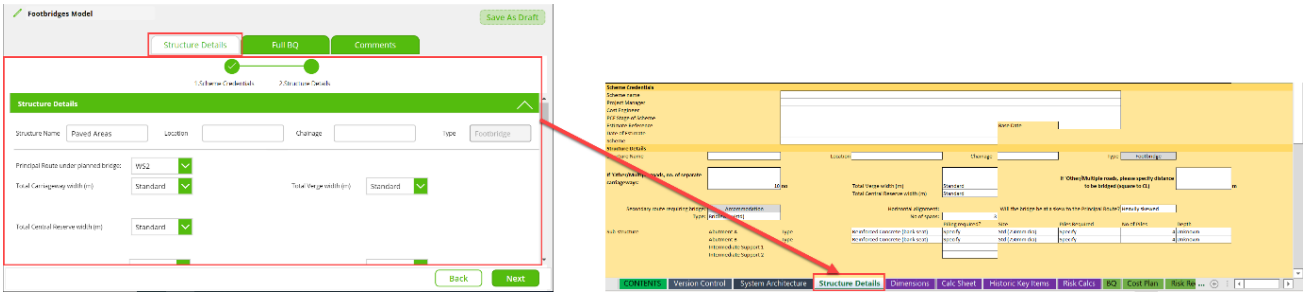
Structure Details



Footbridges

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Footbridges Model – V2.0).

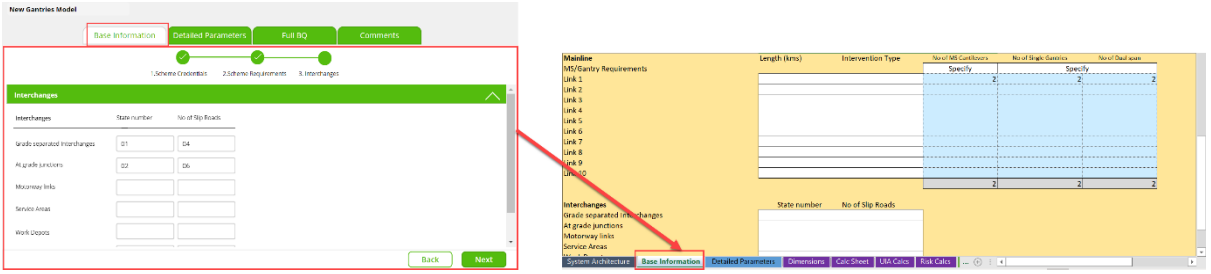
Structure Details



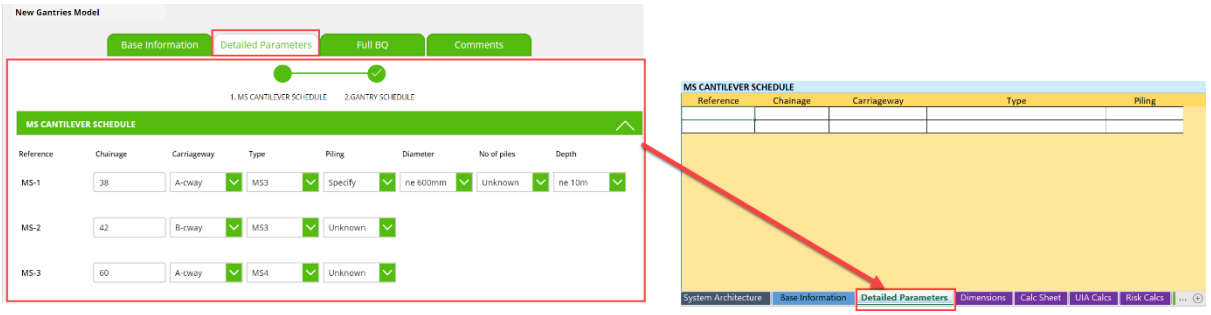
Gantries

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Gantries Model – V2.0).

Base Information



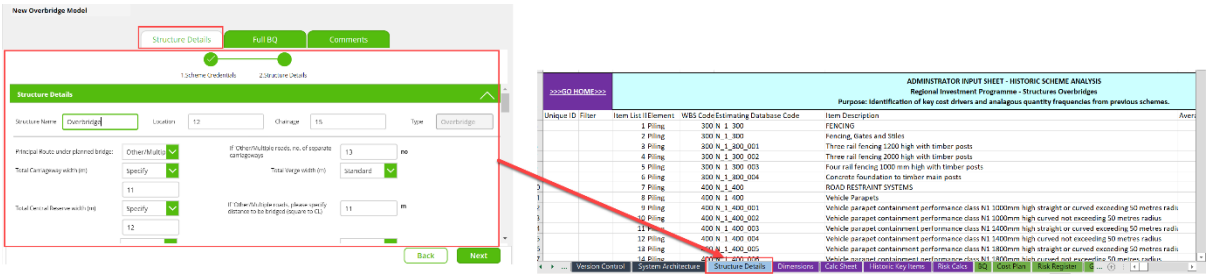
Detailed Parameters



Overbridges

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Overbridges Model – V2.0).

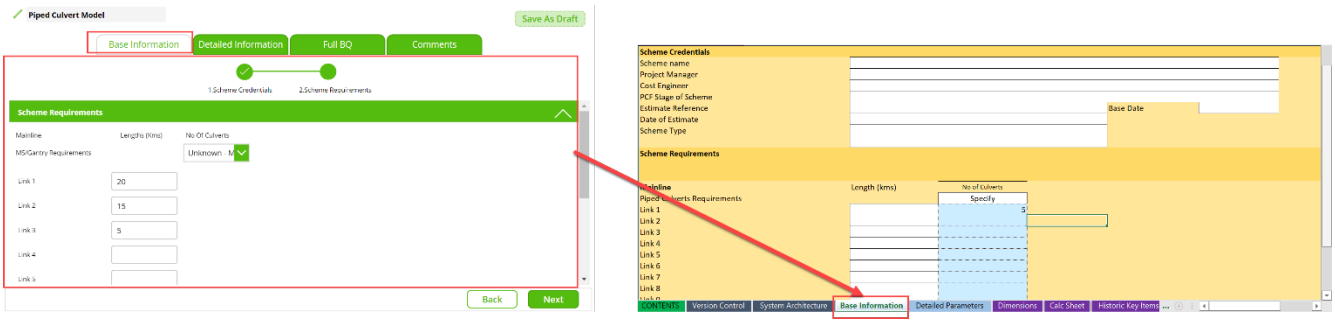
Structure Details



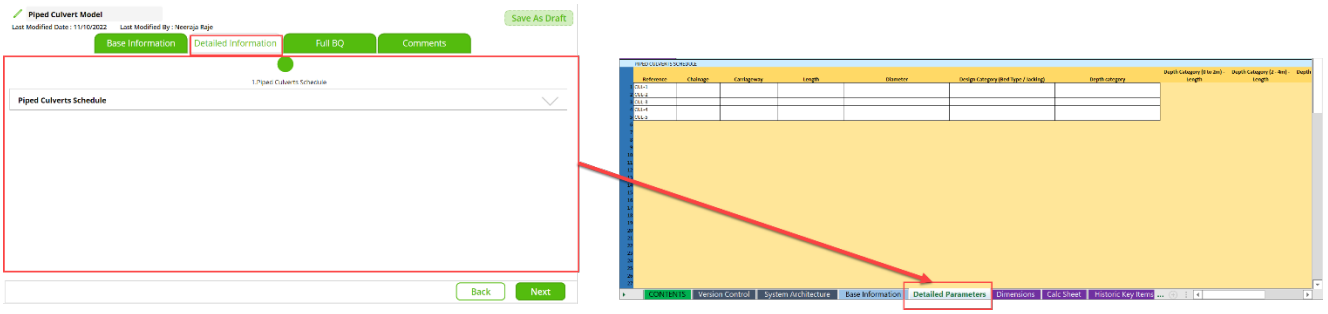
Piped Culverts

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Piped Culverts Model – V2.1).

Base Information



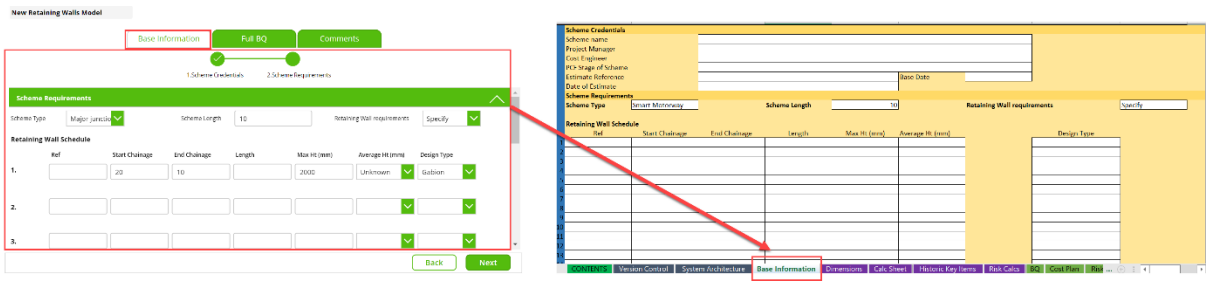
Detailed Parameters



Retaining Walls

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Retaining Walls Model – V2.1).

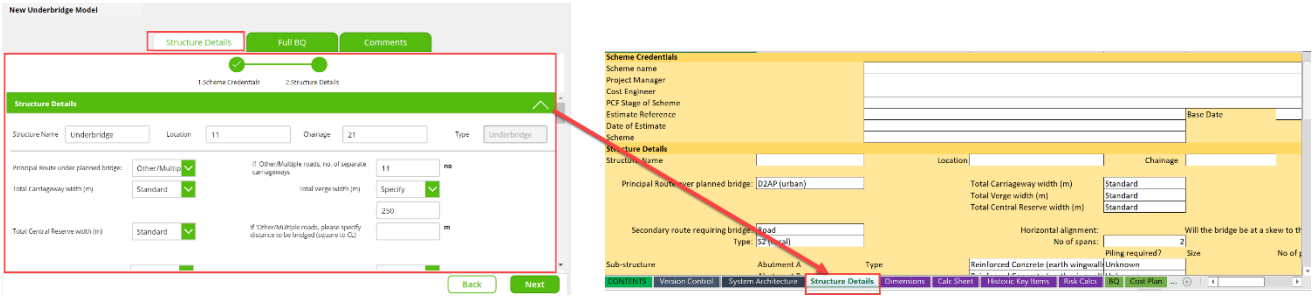
Base Information



Underbridges

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Underbridges Model – V2.0).

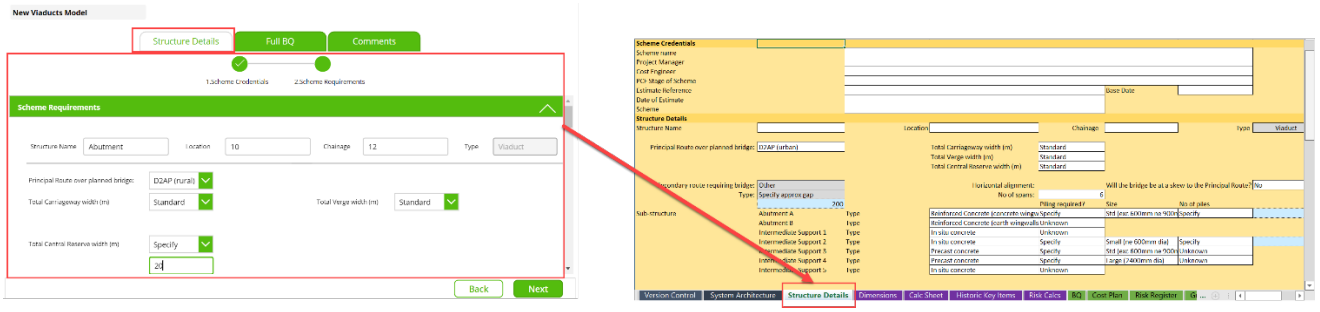
Structure Details



Viaducts

Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Viaducts Model – V2.0).

Structure Details



Our mission is to help organisations improve their estimating, and the integration of estimating with related business processes; for private enterprise this helps improve your profit and market share; public authorities can deliver more accurate budgets and streamline project delivery.

Head Office | 83-89 Renwick St, Redfern NSW 2016
Phone | (Sales) +61 2 8396 6555 or (Support) +61 2 4422 3444
Email | sales@benchmarkestimating.com