

National Highways

Benchmark Apps

Parametric Models User Guide

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Table of Contents

| | |
|---|----|
| Benchmark Apps - Parametric Models Overview | 5 |
| Prerequisites | 6 |
| Accessing Parametric Models | 7 |
| Accessing the App from Benchmark | 7 |
| Accessing the App from LoadSpring | 8 |
| Navigating the App..... | 8 |
| Landing Page | 8 |
| Summary Page | 9 |
| Managing User Access | 10 |
| Setting Up New Access..... | 10 |
| Modifying User Access | 12 |
| Deleting User Access..... | 12 |
| Viewing Access History | 13 |
| Creating New Model Instances..... | 14 |
| Indirect Works (Prelims) | 14 |
| Viewing the BQ..... | 18 |
| Regional Investment Programme (RIP)..... | 20 |
| Viewing the BQ..... | 23 |
| Smart Motorway Program (SMP)..... | 24 |
| Viewing the BQ..... | 28 |
| Structure | 29 |
| Viewing the BQ..... | 32 |
| Technology..... | 33 |
| Viewing the BQ..... | 35 |
| Other Functions | 36 |
| Searching Model Instances | 36 |
| Saving Model Instances | 38 |
| Adding Comments..... | 39 |
| Archiving Model Instances..... | 40 |
| Copying Model Instances..... | 41 |
| Logging Out | 42 |
| Appendix | 43 |
| Indirect Works..... | 43 |

| | |
|--|----|
| Primary Input | 43 |
| TTM Input..... | 43 |
| Scaffold Input | 43 |
| Temp Retaining Input..... | 44 |
| Regional Investment Programme (RIP)..... | 44 |
| Roadworks..... | 44 |
| Earthworks | 45 |
| Drainage | 46 |
| Carriageway..... | 46 |
| Signs & Lighting | 48 |
| Smart Motorway Program (SMP)..... | 49 |
| Roadworks..... | 49 |
| Earthworks | 50 |
| Carriageway..... | 51 |
| Drainage | 52 |
| Signs & Lighting | 53 |
| Structure | 54 |
| Box Culverts | 54 |
| Footbridges | 54 |
| Gantries | 54 |
| Overbridges..... | 55 |
| Piped Culverts | 56 |
| Retaining Walls..... | 56 |
| Underbridges..... | 56 |
| Viaducts..... | 57 |
| Technology..... | 57 |
| Base Information..... | 57 |
| Detailed Information / Detailed Parameters | 59 |

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 Quantities (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.

| Access | Role Based Access |
|--|-------------------------|
| Disallow change to Project status after Wo | No |
| Custom Export Library | Read, Edit, Add, Delete |
| Run Inactive Routines in a Project | No |
| Reports/Exports | View |
| Allow editing in Project Mark-up Calculato | Yes |
| Workflow | Read, Edit, Add, Delete |
| Mark-Up/On-Cost/TEF Calculation Library | Read, Edit, Add, Delete |
| Do not allow Project Client to be edited | No |
| Mark-Up/On-Cost/TEF Percentage Settings | Read, Edit, Add, Delete |
| Display Workbank on My Benchmark | Yes |
| Parametric Models Library | Read, Edit, Add, Delete |

Accessing Parametric Models

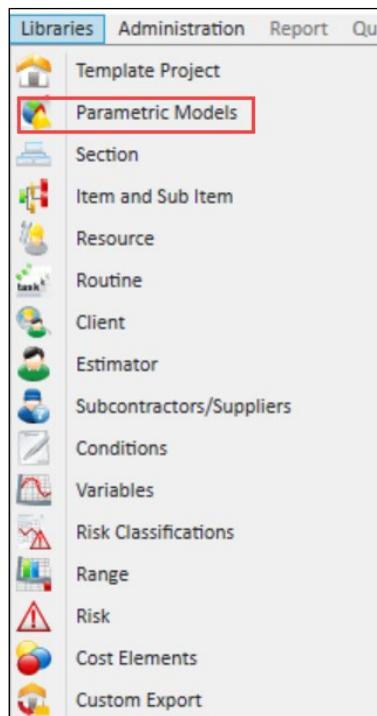
You can access the Parametric Models feature from:

- [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 & Business Forms.

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 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.



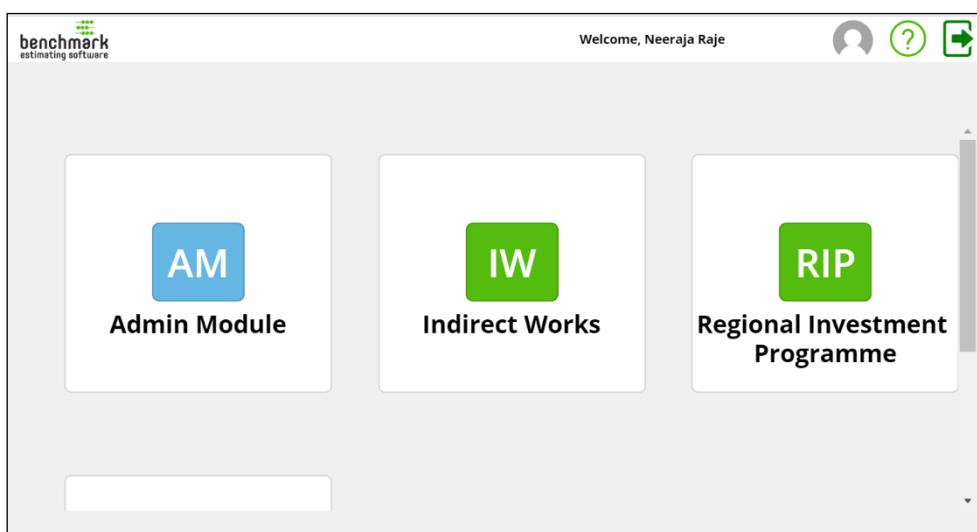
Landing Page

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.

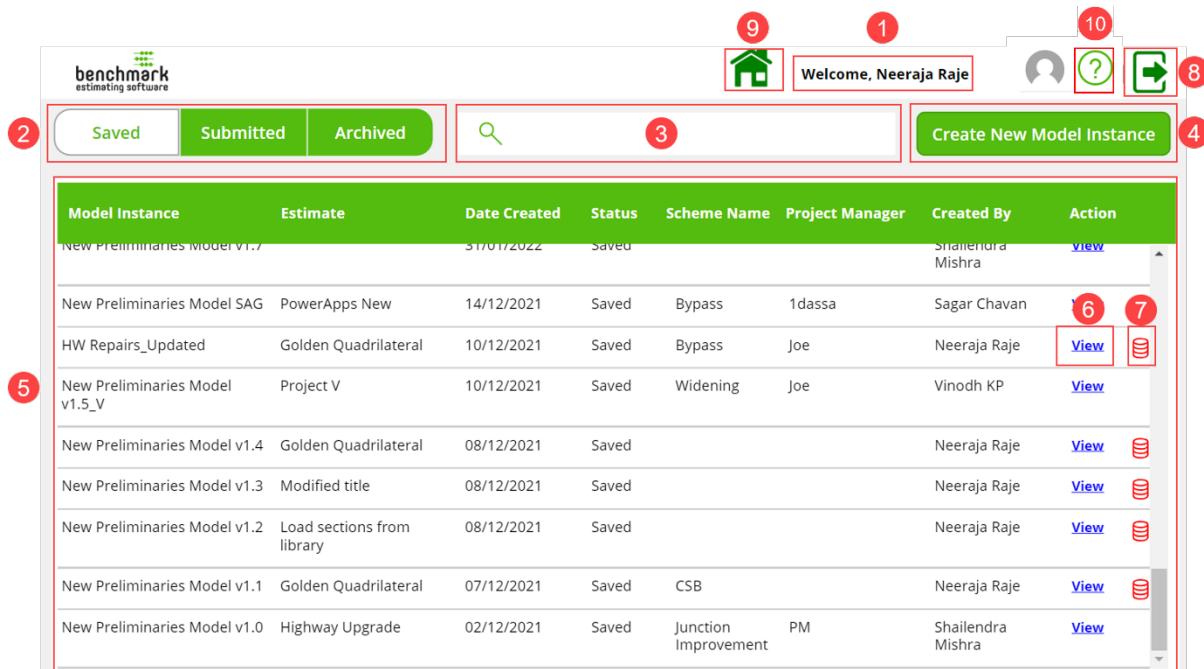


The screenshot shows the LoadSpring app landing page. At the top right, it says "Welcome, Neeraja Raje" and has icons for profile, help, and exit. Below that, there are three cards representing different model types:

- AM Admin Module**: A blue card with a blue square containing "AM".
- IW Indirect Works**: A green card with a green square containing "IW".
- RIP Regional Investment Programme**: A green card with a green square containing "RIP".

A vertical scroll bar is visible on the right side of the page.

Summary Page



The screenshot shows the Summary Page interface. At the top, there's a navigation bar with icons for Home (9), Welcome (1), Help (10), and Logout (8). Below the navigation bar is a toolbar with buttons for Saved (2), Submitted, Archived, a search bar (3), and Create New Model Instance (4). The main area displays a table of model instances:

| Model Instance | Estimate | Date Created | Status | Scheme Name | Project Manager | Created By | Action |
|--------------------------------|----------------------------|--------------|--------|----------------------|-----------------|-------------------|--|
| New Preliminaries Model v1.7 | | 31/01/2022 | Saved | | | Shailendra Mishra | View |
| New Preliminaries Model SAG | PowerApps New | 14/12/2021 | Saved | Bypass | 1dassa | Sagar Chavan | View  |
| HW Repairs_Updated | Golden Quadrilateral | 10/12/2021 | Saved | Bypass | Joe | Neeraja Raje | View  |
| New Preliminaries Model v1.5_V | Project V | 10/12/2021 | Saved | Widening | Joe | Vinodh KP | View |
| New Preliminaries Model v1.4 | Golden Quadrilateral | 08/12/2021 | Saved | | | Neeraja Raje | View  |
| New Preliminaries Model v1.3 | Modified title | 08/12/2021 | Saved | | | Neeraja Raje | View  |
| New Preliminaries Model v1.2 | Load sections from library | 08/12/2021 | Saved | | | Neeraja Raje | View  |
| New Preliminaries Model v1.1 | Golden Quadrilateral | 07/12/2021 | Saved | CSB | | Neeraja Raje | View  |
| New Preliminaries Model v1.0 | Highway Upgrade | 02/12/2021 | Saved | Junction Improvement | PM | Shailendra Mishra | View |

- 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.

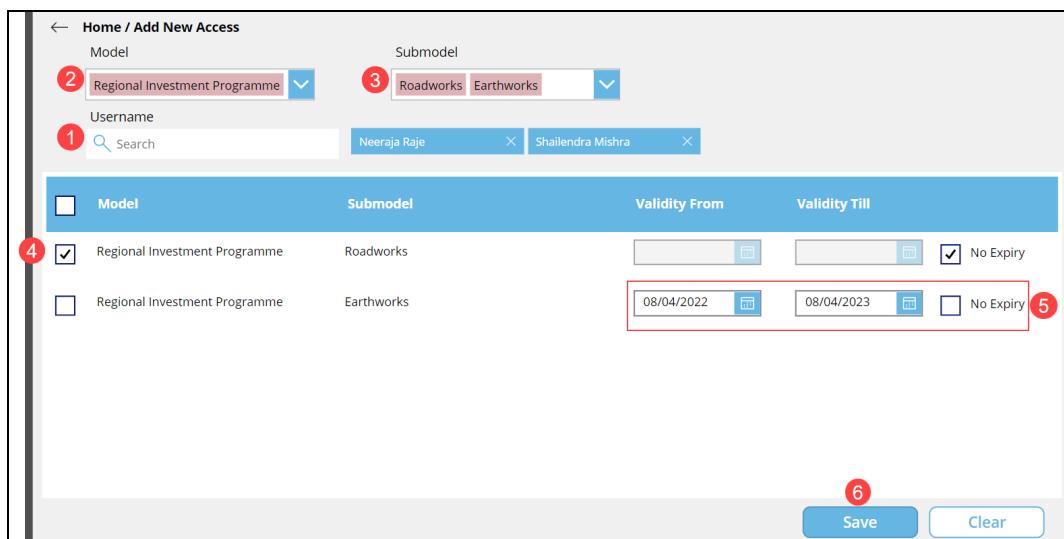
10 - Open this Help document.

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.

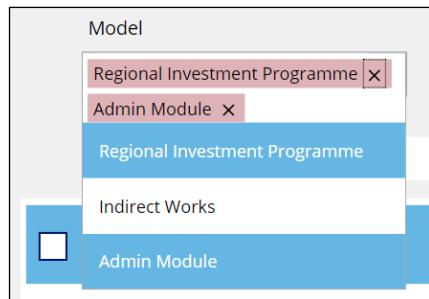


The screenshot shows the 'Home / Add New Access' page. At the top, there are dropdown menus for 'Model' (2) and 'Submodel' (3), both currently set to 'Regional Investment Programme'. Below these are two search input fields for 'Username' (1), containing 'Neeraja Raje' and 'Shailendra Mishra'. The main table lists access configurations:

| Model | Submodel | Validity From | Validity Till | |
|---|------------|---------------------------------|---------------------------------|---|
| <input checked="" type="checkbox"/> Regional Investment Programme | Roadworks | <input type="text"/> 08/04/2022 | <input type="text"/> 08/04/2023 | <input checked="" type="checkbox"/> No Expiry |
| <input type="checkbox"/> Regional Investment Programme | Earthworks | <input type="text"/> 08/04/2022 | <input type="text"/> 08/04/2023 | <input type="checkbox"/> No Expiry |

At the bottom right are 'Save' (6) and 'Clear' buttons.

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

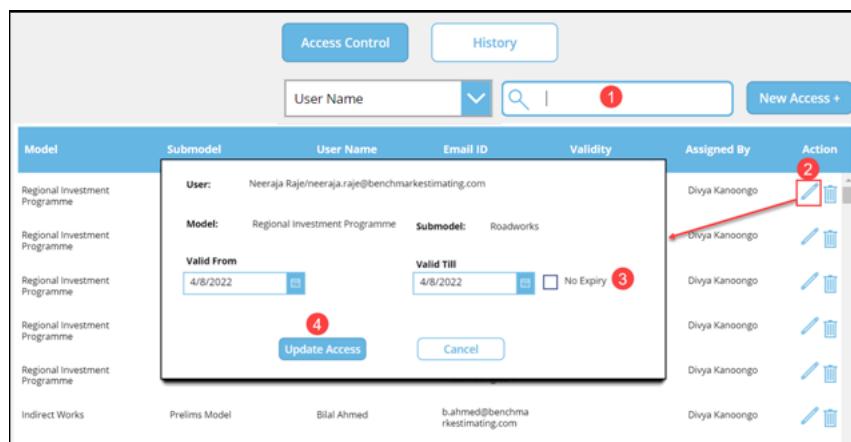
The **Access Control** tab lists all the users and their access within the application. Administrators can modify the duration for which users can access the assigned models/sub models.

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**



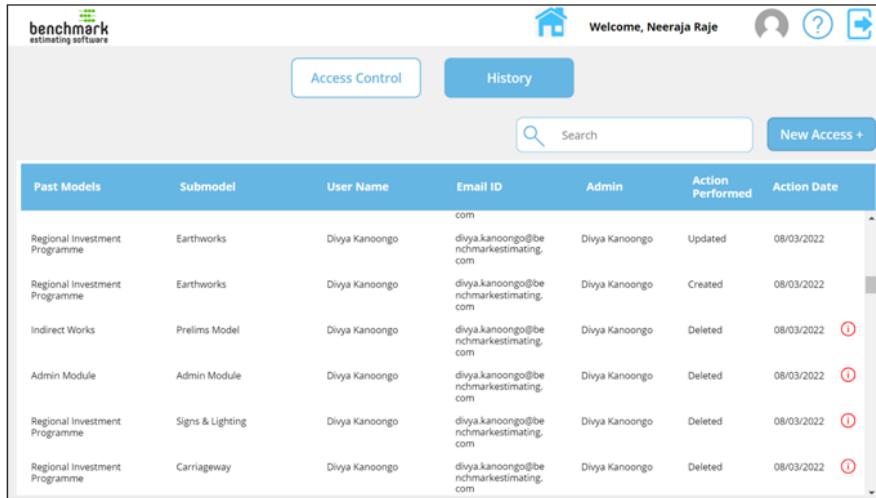
Deleting User Access

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.



The screenshot shows the Admin Module interface with the 'History' tab selected. The table displays the following data:

| Past Models | Submodel | User Name | Email ID | Admin | Action Performed | Action Date |
|-------------------------------|------------------|----------------|---------------------------------------|----------------|------------------|-------------|
| Regional Investment Programme | Earthworks | Divya Kanoongo | divya.kanoongo@benchmarkmarketing.com | Divya Kanoongo | Updated | 08/03/2022 |
| Regional Investment Programme | Earthworks | Divya Kanoongo | divya.kanoongo@benchmarkmarketing.com | Divya Kanoongo | Created | 08/03/2022 |
| Indirect Works | Prelims Model | Divya Kanoongo | divya.kanoongo@benchmarkmarketing.com | Divya Kanoongo | Deleted | 08/03/2022 |
| Admin Module | Admin Module | Divya Kanoongo | divya.kanoongo@benchmarkmarketing.com | Divya Kanoongo | Deleted | 08/03/2022 |
| Regional Investment Programme | Signs & Lighting | Divya Kanoongo | divya.kanoongo@benchmarkmarketing.com | Divya Kanoongo | Deleted | 08/03/2022 |
| Regional Investment Programme | Carriageway | Divya Kanoongo | divya.kanoongo@benchmarkmarketing.com | Divya Kanoongo | Deleted | 08/03/2022 |



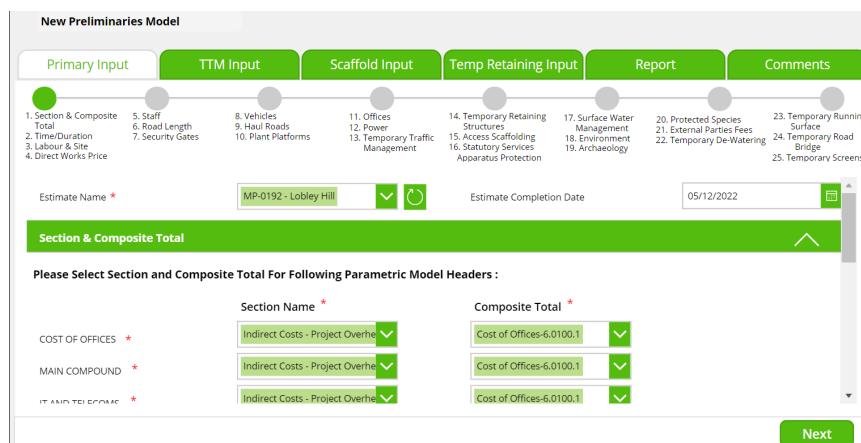
An information icon  displays if a comment was added when deleting an access. Select the icon to view the comment.

Creating New Model Instances

You can create model instances for one or more Projects. Within each of the Projects, Parametric Model headers (Cost Elements) can be mapped to multiple Composite Totals belonging to the Sections within the Project. This allows the app to generate the relevant BQ Items within the selected 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* and *Estimate Completion Date*.
Select the Reload Estimate Name List button  to refresh the list of Estimates, if required.
5. In the Section & Composite Total panel, map each of the Cost Elements to the relevant Section and Composite Total.



| Section & Composite Total | Cost Element | Section Name | Composite Total |
|------------------------------|--------------------|-----------------------------------|--------------------------|
| 1. Section & Composite Total | COST OF OFFICES * | Indirect Costs - Project Overhead | Cost of Offices-6.0100.1 |
| 2. Time/Duration | MAIN COMPOUND * | Indirect Costs - Project Overhead | Cost of Offices-6.0100.1 |
| 3. Labour & Site | IT AND TECHNICAL * | Indirect Costs - Project Overhead | Cost of Offices-6.0100.1 |

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



7. Enter / select details for all the relevant fields in each of the panels in the screen.
8. 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.

9. Enter a unique name and select Continue.

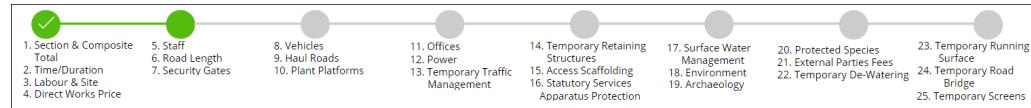


If required, you can edit this name in any of the screens using the Edit icon.

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.



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

Prelims for MP-0192

Save As Draft

Primary Input TTM Input Scaffold Input Temp Retaining Input Report Comments

1. Project Information 2. Traffic Safety and Management 3. Installation of Temporary Traffic Management Arrangements 4. Maintenance of Temporary Traffic Management Arrangements 5. Taking Measures for or Construction, Maintenance, Removal of Control Flow Arrangements 6. Recovery Vehicles 7. Temporary Closed Circuit (CCTV) System for the Monitoring of Traffic 8. Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Roadworks

Project Information

| | |
|---|----------------|
| Project Type | Smart Motorway |
| Primary Road-Length of the Works (km) | 26.75 |
| Road Type | D2AP |
| Secondary Road-Length of the Works (km) | 8.5 |
| Road Type | D3AP |
| Number of Junctions (no) | 2 |
| Permanent Speed Limit | 50 or 60 mph |
| Permanent Speed Limit | <=40 mph |

Traffic Safety and Management Reality Check

Back Next

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

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

12. Enter / select or review details in each of the panels in the Scaffold Input tab.

Prelims for MP-0192

Save As Draft

Primary Input TTM Input Scaffold Input Temp Retaining Input Report Comments

1. Overbridge Abutments 2. Underbridge Abutments 3. Wing Walls 4. Pile-Cap And Foundation Access 5 Wall Scaffolding 6. Central Reserve Pier Scaffolding 7. Loading Bay Addition 8. Suspended And Bent Scaffolding (Birmingham Box) 9. Cost Engineer Self Price Section

OVERBRIDGE ABUTMENTS

| Number of Scaffolds of this Size | Scaffolding Number of Faces Front and Rear | Scaffold Length in Metres | Scaffold width in Boards | Scaffold Height in Metres | Number of Staircases | Scaffold Hire Period in weeks |
|----------------------------------|--|---------------------------|--------------------------|---------------------------|----------------------|-------------------------------|
| Adjusted Allowance | 2 | 39 | 5 | 7 | 2 | 26 |
| 2 | 32 | 5 | 7 | 1 | 26 | |
| 3 | Access Scaffold to an Overbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg | | | | | |

Back Next

13. Select Next to continue proceeding to the next screens.
14. Enter / select or review details in each of the panels in the Temp Retaining Input tab.

Primary Input TTM Input Scaffold Input Temp Retaining Input Report Comments

Sheet Piled Wall King Piled Wall Gabion Walls Cofferdam

Sheet Piled Wall

Select from here

Retaining Wall Constructed in Select from here Sheet Piles Working in Cantilever

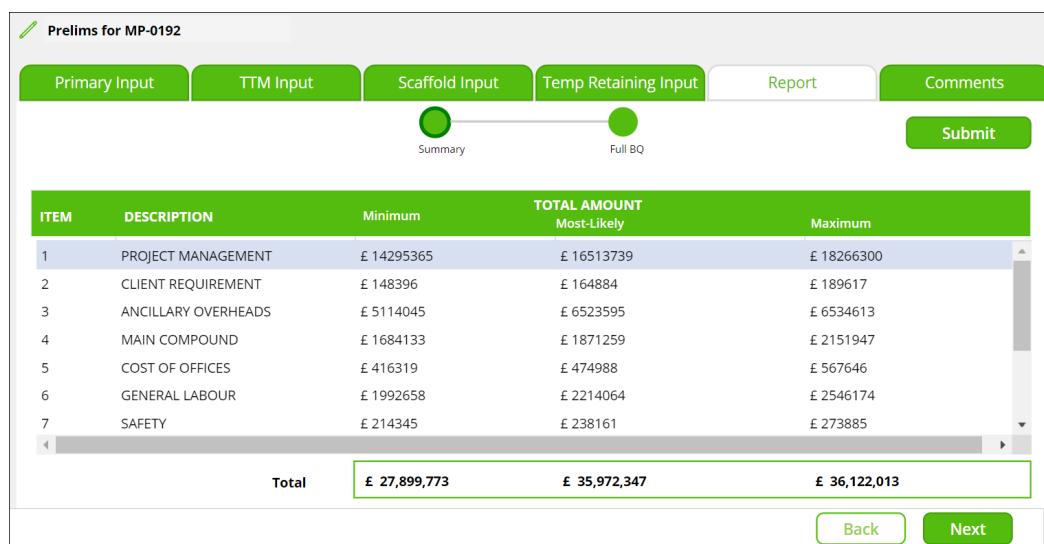
| Number of Walls | Retained Height | Length of Wall | Calculated Pile length | Ground Conditions | Pre-auger | Buy Back / Removal Percentage |
|--------------------|-----------------|----------------|------------------------|-------------------|-----------|-------------------------------|
| Adjusted Allowance | 3 | 100 | 8 | Unknown | 50% | 50% |

Select from here

Back Next

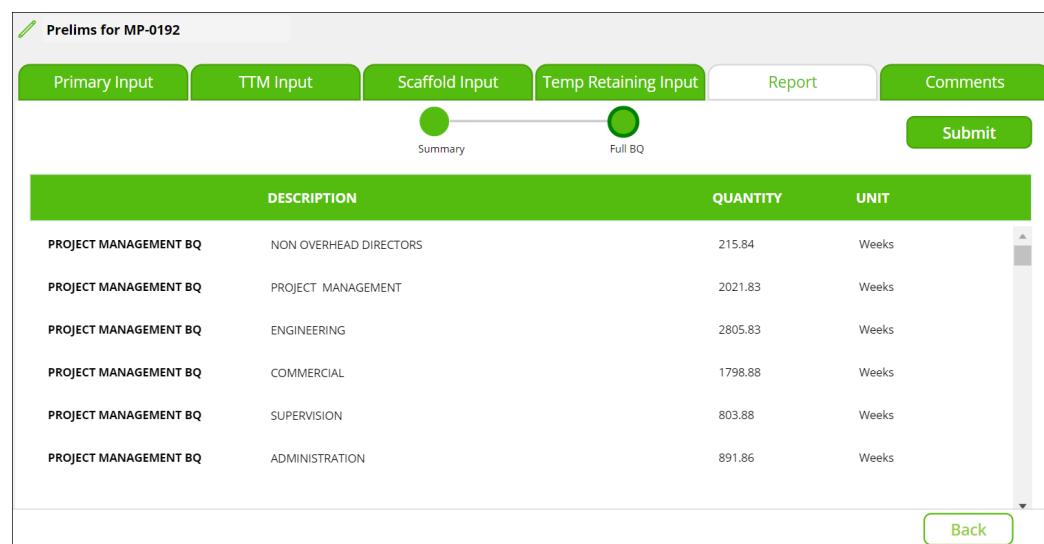
15. Select Next to continue proceeding to the next screens.

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



| ITEM | DESCRIPTION | Minimum | TOTAL AMOUNT Most-Likely | Maximum |
|--------------|---------------------|---------------------|-----------------------------|---------------------|
| 1 | PROJECT MANAGEMENT | £ 14295365 | £ 16513739 | £ 18266300 |
| 2 | CLIENT REQUIREMENT | £ 148396 | £ 164884 | £ 189617 |
| 3 | ANCILLARY OVERHEADS | £ 5114045 | £ 6523595 | £ 6534613 |
| 4 | MAIN COMPOUND | £ 1684133 | £ 1871259 | £ 2151947 |
| 5 | COST OF OFFICES | £ 416319 | £ 474988 | £ 567646 |
| 6 | GENERAL LABOUR | £ 1992658 | £ 2214064 | £ 2546174 |
| 7 | SAFETY | £ 214345 | £ 238161 | £ 273885 |
| Total | | £ 27,899,773 | £ 35,972,347 | £ 36,122,013 |

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



| DESCRIPTION | QUANTITY | UNIT | |
|-----------------------|------------------------|---------|-------|
| PROJECT MANAGEMENT BQ | NON OVERHEAD DIRECTORS | 215.84 | Weeks |
| PROJECT MANAGEMENT BQ | PROJECT MANAGEMENT | 2021.83 | Weeks |
| PROJECT MANAGEMENT BQ | ENGINEERING | 2805.83 | Weeks |
| PROJECT MANAGEMENT BQ | COMMERCIAL | 1798.88 | Weeks |
| PROJECT MANAGEMENT BQ | SUPERVISION | 803.88 | Weeks |
| PROJECT MANAGEMENT BQ | ADMINISTRATION | 891.86 | Weeks |

17. 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.”

18. Select Confirm.

The BQ Items will be created in Benchmark.

Viewing the BQ

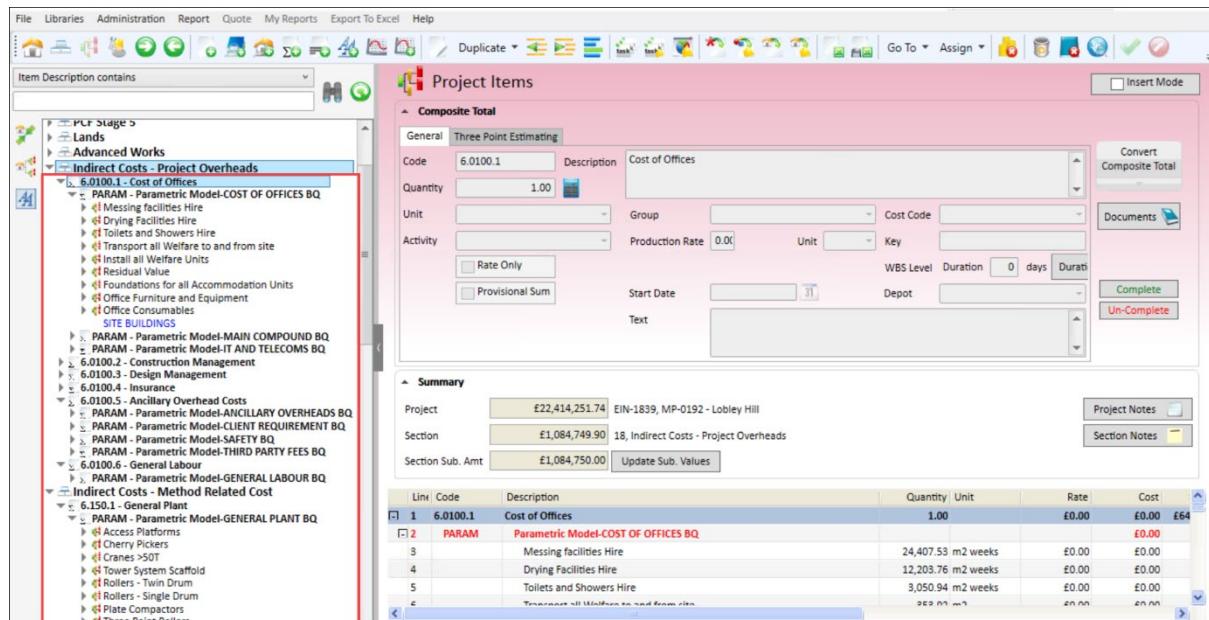
When you submit a model instance from the Parametric Models app:

- A BQ is created back in Benchmark.
- BQ line items are created as part of a Section and 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 and Composite Total.

All the BQ line items are created as Project Items.



| Line | Code | Description | Quantity | Unit | Rate | Cost |
|------|----------|---|----------|------|-------|-------|
| 1 | 6.0100.1 | Cost of Offices | 1.00 | | £0.00 | £0.00 |
| 2 | PARAM | Parametric Model-COST OF OFFICES BQ | | | | £64 |
| 3 | | Messing facilities Hire | | | £0.00 | £0.00 |
| 4 | | Drying Facilities Hire | | | £0.00 | £0.00 |
| 5 | | Toilets & Showers Hire | | | £0.00 | £0.00 |
| 6 | | Transport all Welfare to and from site | | | £0.00 | £0.00 |
| 7 | | Install all Welfare Units | | | £0.00 | £0.00 |
| 8 | | Residual Values | | | £0.00 | £0.00 |
| 9 | | Foundations for all Accommodation Units | | | £0.00 | £0.00 |
| 10 | | Office Furniture and Equipment | | | £0.00 | £0.00 |
| 11 | | Office Consumables | | | £0.00 | £0.00 |
| 12 | | SITE BUILDINGS | | | £0.00 | £0.00 |
| 13 | | PARAM - Parametric Model-MAIN COMPOUND BQ | | | £0.00 | £0.00 |
| 14 | | PARAM - Parametric Model-IT AND TELECOMS BQ | | | £0.00 | £0.00 |
| 15 | | 6.0100.2 Construction Management | | | £0.00 | £0.00 |
| 16 | | 6.0100.3 Design Management | | | £0.00 | £0.00 |
| 17 | | 6.0100.4 Insurance | | | £0.00 | £0.00 |
| 18 | | 6.0100.5 Site related Overhead Costs | | | £0.00 | £0.00 |
| 19 | | PARAM - Parametric Model-ANCILLARY OVERHEADS BQ | | | £0.00 | £0.00 |
| 20 | | PARAM - Parametric Model-CLIENT REQUIREMENT BQ | | | £0.00 | £0.00 |
| 21 | | PARAM - Parametric Model-SAFETY BQ | | | £0.00 | £0.00 |
| 22 | | PARAM - Parametric Model-THIRD PARTY FEES BQ | | | £0.00 | £0.00 |
| 23 | | 6.0100.6 General Labour | | | £0.00 | £0.00 |
| 24 | | PARAM - Parametric Model-GENERAL LABOUR BQ | | | £0.00 | £0.00 |
| 25 | | Indirect Costs - Method Related Cost | | | £0.00 | £0.00 |
| 26 | | 6.150.1 General Plant | | | £0.00 | £0.00 |
| 27 | | PARAM - Parametric Model-GENERAL PLANT BQ | | | £0.00 | £0.00 |
| 28 | | Access Platforms | | | £0.00 | £0.00 |
| 29 | | Cherry Pickers | | | £0.00 | £0.00 |
| 30 | | Cranes >50t | | | £0.00 | £0.00 |
| 31 | | Tower Systems Scaffolding | | | £0.00 | £0.00 |
| 32 | | Rollers - Twin Drum | | | £0.00 | £0.00 |
| 33 | | Rollers - Single Drum | | | £0.00 | £0.00 |
| 34 | | Plate Compactors | | | £0.00 | £0.00 |
| 35 | | Three Point Rollers | | | £0.00 | £0.00 |

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.

Prelims for MP-0192
Last Modified Date : 05/12/2022 Last Modified By : Neeraja Raj

Primary Input TTM Input Scaffold Input Temp Retaining Input Report Comments

Summary Full BQ Submit

| DESCRIPTION | QUANTITY | UNIT | |
|-----------------------|------------------------|---------|-------|
| PROJECT MANAGEMENT BQ | NON OVERHEAD DIRECTORS | 215.84 | Weeks |
| PROJECT MANAGEMENT BQ | PROJECT MANAGEMENT | 2021.83 | Weeks |
| PROJECT MANAGEMENT BQ | ENGINEERING | 2805.83 | Weeks |
| PROJECT MANAGEMENT BQ | COMMERCIAL | 1798.88 | Weeks |
| PROJECT MANAGEMENT BQ | SUPERVISION | 803.88 | Weeks |
| PROJECT MANAGEMENT BQ | ADMINISTRATION | 891.86 | Weeks |

Back

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.

| Site Information | | | | | | |
|---|-----------------|------------|-------------------------|-----------------------------------|-------------------------|-----------------|
|  | | | | | | |
|  | | | | | | |
| Site Information | | | | | | |
| Existing Network | Length (Kms) | Standard | Elevated Sections (kms) | Grade Separated Interchanges (No) | At Grade Junctions (No) | Side Roads (No) |
| Rural: | Primary 10 | S2 (rural) | | | | 2 |
| | Secondary 10 | S2 (rural) | | | | 2 |

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.

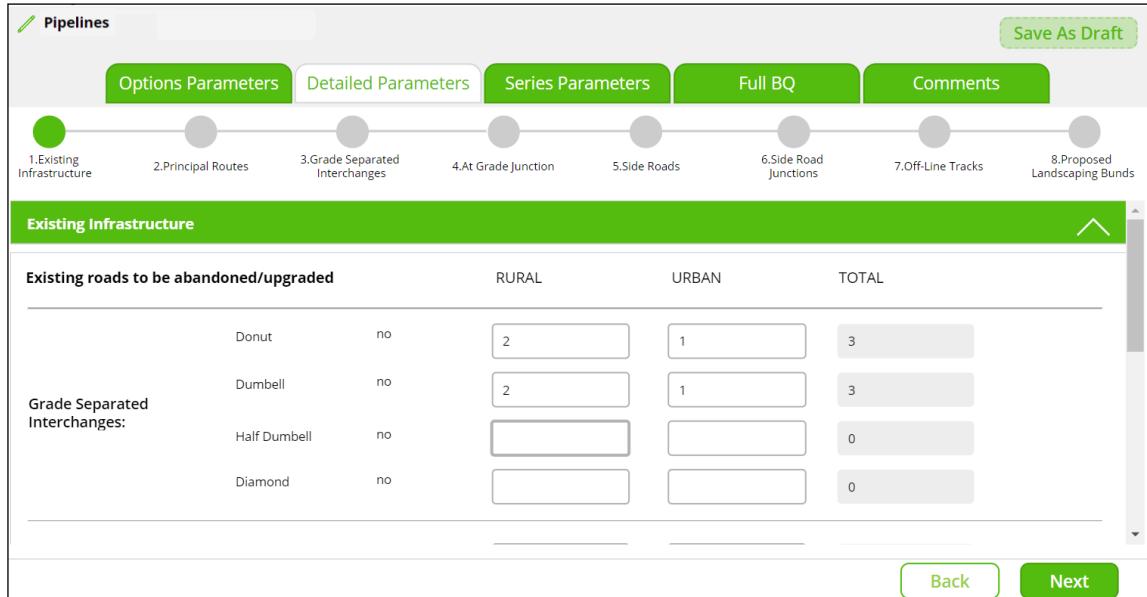
Then, Save  the new name.



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.



| | | RURAL | URBAN | TOTAL | |
|-------------------------------|--------------|-------|--------------------------------|--------------------------------|--------------------------------|
| Grade Separated Interchanges: | Donut | no | <input type="text" value="2"/> | <input type="text" value="1"/> | <input type="text" value="3"/> |
| | Dumbell | no | <input type="text" value="2"/> | <input type="text" value="1"/> | <input type="text" value="3"/> |
| | Half Dumbell | no | <input type="text"/> | <input type="text"/> | <input type="text" value="0"/> |
| | Diamond | no | <input type="text"/> | <input type="text"/> | <input type="text" value="0"/> |

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.

Pipelines

Save As Draft

| Options Parameters | Detailed Parameters | Series Parameters | Full BQ | Comments |
|---|--|--------------------------------------|---|--|
| 1. Proportion of heavily wooded areas requiring clearance | 3. Take down existing safety barriers | 5. Take up existing lighting columns | 7. Take down existing technology | 9. Post and rail boundary fencing |
| 2. Take down existing fences | 4. Take up existing kerbs and channels | 6. Take down existing traffic signs | 8. Temporary Fencing (as specified and shown on the drawings) | 10. Other fencing (excluding Environmental Barriers) |
| | | | | 11. Environmental Barriers |
| | | | | 12. LANDSCAPING & ECOLOGY Planting |
| | | | | 13. Additional habitat creation |
| | | | | 14. Temporary Reptile Fencing |

Proportion of heavily wooded areas requiring clearance

Take down existing fences

Assumptions: All widening in RURAL locations require fences to be taken down on BOTH sides of existing highway boundary.

ADJUST FOR retained fencing associated with:

| Areas of assumed take down both sides of road: | Proportion to be retained | Areas of assumed no fences taken down: | Proportion to be removed |
|--|---------------------------|--|--------------------------|
| Parallel widening | 10% | Symmetric widening with no land take (rural) | 20% |
| Asymmetric widening | 10% | Urban sections | 25% |
| Symmetric widening with land take | 5% | Detrunked sections | 5% |

Back **Next**

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).

Pipelines

Welcome, Neeraja Raje

| Options Parameters | Detailed Parameters | Series Parameters | Full BQ | Comments | Submit |
|--------------------|--|-------------------|---------|----------|--------|
| Sr No | Description | | Unit | Qty | |
| 1 | General site clearance | | ha | 65.28 | |
| 2 | General site clearance - wooded areas | | ha | 6.95 | |
| 3 | General site clearance - removal of hedges | | m | 0.57 | |
| 4 | Demolition of buildings | | no | 0 | |
| 5 | Demolition of bridges | | no | 0 | |
| 6 | Demolition of retaining walls | | no | 0 | |

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."

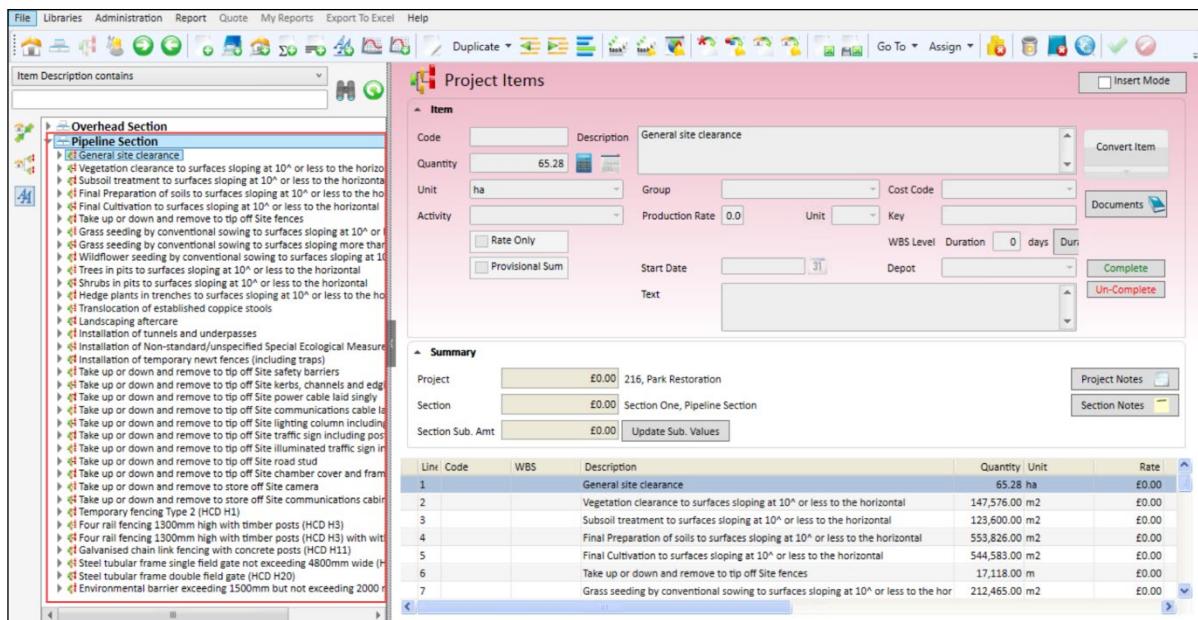
15. Select Confirm.

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.

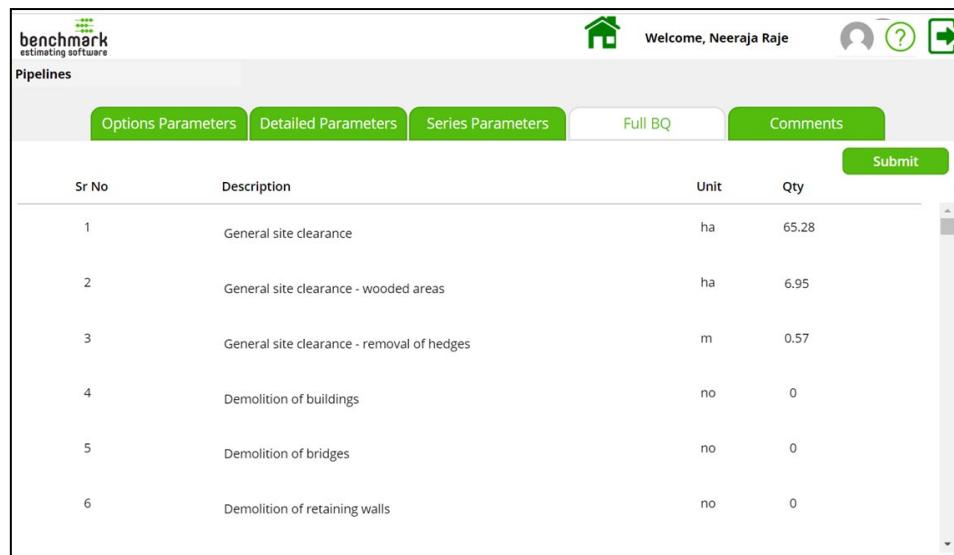


| Line | Code | WBS | Description | Quantity | Unit | Rate |
|------|------|-----|---|------------|----------------|-------|
| 1 | | | General site clearance | 65.28 | ha | £0.00 |
| 2 | | | Vegetation clearance to surfaces sloping at 10° or less to the horizontal | 147,576.00 | m ² | £0.00 |
| 3 | | | Subsoil treatment to surfaces sloping at 10° or less to the horizontal | 123,600.00 | m ² | £0.00 |
| 4 | | | Final Preparation of soils to surfaces sloping at 10° or less to the horizontal | 553,826.00 | m ² | £0.00 |
| 5 | | | Final Cultivation to surfaces sloping at 10° or less to the horizontal | 544,583.00 | m ² | £0.00 |
| 6 | | | Take up or down and remove to tip off Site fences | 17,118.00 | m | £0.00 |
| 7 | | | Grass seeding by conventional sowing to surfaces sloping at 10° or less to the horizontal | 212,465.00 | m ² | £0.00 |

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.



| Sr No | Description | Unit | Qty |
|-------|--|------|-------|
| 1 | General site clearance | ha | 65.28 |
| 2 | General site clearance - wooded areas | ha | 6.95 |
| 3 | General site clearance - removal of hedges | m | 0.57 |
| 4 | Demolition of buildings | no | 0 |
| 5 | Demolition of bridges | no | 0 |
| 6 | Demolition of retaining walls | no | 0 |

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.

Site Information

| Existing motorway | Length (kms) | Elevated Sections (m) | Standard (A-side) | Standard (A-side) | Length of Central Reserve existing VCB (kms) | Lit? |
|-------------------|--------------|-----------------------|---|---|--|---------------------------------------|
| Link 1 | 20 | 10 | D2M (rural) <input checked="" type="button"/> | D3M (rural) <input checked="" type="button"/> | 2 | No <input checked="" type="button"/> |
| Link 2 | 15 | 5 | D3M (rural) <input checked="" type="button"/> | D4M (rural) <input checked="" type="button"/> | 1.5 | Yes <input checked="" type="button"/> |
| Link 3 | | | <input checked="" type="button"/> | <input checked="" type="button"/> | | <input checked="" type="button"/> |
| Link 4 | | | <input checked="" type="button"/> | <input checked="" type="button"/> | | <input checked="" type="button"/> |

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.

Project Overheads

Save As Draft

Options Parameters Detailed Parameters Series Parameters Full BQ Comments

1.Existing Infrastructure 2.Proposed Mainline 3.Emergency Refuge Areas 4.Interchanges 5.Service Areas, Work Depots And Turnaround Facilities 6.Side Roads

Existing Infrastructure

| | A-side | | | | B-side | | | |
|--------|----------------------|----------------------|------------|----------------------------|----------------------------|--------------------------------------|----------------------------|----------------------------|
| | Start Chainage | End Chainage | Length (m) | Existing carriageway width | Existing verge width (ave) | Existing Central Reserve width (ave) | Existing carriageway width | Existing verge width (ave) |
| Link 1 | <input type="text"/> | <input type="text"/> | 10000 | Standard | Standard | Standard | Standard | Standard |
| Link 2 | <input type="text"/> | <input type="text"/> | 20000 | Standard | Specify | Standard | Standard | Standard |
| | | | | | 20 | | | |
| ... | | | | | | | | |

Back **Next**

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.

Options Parameters Detailed Parameters Series Parameters Full BQ Comments

1.Drainage 2.Emergency Refuge Areas 3.Interchanges 4.Service Areas, Work depots and turnaround facilities 1 5. Side Roads

Drainage

| Proposed Drainage Types and Renewal | | | | | | | | | |
|-------------------------------------|----------------------|----------------------|------------|-------------|---------------------------------|---------------------------|---------------------------------|---------------------------|--------------|
| A-CARRIAGEWAY | Start Chainage | End Chainage | Length (m) | Upgrade | % of Kerb & Gully Drainage Type | % of Kerb & Gully Renewed | % of Filter Drain Drainage Type | % of Filter Drain Renewed | % of C Drain |
| Link 1 | <input type="text"/> | <input type="text"/> | 20000 | D2M (rural) | 15% | 70% | 10% | 80% | 35% |
| Link 2 | <input type="text"/> | <input type="text"/> | 0 | | 0% | 100% | 0% | 100% | 0% |
| Link 3 | <input type="text"/> | <input type="text"/> | 0 | | 0% | 100% | 0% | 100% | 0% |
| Link 4 | <input type="text"/> | <input type="text"/> | 0 | | 0% | 100% | 0% | 100% | 0% |

Back **Next**

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).

SMP - Drainage

| 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 exceed... | 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 exceed... | 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 exceed... | 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.”

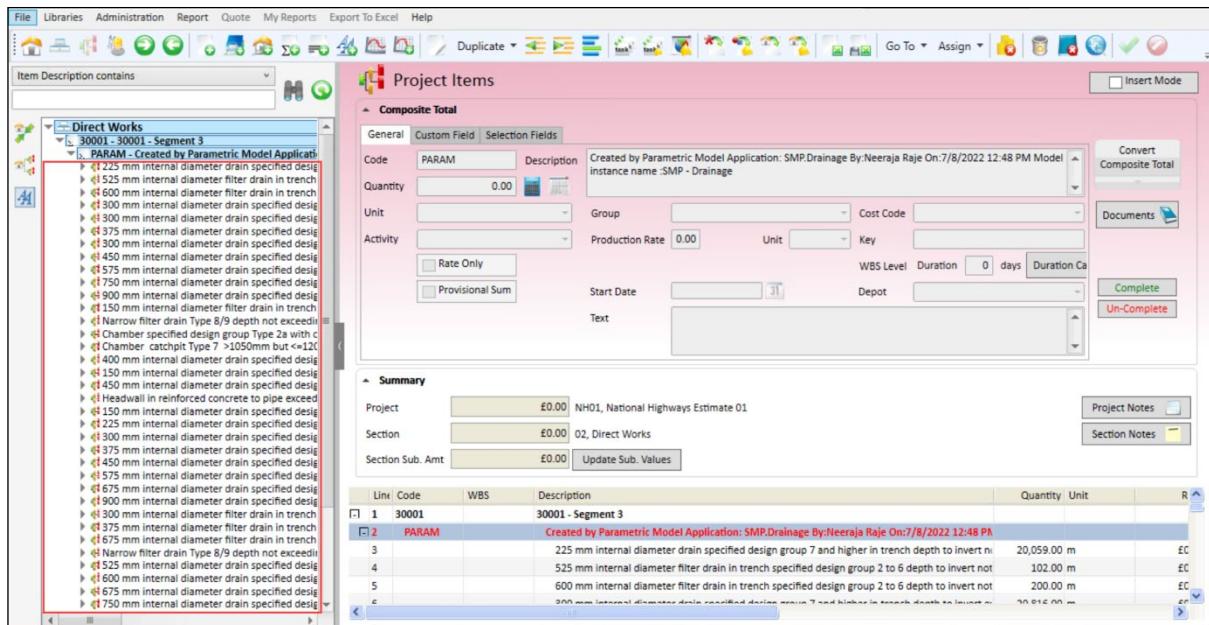
15. Select Confirm.

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.

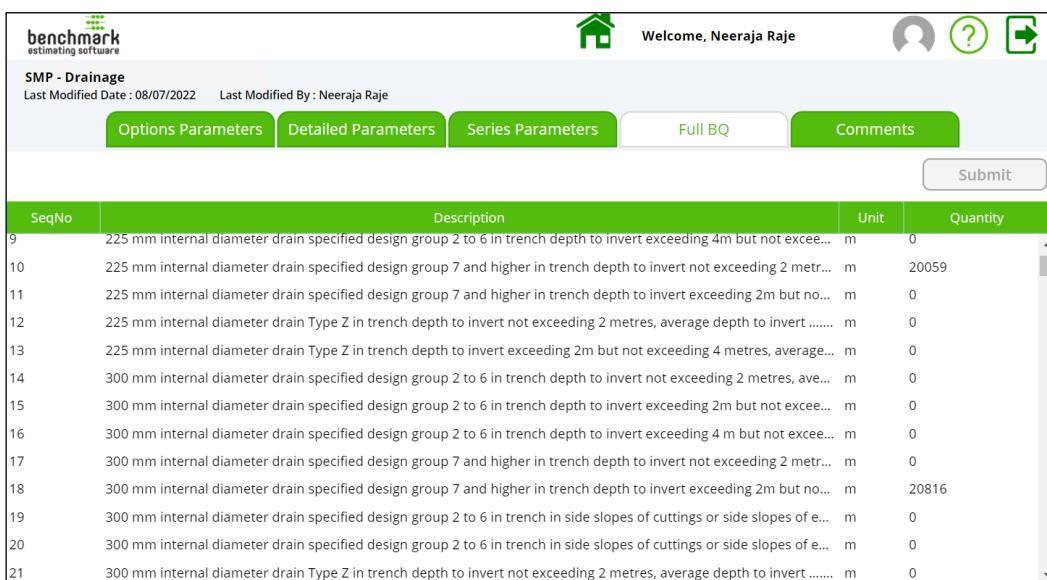


The screenshot shows the 'Project Items' screen in Benchmark. The 'Composite Total' section is selected, displaying a list of BQ line items under the 'PARAM - Created by Parametric Model Application' category. The items include various drain specifications like 225 mm, 300 mm, and 375 mm internal diameter drains in different trench depths and filter types. The 'Summary' section shows the project is 'NHO1, National Highways Estimate 01' with section 02, Direct Works. The 'BQ' table lists the items with their descriptions, quantities (e.g., 20,059.00 m), units (m), and rates (e.g., EC).

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.



The screenshot shows the 'Full BQ' tab in the Benchmark mobile app. The table lists BQ items with the following data:

| SeqNo | Description | Unit | Quantity |
|-------|---|------|----------|
| 9 | 225 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 4m but not exceeding 8m | m | 0 |
| 10 | 225 mm internal diameter drain specified design group 7 and higher in trench depth to invert not exceeding 2 metres, average depth to invert..... | m | 20059 |
| 11 | 225 mm internal diameter drain specified design group 7 and higher in trench depth to invert exceeding 2m but not exceeding 4m | m | 0 |
| 12 | 225 mm internal diameter drain Type Z in trench depth to invert not exceeding 2 metres, average depth to invert | m | 0 |
| 13 | 225 mm internal diameter drain Type Z in trench depth to invert exceeding 2m but not exceeding 4 metres, average depth to invert | m | 0 |
| 14 | 300 mm internal diameter drain specified design group 2 to 6 in trench depth to invert not exceeding 2 metres, average depth to invert | m | 0 |
| 15 | 300 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 2m but not exceeding 4m | m | 0 |
| 16 | 300 mm internal diameter drain specified design group 2 to 6 in trench depth to invert exceeding 4m but not exceeding 8m | m | 0 |
| 17 | 300 mm internal diameter drain specified design group 7 and higher in trench depth to invert not exceeding 2 metres | m | 0 |
| 18 | 300 mm internal diameter drain specified design group 7 and higher in trench depth to invert exceeding 2m but not exceeding 4m | m | 20816 |
| 19 | 300 mm internal diameter drain specified design group 2 to 6 in trench in side slopes of cuttings or side slopes of embankments | m | 0 |
| 20 | 300 mm internal diameter drain specified design group 2 to 6 in trench in side slopes of cuttings or side slopes of embankments | m | 0 |
| 21 | 300 mm internal diameter drain Type Z in trench depth to invert not exceeding 2 metres, average depth to invert | m | 0 |

Structure

The Structure model includes the following sub models:

- Box Culverts
- Footbridges
- Gantryes
- 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.

Structure Details



| Structure Details | | | | | |
|---------------------------------------|-------------|---|----------|------|------------|
| Structure Name | Paved Areas | Location | Chainage | Type | Footbridge |
| Principal Route under planned bridge: | WS2 |  | | | |
| Total Carriageway width (m) | Standard |  | | | |
| Total Verge width (m) | Standard |  | | | |
| Total Central Reserve width (m) | Standard |  | | | |

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.

Structure-Footbridges

Welcome, Neeraja Raje

Paved Kerbs and Areas

Structure Details Full BQ Comments Submit

| SeqNo | Description | Quantity | Unit |
|-------|---|----------|------|
| 40 | Disposal of unacceptable material Class U1A | 1044 | m3 |
| 41 | Imported acceptable material Class 1A in fill to structures | 0 | m3 |
| 42 | Imported acceptable material Class 6I/J in reinforced earth structures | 0 | m3 |
| 43 | Imported acceptable material Class 6N/P in reinforced earth structures | 1937 | m3 |
| 44 | Imported acceptable material Class 6N/P in fill to structures | 798 | m3 |
| 45 | Imported acceptable material Class 6N/P in fill above structural concrete foundations | 72 | m3 |
| 46 | Compaction of acceptable material in reinforced earth structures | 1937 | m3 |
| 47 | Compaction of acceptable material in fill to structures | 798 | m3 |
| 48 | Compaction of acceptable material in fill above structural concrete foundations | 72 | m3 |
| 49 | In situ concrete reference C7.5 in blinding 75 mm or less in thickness | 0 | m3 |
| 50 | In situ concrete reference C8/10 in blinding 75 mm or less in thickness | 0 | m3 |
| 51 | In situ concrete reference C32/40 | 0 | m3 |

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.”

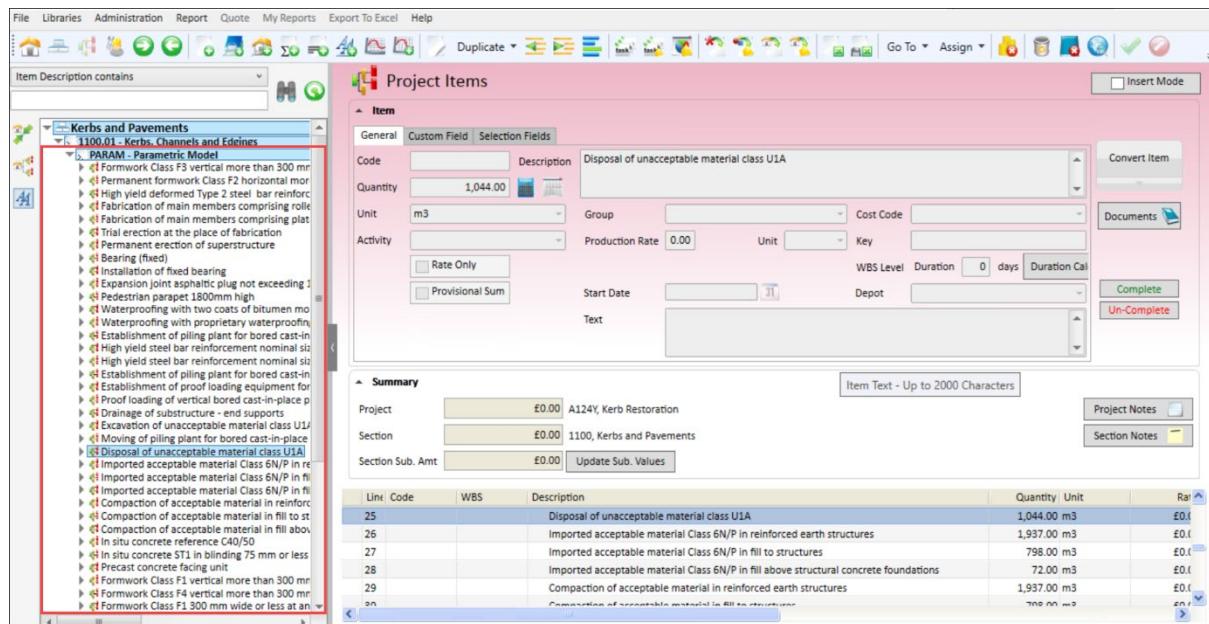
12. Select Confirm.

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.

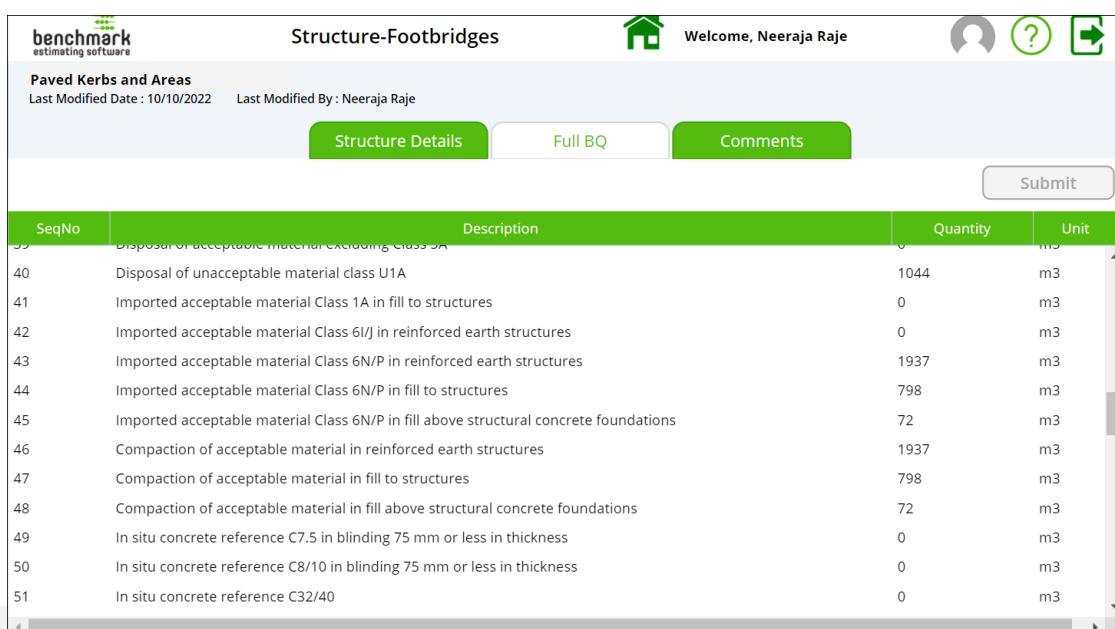


| Line | Code | WBS | Description | Quantity | Unit | Rate |
|------|------|-----|---|----------|------|------|
| 25 | | | Disposal of unacceptable material class U1A | 1,044.00 | m³ | £0.0 |
| 26 | | | Imported acceptable material Class 6N/P in reinforced earth structures | 1,937.00 | m³ | £0.0 |
| 27 | | | Imported acceptable material Class 6N/P in fill to structures | 798.00 | m³ | £0.0 |
| 28 | | | Imported acceptable material Class 6N/P in fill above structural concrete foundations | 72.00 | m³ | £0.0 |
| 29 | | | Compaction of acceptable material in reinforced earth structures | 1,937.00 | m³ | £0.0 |
| 30 | | | Compaction of acceptable material in fill to structures | 798.00 | m³ | £0.0 |
| 31 | | | Compaction of acceptable material in fill above structural concrete foundations | 72.00 | m³ | £0.0 |
| 32 | | | In situ concrete reference C40/50 | 0 | m³ | £0.0 |
| 33 | | | In situ concrete ST1 in blinding 75 mm or less | 0 | m³ | £0.0 |
| 34 | | | Precast concrete facing unit | 0 | m³ | £0.0 |
| 35 | | | Formwork Class F1 vertical more than 300 mm | 0 | m³ | £0.0 |
| 36 | | | Formwork Class F4 vertical more than 300 mm | 0 | m³ | £0.0 |
| 37 | | | Formwork Class F1 300 mm wide or less at an | 0 | m³ | £0.0 |

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.



| SeqNo | Description | Quantity | Unit |
|-------|---|----------|------|
| 35 | Disposal of unacceptable material excluding Class U1A | 0 | m³ |
| 40 | Disposal of unacceptable material class U1A | 1044 | m³ |
| 41 | Imported acceptable material Class 1A in fill to structures | 0 | m³ |
| 42 | Imported acceptable material Class 6I/J in reinforced earth structures | 0 | m³ |
| 43 | Imported acceptable material Class 6N/P in reinforced earth structures | 1937 | m³ |
| 44 | Imported acceptable material Class 6N/P in fill to structures | 798 | m³ |
| 45 | Imported acceptable material Class 6N/P in fill above structural concrete foundations | 72 | m³ |
| 46 | Compaction of acceptable material in reinforced earth structures | 1937 | m³ |
| 47 | Compaction of acceptable material in fill to structures | 798 | m³ |
| 48 | Compaction of acceptable material in fill above structural concrete foundations | 72 | m³ |
| 49 | In situ concrete reference C7.5 in blinding 75 mm or less in thickness | 0 | m³ |
| 50 | In situ concrete reference C8/10 in blinding 75 mm or less in thickness | 0 | m³ |
| 51 | In situ concrete reference C32/40 | 0 | m³ |

Technology

1. [Open](#) the Parametric Models app.
2. Select Technology > Technology
3. Select Create New Model Instance.
4. 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.

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

| | |
|----------------------------|-------------------------------------|
| Scheme Requirements | <input checked="" type="checkbox"/> |
| Scheme Requirements | |
| Mainline | <input checked="" type="checkbox"/> |
| Intervention Type | <input type="button" value="▼"/> |
| Technology Intervention | |
| | |

6. Enter / select details for all the relevant fields in each of the panels in the Base Information 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.
7. Select Next to proceed to the next screen.
8. Enter a unique name and select Continue.



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

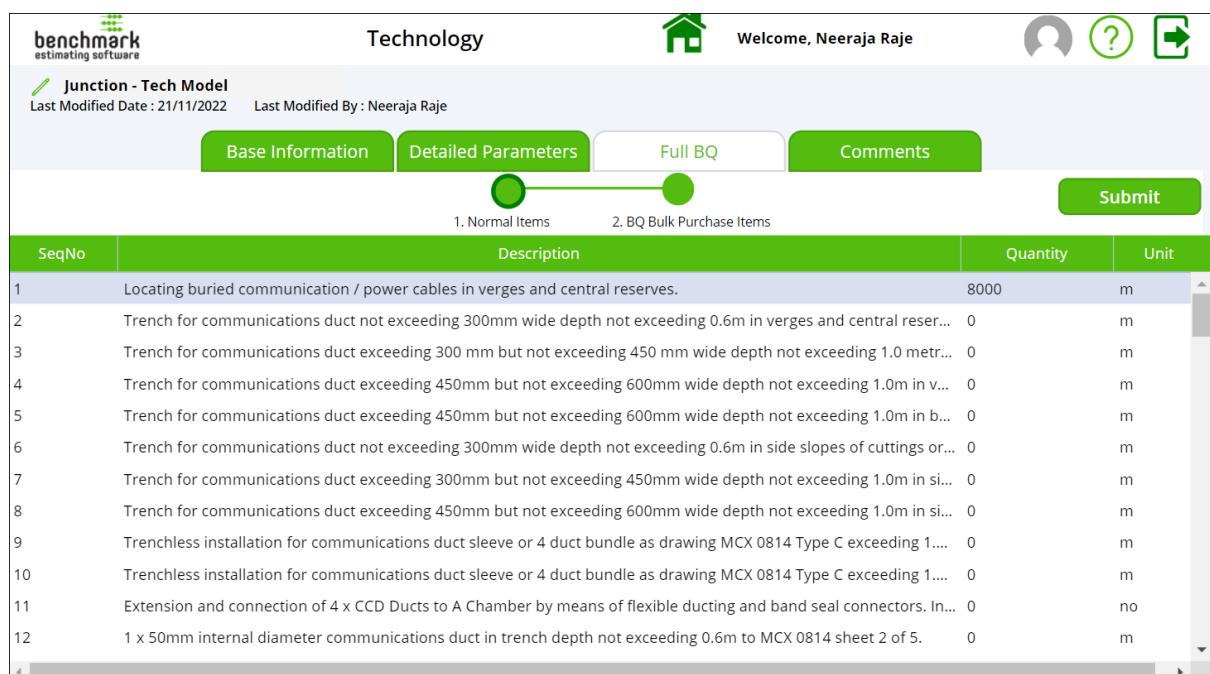
Then, Save  the new name.



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 generate and review the Bill of Quantities (BOQ) in the Full BQ tab:
 - a. Select Normal Items to review the normal Items in the BoQ.
 - b. Select and BQ Bulk Purchase to review the bulk purchase output in the BoQ.



| SeqNo | Description | Quantity | Unit |
|-------|---|----------|------|
| 1 | Locating buried communication / power cables in verges and central reserves. | 8000 | m |
| 2 | Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in verges and central reser... | 0 | m |
| 3 | Trench for communications duct exceeding 300 mm but not exceeding 450 mm wide depth not exceeding 1.0 metr... | 0 | m |
| 4 | Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in v... | 0 | m |
| 5 | Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in b... | 0 | m |
| 6 | Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in side slopes of cuttings or... | 0 | m |
| 7 | Trench for communications duct exceeding 300mm but not exceeding 450mm wide depth not exceeding 1.0m in si... | 0 | m |
| 8 | Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in si... | 0 | m |
| 9 | Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1.... | 0 | m |
| 10 | Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1.... | 0 | m |
| 11 | Extension and connection of 4 x CCD Ducts to A Chamber by means of flexible ducting and band seal connectors. In... | 0 | no |
| 12 | 1 x 50mm internal diameter communications duct in trench depth not exceeding 0.6m to MCX 0814 sheet 2 of 5. | 0 | m |

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 Normal BQ line items are created as Project Items under a new Parametric Model

– Normal Items Composite Total:

| Line | Code | WBS | Description | Quantity | Unit | Rate |
|------|---------|-----|--|----------|------|------|
| 1 | CT12.01 | | Tech Input | 8,000.00 | m | £0.0 |
| 2 | CT14.01 | | Junction A4 Widening | 5.00 | Item | £0.0 |
| 3 | PARAM | | Parametric Model - Normal Items | | | |
| 4 | | | Locating buried communication / power cables in verges and central reserves. | 8,000.00 | m | £0.0 |
| 5 | | | SAT 2 Testing | 5.00 | Item | £0.0 |
| e | | | SAT 3 Testing | 5.00 | Item | £0.0 |

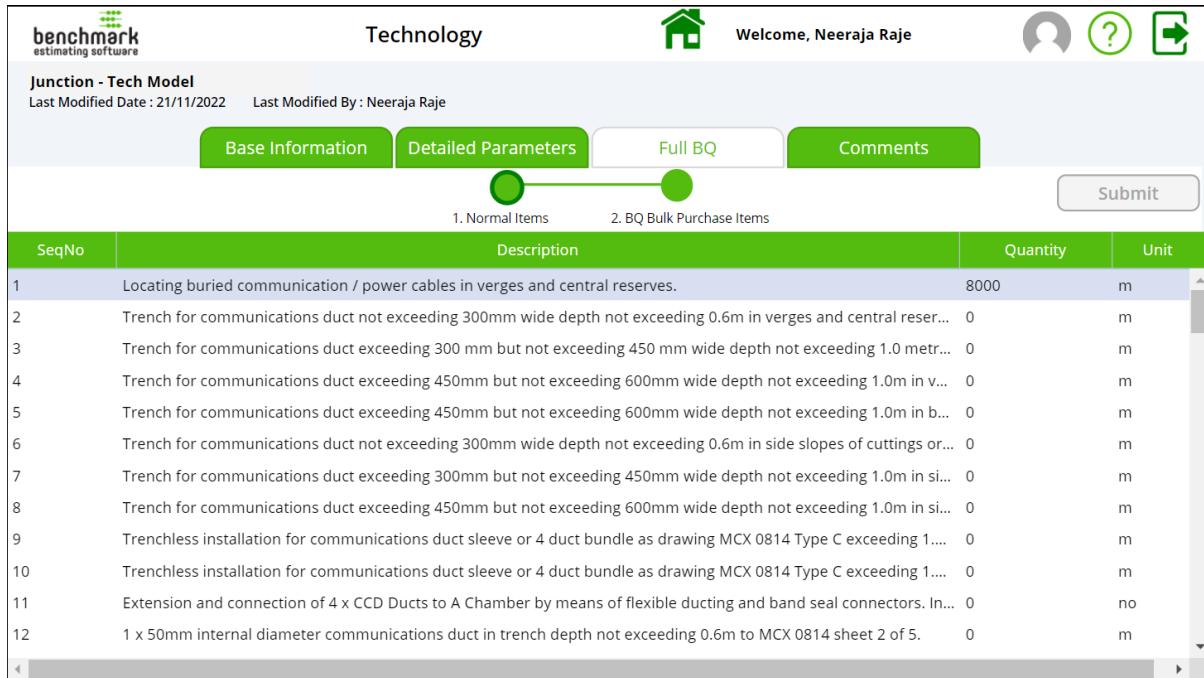
The Bulk Purchase Output line items are created as Project Items under a new Parametric Model – Bulk Purchase Items Composite Total:

| Line | Code | WBS | Description | Quantity | Unit | Rate |
|------|---------|-----|--|----------|------|------|
| 1 | CT12.01 | | Tech Input | 8,000.00 | m | £0.0 |
| 2 | CT14.01 | | Junction A4 Widening | 5.00 | Item | £0.0 |
| 3 | PARAM | | Parametric Model - Normal Items | | | |
| 4 | | | Locating buried communication / power cables in verges and central reserves. | 8,000.00 | m | £0.0 |
| 5 | | | SAT 2 Testing | 5.00 | Item | £0.0 |
| e | | | SAT 3 Testing | 5.00 | Item | £0.0 |

You can also view these items in the app using the **Full BQ** tab within the relevant sub tabs:



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



| SeqNo | Description | Quantity | Unit |
|-------|---|----------|------|
| 1 | Locating buried communication / power cables in verges and central reserves. | 8000 | m |
| 2 | Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in verges and central reser... | 0 | m |
| 3 | Trench for communications duct exceeding 300 mm but not exceeding 450 mm wide depth not exceeding 1.0 metr... | 0 | m |
| 4 | Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in v... | 0 | m |
| 5 | Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in b... | 0 | m |
| 6 | Trench for communications duct not exceeding 300mm wide depth not exceeding 0.6m in side slopes of cuttings or... | 0 | m |
| 7 | Trench for communications duct exceeding 300mm but not exceeding 450mm wide depth not exceeding 1.0m in si... | 0 | m |
| 8 | Trench for communications duct exceeding 450mm but not exceeding 600mm wide depth not exceeding 1.0m in si... | 0 | m |
| 9 | Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1.... | 0 | m |
| 10 | Trenchless installation for communications duct sleeve or 4 duct bundle as drawing MCX 0814 Type C exceeding 1.... | 0 | m |
| 11 | Extension and connection of 4 x CCD Ducts to A Chamber by means of flexible ducting and band seal connectors. In... | 0 | no |
| 12 | 1 x 50mm internal diameter communications duct in trench depth not exceeding 0.6m to MCX 0814 sheet 2 of 5. | 0 | m |

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.

The screenshot shows the Benchmark Estimating Software interface. At the top, there is a navigation bar with the Benchmark logo, a home icon, the user's name 'Welcome, Neeraja Raje', and icons for help and export. Below the navigation bar is a search bar containing the text 'highway'. To the left of the search bar are three buttons: 'Saved' (highlighted), 'Submitted', and 'Archived'. To the right of the search bar is a green button labeled 'Create New Model Instance'. Below the search bar is a table with the following columns: Model Instance, Estimate, Date Created, Status, Scheme Name, Project Manager, Created By, and Action. The table contains one row of data:

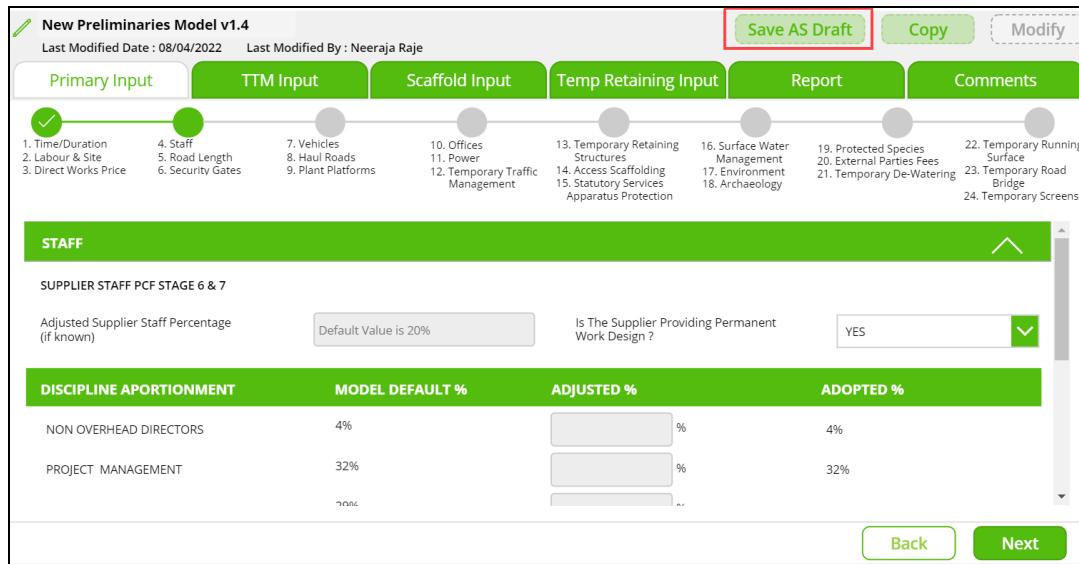
| Model Instance | Estimate | Date Created | Status | Scheme Name | Project Manager | Created By | Action |
|------------------------------|-----------------|--------------|--------|----------------------|-----------------|-------------------|----------------------|
| New Preliminaries Model v1.0 | Highway Upgrade | 02/12/2021 | Saved | Junction Improvement | PM | Shailendra Mishra | View |

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.

- Select **Save As Draft** to save the entered details.



The screenshot shows the 'New Preliminaries Model v1.4' interface. At the top right, there are buttons for 'Save AS Draft' (highlighted with a red box), 'Copy', and 'Modify'. Below these are tabs for 'Primary Input', 'TTM Input', 'Scaffold Input', 'Temp Retaining Input', 'Report', and 'Comments'. A horizontal timeline below the tabs lists items 1 through 24. The 'STAFF' section is expanded, showing 'SUPPLIER STAFF PCF STAGE 6 & 7' with fields for 'Adjusted Supplier Staff Percentage (if known)' (Default Value is 20%) and 'Is The Supplier Providing Permanent Work Design?' (YES). The 'DISCIPLINE APORTIONMENT' section shows data for 'NON OVERHEAD DIRECTORS' and 'PROJECT MANAGEMENT'. At the bottom are 'Back' and 'Next' buttons.

- These drafts display with a status of **Saved** in the list of model instances.
- Select **View** to open the draft.
- 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.

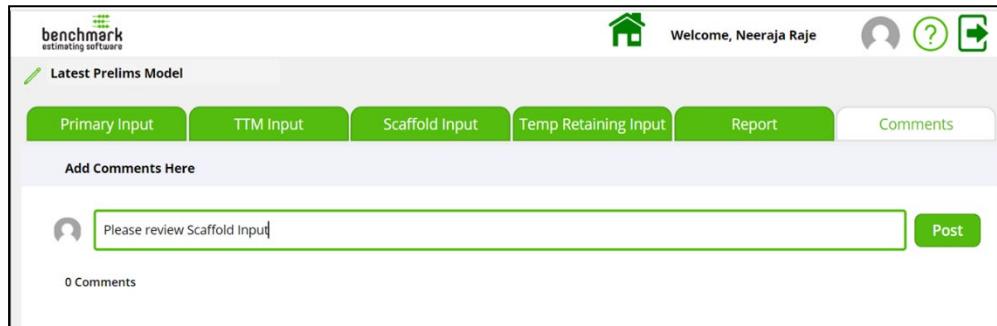


Adding Comments

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.

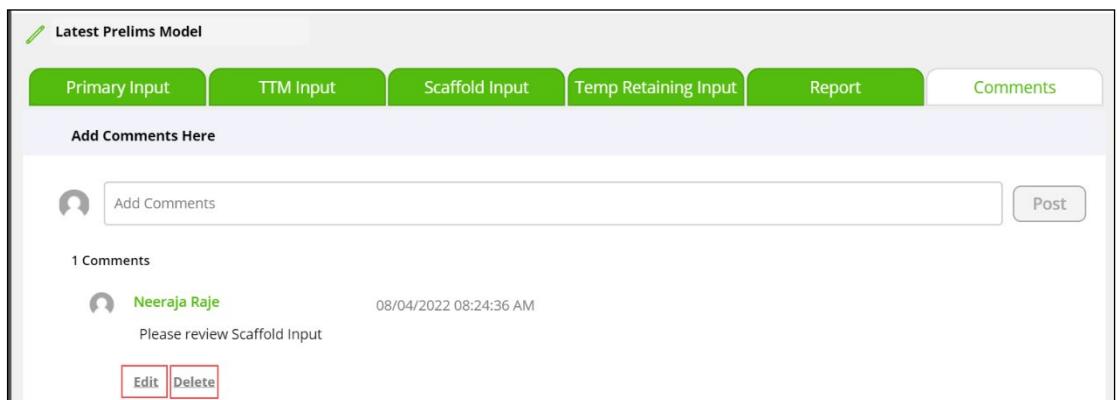
To add comments:

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



The screenshot shows the 'Comments' tab selected in the top navigation bar of the software. Below the tabs, there is a section labeled 'Add Comments Here'. A user has entered the comment 'Please review Scaffold Input' into a text input field. To the right of the input field is a green 'Post' button. Below the input field, it says '0 Comments'.

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.



The screenshot shows the same software interface after a comment has been posted. The 'Comments' tab is still selected. The 'Add Comments Here' section now contains the previously posted comment 'Please review Scaffold Input'. Below the comment, it says '1 Comments'. The comment itself is displayed with the author's name 'Neeraja Raje', the date '08/04/2022 08:24:36 AM', and the text 'Please review Scaffold Input'. At the bottom of the comment card, there are two buttons: 'Edit' and 'Delete', both enclosed in red boxes.

Archiving Model Instances

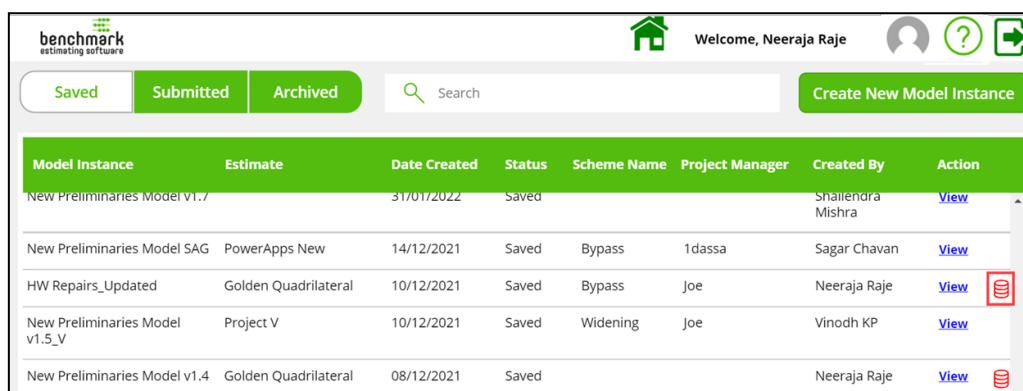
If you no longer need a model instance, you can archive it. This can be particularly useful when you need to manage a large list of model instances in the application.

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.



| Model Instance | Estimate | Date Created | Status | Scheme Name | Project Manager | Created By | Action |
|--------------------------------|----------------------|--------------|--------|-------------|-----------------|-------------------|--|
| New Preliminaries Model v1.7 | PowerApps New | 31/01/2022 | Saved | | | Shailendra Mishra | View |
| New Preliminaries Model SAG | Golden Quadrilateral | 14/12/2021 | Saved | Bypass | 1dassa | Sagar Chavan | View |
| HW Repairs_Updated | Golden Quadrilateral | 10/12/2021 | Saved | Bypass | joe | Neeraja Raje | View  |
| New Preliminaries Model v1.5_V | Project V | 10/12/2021 | Saved | Widening | joe | Vinodh KP | View |
| New Preliminaries Model v1.4 | Golden Quadrilateral | 08/12/2021 | Saved | | | Neeraja Raje | View  |

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**.



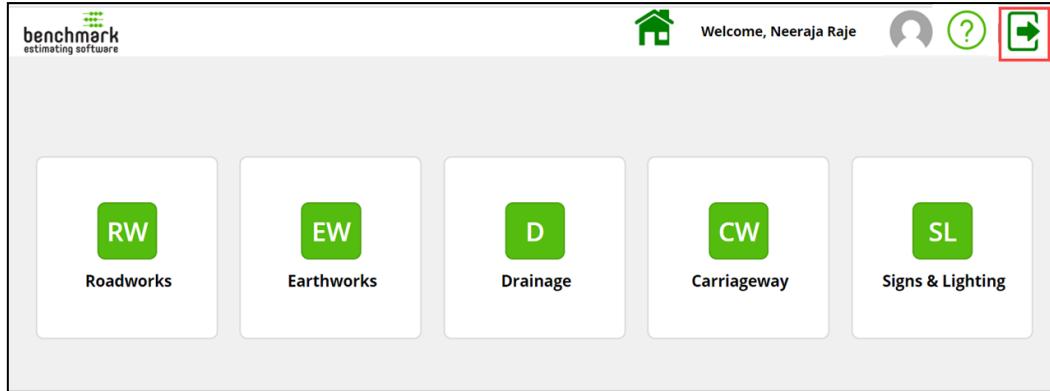
The screenshot shows the 'HW Repairs_Updated' model instance details. At the top right are 'Copy' and 'Modify' buttons. Below them are tabs for Primary Input, TTM Input, Scaffold Input, Temp Retaining Input, Report, and Comments. A horizontal bar with green checkmarks indicates which sections have been completed. The completed sections are: 1. Time/Duration, 4. Staff, 7. Vehicles, 10. Offices, 13. Temporary Retaining Structures, 16. Surface Water Management, 19. Protected Species, 22. Temporary Running Surface, 23. Temporary Road Bridge, and 24. Temporary Screens. The 'Primary Input' tab is selected. Below the tabs are fields for Estimate Name (Golden Quadrilateral), Section Name (Repairs), and Estimate Completion Date (10/12/2021). Below these are expandable sections for TIME/DURATION, LABOUR & SITE, and DIRECT WORKS PRICE.

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

Primary Input

TEMPORARY RUNNING SURFACE

Is there a requirement for Temporary Running Surface to the Highway? YES Do you know the dimensions of the Temporary Road? NO

You may adjust the defaults within preset limits Default Value is 3.50%

TEMPORARY ROAD BRIDGE

Is there a requirement for Temporary Road Bridges? YES Choose the dimensions that best suits the application 10m x 6m

Enter the number of Temporary Bridges 1 Enter 1 hrs Period 2

INDIRECT PRICE CALCULATOR / NEW PRELIMS MODEL

For use on schemes over £10,000,000

Project Information

Project Type: Major Scheme

Project Address: 123 Main Street, London, UK

Project Duration: 12 months

Labour & Site

Labour Rate: £100.00 per hour

Site Rate: £100.00 per hour

Equipment Rate: £100.00 per hour

Material Rate: £100.00 per hour

Other Rates: £100.00 per hour

Project Management: £100.00 per hour

Client Requirements: £100.00 per hour

Project Management: £100.00 per hour

Client Requirements: £100.00 per hour

TTM Input

New Preliminaries Model v1.0

Project Information

Project Type: Junction Improvement

Primary Road Length of the Works (km): 0

Road Type: Permanent Speed Limit: 50

Secondary Road Length of the Works (km): 0

Road Type: Permanent Speed Limit: 50

Number of Junctions (no):

Traffic, Safety and Management

Impaired driving: Number: 10, Days per week: 5, % of project duration: 100

Adapted driving: Number: 10, Days per week: 5, % of project duration: 100

Dedicated FSO: Number: 10, Days per week: 5, % of project duration: 100

Scaffold Input

New Preliminaries Model v1.0

Overbridge Abutments

1. Access Scaffold to an Overbridge Abutment carrying 4 lanes x 2 carriageways plus hardstrips and verg

Adjusted Allowance: 2 39 5 7 2 26

2. Access Scaffold to an Overbridge Abutment carrying 3 lanes x 2 carriageways plus hardstrips and verg

Adjusted Allowance: 2 32 5 7 1 26

3. Access Scaffold to an Overbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg

Adjusted Allowance: 2 30 5 7 1 26

SCAFFOLDING INPUT

1. Access Scaffold to an Overbridge Abutment carrying 4 lanes x 2 carriageways plus hardstrips and verg

Default Allowance: 2 39 5 7 2 26

2. Access Scaffold to an Overbridge Abutment carrying 3 lanes x 2 carriageways plus hardstrips and verg

Default Allowance: 2 32 5 7 1 26

3. Access Scaffold to an Overbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg

Default Allowance: 2 30 5 7 1 26

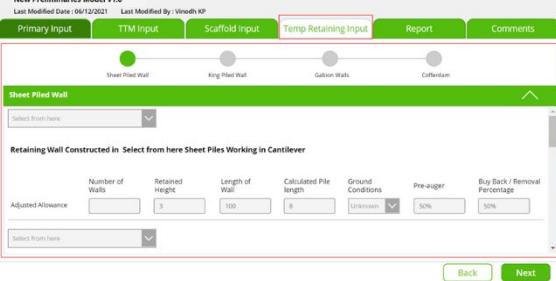
4. Access Scaffold to an Underbridge Abutment carrying 3 lanes x 2 carriageways plus hardstrips and verg

Default Allowance: 2 32 5 7 1 26

5. Access Scaffold to an Underbridge Abutment carrying 2 lanes x 2 carriageways plus hardstrips and verg

Default Allowance: 2 30 5 7 1 26

Temp Retaining Input



| | Length of Wall | Calculated Pile Length | Ground Conditions | Backfill / Removal Percentage |
|------------------|----------------|------------------------|-------------------|-------------------------------|
| Sheet Piled Wall | 100 | 100 | Unknown | 50% |
| King Head Wall | 100 | 100 | Unknown | 50% |
| Gabion Walls | 100 | 100 | Unknown | 50% |
| Cofferdam | 100 | 100 | Unknown | 50% |



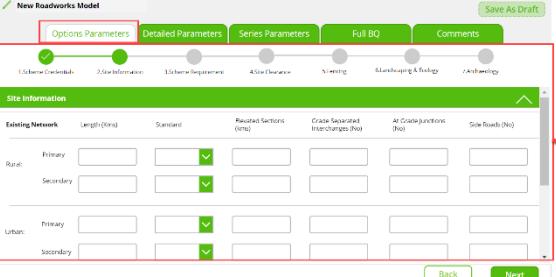
| | Length of Wall | Calculated Pile Length | Ground Conditions | Backfill / Removal Percentage |
|------------------|----------------|------------------------|-------------------|-------------------------------|
| Sheet Piled Wall | 100 | 100 | Unknown | 50% |
| King Head Wall | 100 | 100 | Unknown | 50% |
| Gabion Walls | 100 | 100 | Unknown | 50% |
| Cofferdam | 100 | 100 | Unknown | 50% |

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

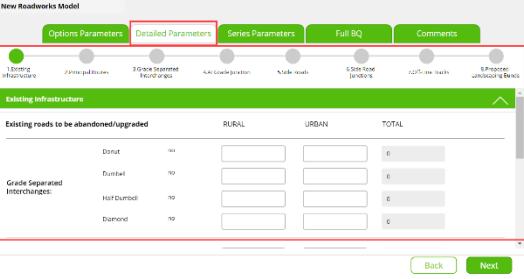


| Existing Network | Length (km) | Standard | Realigned Sections (km) | Grade Separated Interchanges (km) | At Grade Junctions (km) | Side Roads (km) |
|------------------|-------------|----------|-------------------------|-----------------------------------|-------------------------|-----------------|
| Rural: | Primary | 100 | 0 | 0 | 0 | 0 |
| | Secondary | 100 | 0 | 0 | 0 | 0 |
| Urban: | Primary | 100 | 0 | 0 | 0 | 0 |
| | Secondary | 100 | 0 | 0 | 0 | 0 |

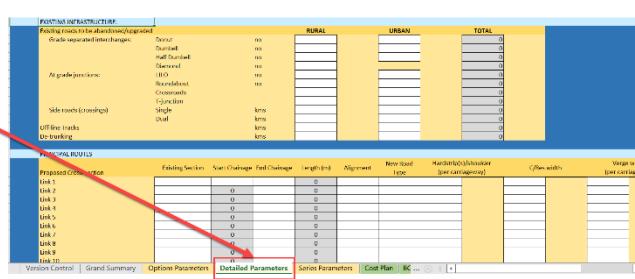


| Scheme Credentials | Site Name | Project Manager | Cost Engineer | PCI Stage of Scheme | Delivery Type | Date of Initiation | Scheme Type | Site Address |
|--------------------|-----------|-----------------|---------------|---------------------|---------------|--------------------|-------------|--------------|
| Existing Network | Rural | Primary | Secondary | Urban | Urban | Urban | Urban | Urban |
| Geography | RURAL | Primary | Secondary | URBAN | Primary | Secondary | URBAN | URBAN |

Detailed Parameters



| Existing Infrastructure | RURAL | URBAN | TOTAL |
|-------------------------|-------|-------|-------|
| Donut | 100 | 0 | 100 |
| Dumbell | 100 | 0 | 100 |
| Half Dumbell | 100 | 0 | 100 |
| Diamond | 100 | 0 | 100 |



| EXISTING INFRASTRUCTURE | Existing roads to be abandoned/upgraded | Grade-separated Interchanges | RURAL | URBAN | TOTAL |
|----------------------------|---|------------------------------|-------|-------|-------|
| All grade junctions | 0m | 0m | 0m | 0m | 0m |
| Side roads (existing) | 0m | 0m | 0m | 0m | 0m |
| Off-line tracks (existing) | 0m | 0m | 0m | 0m | 0m |

Series Parameters



New Roadworks Model

Options Parameters | Detailed Parameters | **Series Parameters** | Full BQ | Comments

Proportion of heavily wooded areas requiring clearance

| Principal route | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 | Link 8 | Link 9 |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Location | | | | | | | | | |
| Start Change | | | | | | | | | |
| End Change | | | | | | | | | |
| Extent of heavily wooded areas | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Back | Next

SRH - CLEARANCE

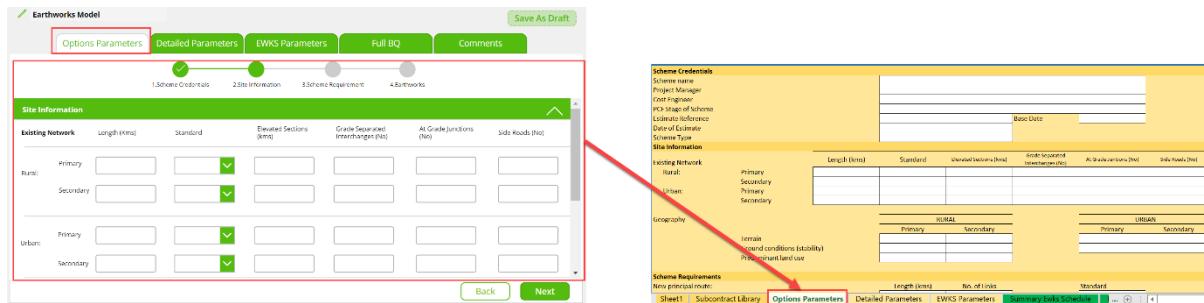
Proportion of heavily wooded areas requiring clearance

| Principal route | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 | Unit 6 | Unit 7 | Unit 8 |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Location | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Start Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| End Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Extent of heavily wooded areas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Earthworks

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

Options Parameters



Earthworks Model

Options Parameters | Detailed Parameters | EWKS Parameters | Full BQ | Comments

Site Information

| Existing Network | Length (km) | Standard | Excavated Sections (metres) | Grade Separated Interchanges (No.) | At Grade Junctions (No.) | Side Roads (No.) |
|------------------|-------------|----------|-----------------------------|------------------------------------|--------------------------|------------------|
| Rural | Primary | | | | | |
| | Secondary | | | | | |
| Urban | Primary | | | | | |
| | Secondary | | | | | |

Back | Next

DWCM - EARTHWORKS GENERAL

Existing Conditions

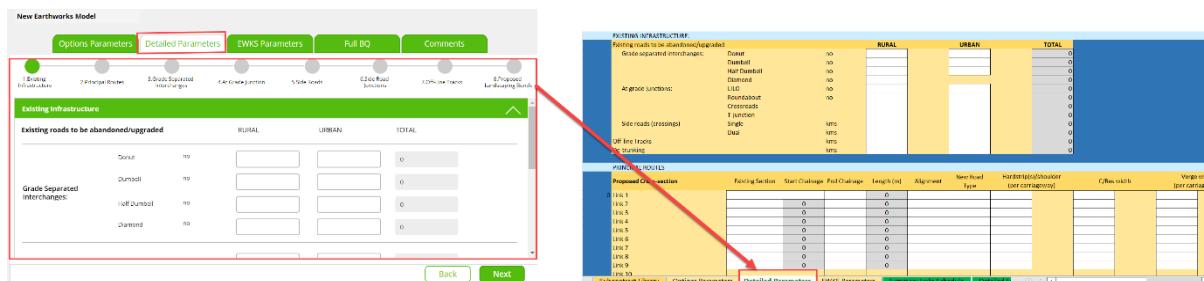
| Existing Network | Length (km) | Standard | Excavated Sections (metres) | Grade Separated Interchanges (No.) | At Grade Junctions (No.) | Side Roads (No.) |
|------------------|-------------|----------|-----------------------------|------------------------------------|--------------------------|------------------|
| Rural | Primary | | | | | |
| | Secondary | | | | | |
| Urban | Primary | | | | | |
| | Secondary | | | | | |

Scheme Requirements

| Existing Network | Length (km) | No. of Joints | Standard |
|-------------------------------|-------------|---------------|----------|
| Sheet 1 Subcontract Library | | | |

Options Parameters | Detailed Parameters | EWKS Parameters | Summary Tasks Schedule | Estimated | ... | + | - | X |

Detailed Parameters



New Earthworks Model

Options Parameters | Detailed Parameters | EWKS Parameters | Full BQ | Comments

Existing Infrastructure

Existing roads to be abandoned/upgraded

| | RURAL | URBAN | TOTAL |
|-----------|-------|-------|-------|
| Gravel | no | | 0 |
| Dirt | no | | 0 |
| Half-dirt | no | | 0 |
| Paved | no | | 0 |

Back | Next

DWCM - INFRASTRUCTURE

Existing Infrastructure

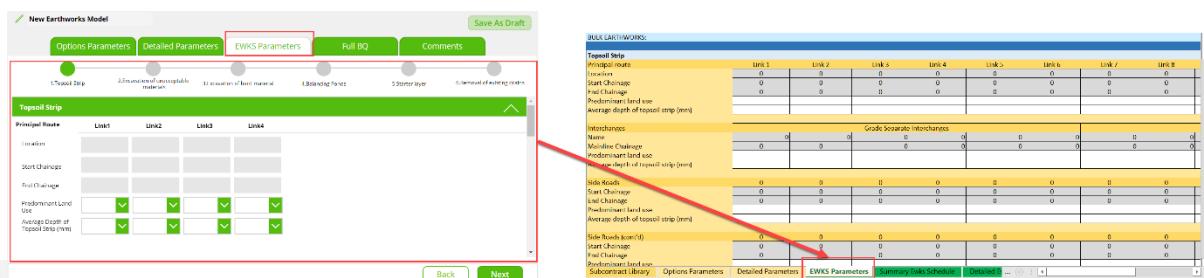
| Road Type | Rural | Urban | Total |
|------------------------|--------|--------|-------|
| Abandoned | no | | 0 |
| Half-dirt | no | | 0 |
| Dirt | no | | 0 |
| Roundabout | no | | 0 |
| Interchanges | no | | 0 |
| Site roads (crossings) | Single | Single | 0 |
| Off-line tracks | no | yes | 0 |
| On-street | no | yes | 0 |

Proposed Infrastructure

| Road Type | Rural | Urban | Total |
|-------------|-------|-------|-------|
| 1 (1 to 2) | 0 | 0 | 0 |
| 2 (2 to 3) | 0 | 0 | 0 |
| 3 (3 to 4) | 0 | 0 | 0 |
| 4 (4 to 5) | 0 | 0 | 0 |
| 5 (5 to 6) | 0 | 0 | 0 |
| 6 (6 to 7) | 0 | 0 | 0 |
| 7 (7 to 8) | 0 | 0 | 0 |
| 8 (8 to 9) | 0 | 0 | 0 |
| 9 (9 to 10) | 0 | 0 | 0 |

Subcontract Library | Options Parameters | EWKS Parameters | Summary Tasks Schedule | Estimated | ... | + | - | X |

EWKS Parameters



New Earthworks Model

Options Parameters | Detailed Parameters | **EWKS Parameters** | Full BQ | Comments

Typical Strip

| Project Route | Link 1 | Link 2 | Link 3 | Link 4 |
|-----------------------------------|--------|--------|--------|--------|
| Location | | | | |
| Start Change | | | | |
| End Change | | | | |
| Predominant Land Use | ✓ | ✓ | ✓ | ✓ |
| Average Depth of Topsoil (metres) | ✓ | ✓ | ✓ | ✓ |

Back | Next

DWCM - EARTHWORKS

Temporary Works

| Location | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 | Link 8 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Start Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| End Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Predominant Land Use | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Average depth of topsoil strip (metres) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Interchanges

| Location | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 | Link 8 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Start Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| End Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Predominant Land Use | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Average depth of topsoil strip (metres) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Site Roads

| Location | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 | Link 8 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Start Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| End Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Predominant Land Use | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Average depth of topsoil strip (metres) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Site Roads (cont'd)

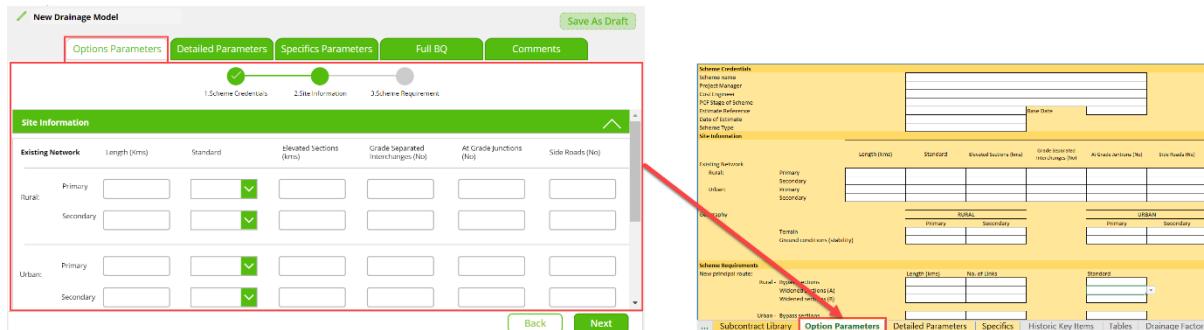
| Location | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 | Link 8 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|
| Start Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| End Change | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Predominant Land Use | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Average depth of topsoil strip (metres) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Subcontract Library | Options Parameters | **EWKS Parameters** | Summary Tasks Schedule | Estimated | ... | + | - | X |

Drainage

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

Options Parameters

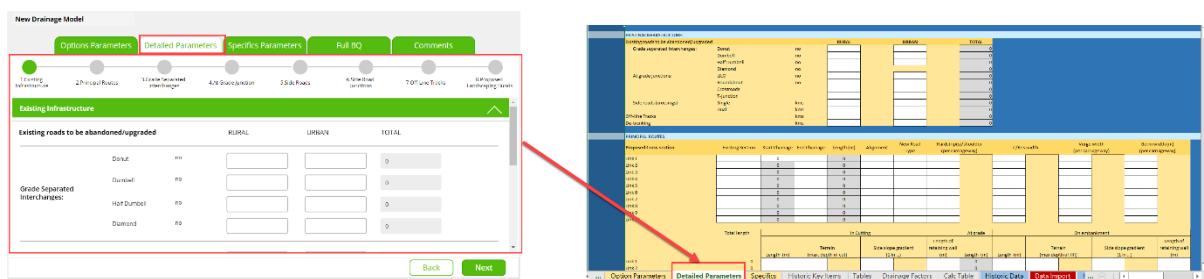


The screenshot shows the 'New Drainage Model' application interface. The top navigation bar includes tabs for 'Save As Draft', 'Options Parameters' (highlighted in green), 'Detailed Parameters', 'Specifics Parameters', 'Full BQ', and 'Comments'. Below the tabs is a progress bar with three steps: 1. Scheme Details, 2. Site Information, and 3. Scheme Requirements. The main area is titled 'Site Information' and contains a table for 'Existing Network' under 'Rural' and 'Urban' categories. Buttons for 'Back' and 'Next' are at the bottom.

Parametric Model Worksheet: Option Parameters

This worksheet is part of the DWCM – Drainage – RIP – V2.0 parametric model. It contains sections for 'Scheme Details' (Scheme name, Project Manager, Lead Engineer, PCU Stage of Scheme, Scheme Type, Date of Estimate, Scheme Type), 'Existing Network' (Rural and Urban tables for Primary and Secondary roads with columns for length, standard, elevated sections, grade separated interchanges, at-grade junctions, side roads, and site roads), and 'Scheme Requirements' (New principle route table with columns for route type, length, no. of lanes, and standard). Buttons for 'Subcontract Library', 'Option Parameters' (highlighted in red), 'Detailed Parameters', 'Specifics', 'Historic Key Items', 'Tables', 'Drainage Factors', and 'Data Import' are at the bottom.

Detailed Parameters

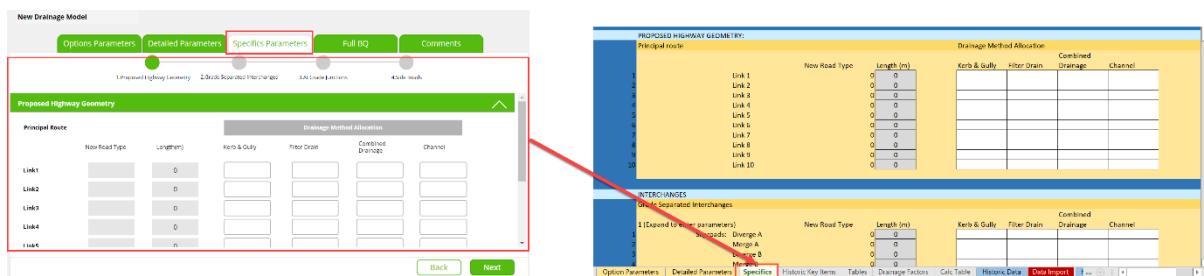


The screenshot shows the 'New Drainage Model' application interface with the 'Detailed Parameters' tab selected. The main area displays a table for 'Existing roads to be abandoned/upgraded' under 'RURAL', 'URBAN', and 'TOTAL' categories. Buttons for 'Back' and 'Next' are at the bottom.

Parametric Model Worksheet: Detailed Parameters

This worksheet is part of the DWCM – Drainage – RIP – V2.0 parametric model. It contains sections for 'Existing Roads to be Abandoned/Upgraded' (table with columns for route type, length, and status), 'Proposed Interchanges' (table with columns for route type, length, alignment, and road classification), and 'Proposed Roads' (table with columns for route type, length, drainage method allocation, and drainage factors). Buttons for 'Option Parameters', 'Detailed Parameters' (highlighted in red), 'Specifics', 'Historic Key Items', 'Tables', 'Drainage Factors', 'Calc Table', 'Historic Data', and 'Data Import' are at the bottom.

Specifics Parameters



The screenshot shows the 'New Drainage Model' application interface with the 'Specifics Parameters' tab selected. The main area displays a table for 'Proposed Highway Geometry' under 'Principal Route' (table with columns for road type, length, kerb & gully, filter drain, combined drainage, and channel). Buttons for 'Back' and 'Next' are at the bottom.

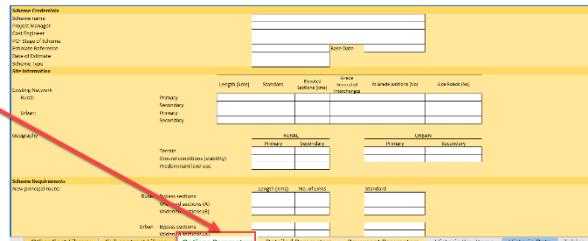
Parametric Model Worksheet: Specifics

This worksheet is part of the DWCM – Drainage – RIP – V2.0 parametric model. It contains sections for 'Proposed Highway Geometry' (table for principal route), 'Drainage Method Allocation' (table for kerb & gully, filter drain, combined drainage, and channel), and 'Interchanges' (table for grade-separated interchanges). Buttons for 'Option Parameters', 'Detailed Parameters', 'Specifics' (highlighted in red), 'Historic Key Items', 'Tables', 'Drainage Factors', 'Calc Table', 'Historic Data', and 'Data Import' are at the bottom.

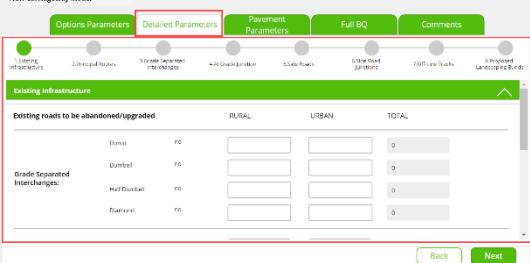
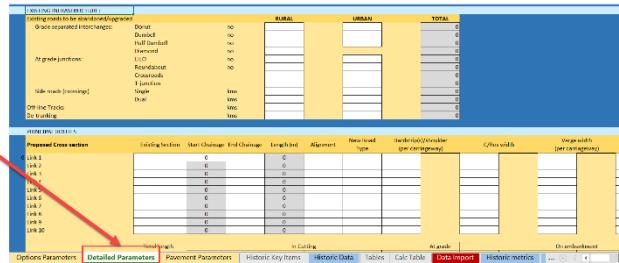
Carriageway

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

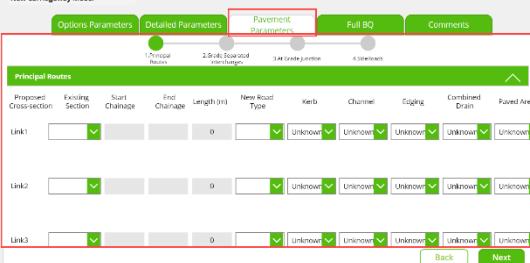
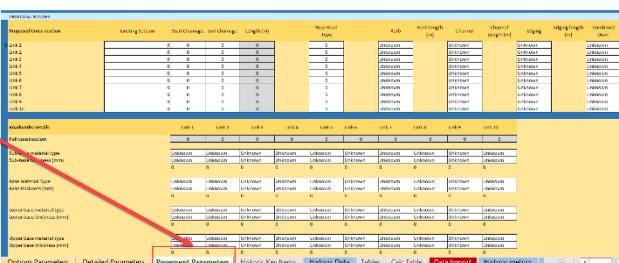
Options Parameters

Detailed Parameters

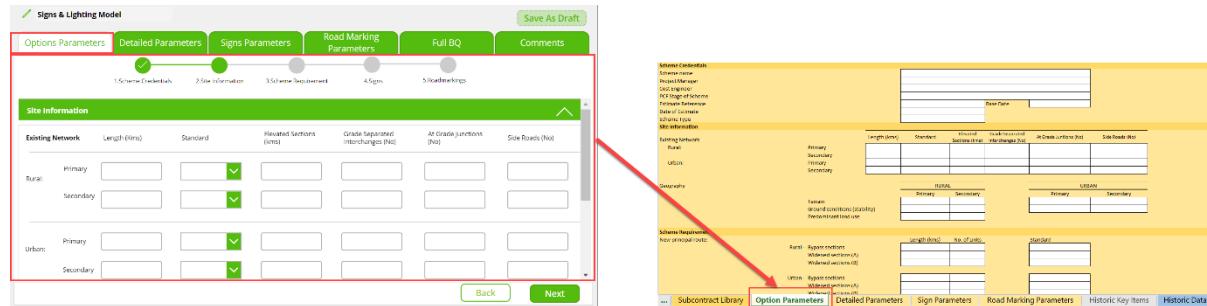
Pavement Parameters

Signs & Lighting

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

Options Parameters

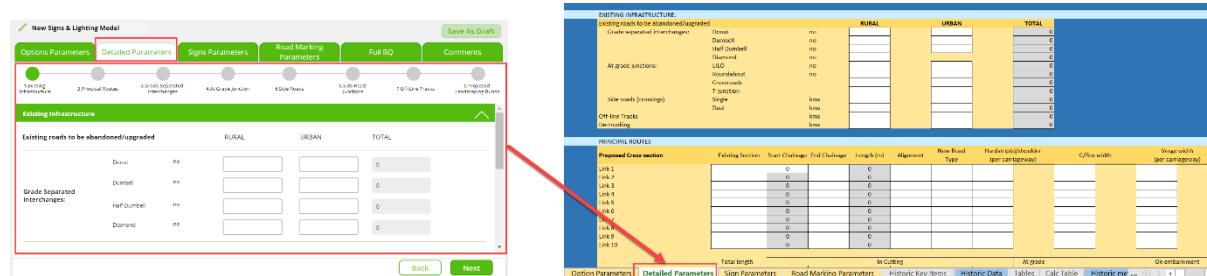


| Site Information | |
|------------------|-----------------------------|
| Existing Network | Length (Kms) |
| Rural: | Primary: [] Secondary: [] |
| Urban: | Primary: [] Secondary: [] |

| Scheme Requirements | |
|---------------------|------------|
| Primary | Secondary |
| Secondary | Tertiary |
| Tertiary | Quaternary |

| Subcontract Library | |
|-----------------------|-------------------------|
| ... Option Parameters | Detailed Parameters |
| Sign Parameters | Road Marking Parameters |
| Historic Key Items | Historic Data |

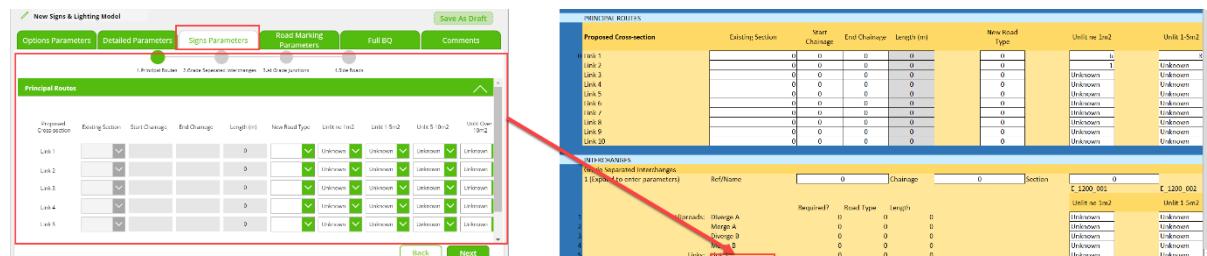
Detailed Parameters



| Existing Infrastructure | |
|---|-----------------------------|
| Existing roads to be abandoned/upgraded | |
| Grade Separated Interchanges: | RURAL URBAN TOTAL |
| Dual | [] [] [] |
| Dumbell | [] [] [] |
| Half-Dumbell | [] [] [] |
| Diamond | [] [] [] |

| Principal Routes | |
|------------------------|------------------|
| Existing Section | |
| Proposed Cross section | Existing Section |
| | Start Change |
| | End Change |
| | Length (m) |
| | New Road Type |
| | Unit no 1/2 |
| | Unit no 3/4 |
| | Unit no 5/6 |

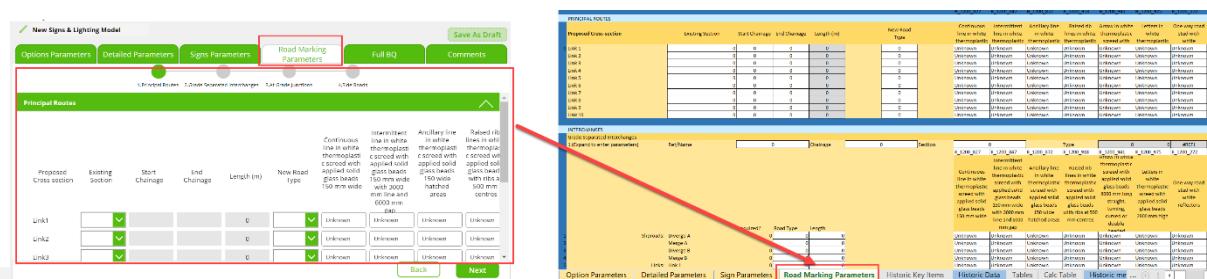
Signs Parameters



| Principal Routes | |
|------------------------|------------------|
| Existing Section | |
| Proposed Cross section | Existing Section |
| | Start Change |
| | End Change |
| | Length (m) |
| | New Road Type |
| | Unit no 1/2 |
| | Unit no 3/4 |
| | Unit no 5/6 |

| Proposed Cross-section | |
|------------------------|--------------|
| Existing Section | |
| Required? | Start Change |
| Road Type | End Change |
| length | Length (m) |

Road Marking Parameters



| Principal Routes | |
|------------------------|------------------|
| Existing Section | |
| Proposed Cross section | Existing Section |
| | Start Change |
| | End Change |
| | Length (m) |
| | New Road Type |

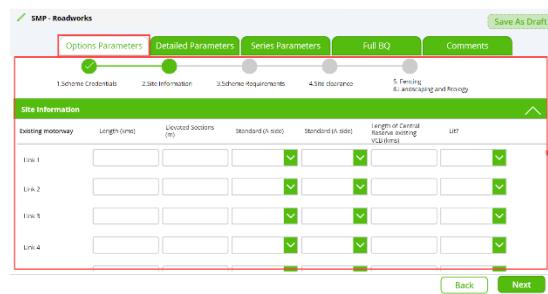
| Proposed Cross-section | |
|------------------------|--------------|
| Existing Section | |
| Required? | Start Change |
| Road Type | End Change |
| length | Length (m) |

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



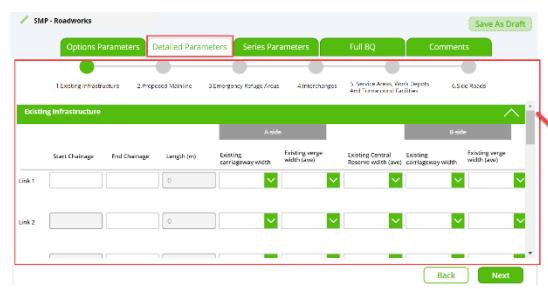
| Scheme Credentials | | | | | |
|--------------------|---------------|----------------|--------------------|------------------|-------------|
| Project Manager | Cost Engineer | Role of Scheme | Estimate Reference | Date of Estimate | Scheme Type |
| | | | | | Basic Rate |

| Site Information | | | | | |
|-------------------|------------|----------------------|-------------------|-------------------|---|
| Existing motorway | Length [m] | Bridged Sections [m] | Standard [A-side] | Standard [B-side] | Length of Central Reserve existing [C-side] |
| Link 1 | | | | | |
| Link 2 | | | | | |
| Link 3 | | | | | |
| Link 4 | | | | | |
| Link 5 | | | | | |
| Link 6 | | | | | |
| Link 7 | | | | | |
| Link 8 | | | | | |
| Link 9 | | | | | |
| Link 10 | | | | | |

| Interchanges | | | | | |
|-----------------|----|-------|---------------|--------|--------|
| Grade separated | No | Other | Service areas | A-side | B-side |
| | | | | | |

Version Control | Grand Summary | Cost Plan | IQ | Basic Rate Build-ups | Options Parameters | Detailed Parameters | Dimensions | Calc Sheet | Risk | Data Import | Help | Exit

Detailed Parameters



| Existing Infrastructure | | | | | |
|-------------------------|------------|------------|----------------------|--------------------------|------------------------------------|
| A-side | | B-side | | | |
| Start Change | End Change | Length [m] | Bridged carriageways | Existing verge width [m] | Existing Central Reserve width [m] |
| Link 1 | | | | | |
| Link 2 | | | | | |

| Existing Reserve width | | | | | |
|------------------------|--------------|------------|------------|-----------|-------|
| Link | Start Change | End Change | Length [m] | Width [m] | Notes |
| Link 1 | | | | | |
| Link 2 | | | | | |

| Existing verge widths | | | | | |
|-----------------------|--------------|------------|------------|-----------|-------|
| Link | Start Change | End Change | Length [m] | Width [m] | Notes |
| Link 1 | | | | | |
| Link 2 | | | | | |

| Existing verge widths [m] | | | | | |
|---------------------------|--------------|------------|------------|-----------|-------|
| Link | Start Change | End Change | Length [m] | Width [m] | Notes |
| Link 1 | | | | | |
| Link 2 | | | | | |

Version Control | Grand Summary | Cost Plan | IQ | Basic Rate Build-ups | Options Parameters | Detailed Parameters | Series Parameters | Dimensions | Calc Sheet | Risk | Data Import | Help | Exit

Series Parameters



| Take down environmental/noise barriers | | | | | | | |
|--|--------|--------|--------|--------|--------|--------|--------|
| Principal Route | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 |
| Start Change | | | | | | | |
| End Change | | | | | | | |
| A-Carriageway | | | | | | | |
| B-Carriageway | | | | | | | |

| Take down environmental/noise barriers | | | | | | | | | | | |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| Link | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 | Link 8 | Link 9 | Link 10 | Link 11 |
| Start Change | | | | | | | | | | | |
| End Change | | | | | | | | | | | |
| A-Carriageway | | | | | | | | | | | |
| B-Carriageway | | | | | | | | | | | |

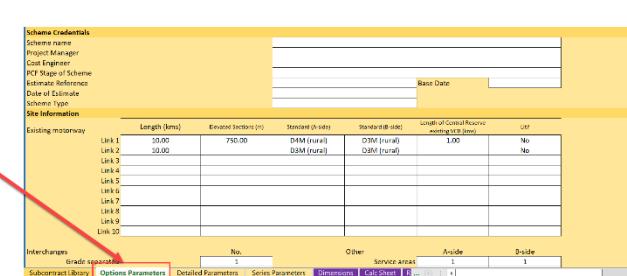
| Take down existing safety barriers | | | | | | | | | | | |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| Link | Link 1 | Link 2 | Link 3 | Link 4 | Link 5 | Link 6 | Link 7 | Link 8 | Link 9 | Link 10 | Link 11 |
| Start Change | | | | | | | | | | | |
| End Change | | | | | | | | | | | |
| A-Carriageway | | | | | | | | | | | |
| B-Carriageway | | | | | | | | | | | |

Version Control | Grand Summary | Cost Plan | IQ | Basic Rate Build-ups | Options Parameters | Detailed Parameters | Series Parameters | Dimensions | Calc Sheet | Risk | Data Import | Help | Exit

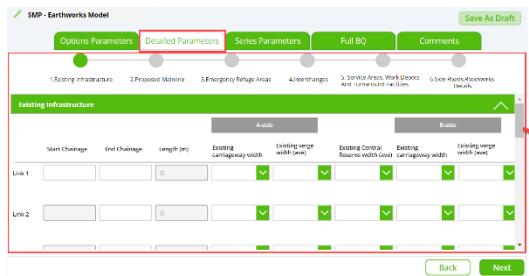
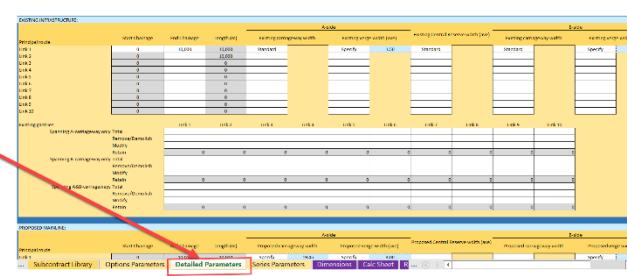
Earthworks

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

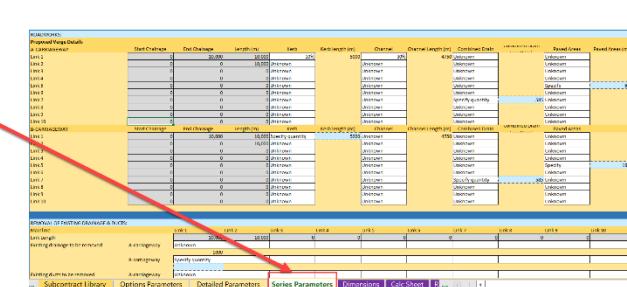
Options Parameters

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

SMP: Carriageway Model
[Save As Draft](#)

Options Parameters
Detailed Parameters
Series Parameters
Full BQ
Comments

1 Scheme Credentials
2 Geometry
3.6.2 New Segments
4 Frameworks
5 Parameters

Site Information

| Linking motorway | Length (m) | Upstream Sections (pt) | Standard (A-side) | Standard (B-side) | Length of Central Reserve (CZ) (m) | Link |
|------------------|------------|------------------------|-------------------|-------------------|------------------------------------|------|
| Link 1 | | | ✓ | ✓ | | ✓ |
| Link 2 | | | ✓ | ✓ | | ✓ |
| Link 3 | | | ✓ | ✓ | | ✓ |
| Link 4 | | | ✓ | ✓ | | ✓ |

[Back](#)
[Next](#)

Submit
Cancel
Save
Print

Scheme Credentials

| | |
|---------------------|----------------------|
| Project name | <input type="text"/> |
| Cost Engineer | <input type="text"/> |
| PEF Stage of Scheme | <input type="text"/> |
| External Reference | <input type="text"/> |
| Date of Submission | <input type="text"/> |
| Scheme Type | <input type="text"/> |
| Site Information | <input type="text"/> |

[Basic Data](#)
[Advanced Data](#)

Existing motorway
Length (m)
Upstream Sections (pt)
Standard (A-side)
Standard (B-side)
Length of Central Reserve (CZ) (m)
Link

Link 1 | | | | | |

Link 2 | | | | | |

Link 3 | | | | | |

Link 4 | | | | | |

Link 5 | | | | | |

Link 6 | | | | | |

Link 7 | | | | | |

Link 8 | | | | | |

Link 9 | | | | | |

Link 10 | | | | | |

Interchanges
No
Other
A-side
B-side

Separate | | | |

Submit
Cancel
Save
Print

Detailed Parameters

Series Parameters

SMP - Carrigaway Model
Save As Draft

Options Parameters
Detailed Parameters
Series Parameters
Full EBD
Comments

1 Roads
2 Emergency Refuge Areas
3 Interchanges
4 Service Areas/Walkways & Surface Facilities
5 Islands

Roadworks

| A-CARRIGAWAY | Start Change | End Change | Length(m) | Sub-base (Unknown) | Specific Type | Specific Thickness | Pavement thickness (mm) |
|--------------|--------------|------------|-----------|-----------------------|---------------|--------------------|-------------------------|
| Lane 1 | 0 | 0 | Unknown | Unknown | Unknown | Unknown | Unknown |
| Lane 2 | 0 | 0 | Unknown | Unknown | Unknown | Unknown | Unknown |
| Lane 3 | 0 | 0 | Unknown | Unknown | Unknown | Unknown | Unknown |
| Lane 4 | 0 | 0 | Unknown | Unknown | Unknown | Unknown | Unknown |
| Lane 5 | 0 | 0 | Unknown | Unknown | Unknown | Unknown | Unknown |

Back
Next

Subcontract Library
Options Parameters
Detailed Parameters
Series Parameters
Data Collection
Dimensions
Calc Sheet
Risk
Data Import
Help

ROADWORKS

| Start Change | End Change | Length(m) | Sub-base (Unknown) | Specific Type | Specific Thickness | Assumed Thickness (mm) |
|--------------|------------|-----------|-----------------------|---------------|--------------------|------------------------|
| Lane 1 | 0 | 0 | Unknown | Unknown | Unknown | 200 |
| Lane 2 | 0 | 0 | Unknown | Unknown | Unknown | 200 |
| Lane 3 | 0 | 0 | Unknown | Unknown | Unknown | 200 |
| Lane 4 | 0 | 0 | Unknown | Unknown | Unknown | 200 |
| Lane 5 | 0 | 0 | Unknown | Unknown | Unknown | 200 |

CARRIGAWAY

| Start Change | End Change | Length(m) | Sub-base (Unknown) | Specific Type | Specific Thickness | Assumed Thickness (mm) |
|--------------|------------|-----------|-----------------------|---------------|--------------------|------------------------|
| Lane 1 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 2 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 3 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 4 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 5 | 0 | 0 | Unknown | Unknown | Unknown | 180 |

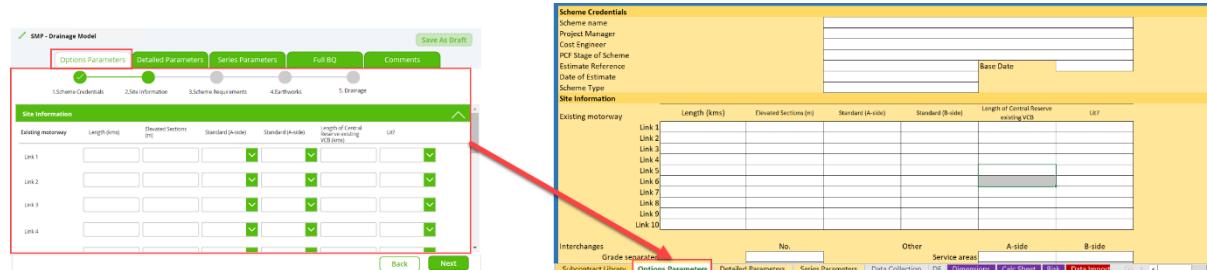
EDTA ASSESS

| Start Change | End Change | Length(m) | Sub-base (Unknown) | Specific Type | Specific Thickness | Assumed Thickness (mm) |
|--------------|------------|-----------|-----------------------|---------------|--------------------|------------------------|
| Lane 1 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 2 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 3 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 4 | 0 | 0 | Unknown | Unknown | Unknown | 180 |
| Lane 5 | 0 | 0 | Unknown | Unknown | Unknown | 180 |

Drainage

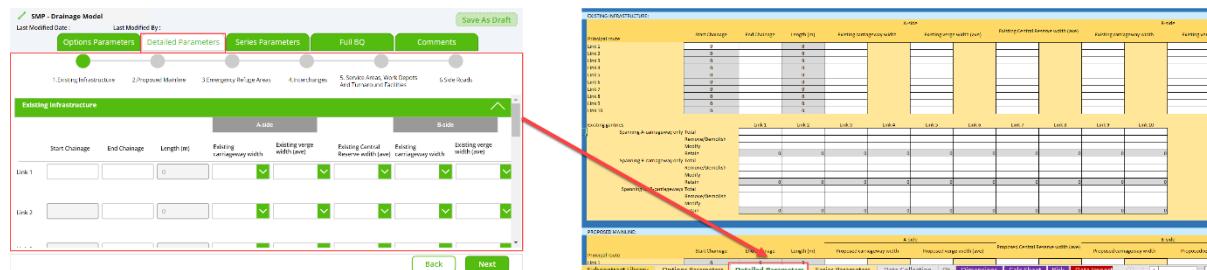
Forms in the app user interface map to their corresponding Parametric Model worksheets (DWCM – Drainage – SMP – V2.0).

Options Parameters



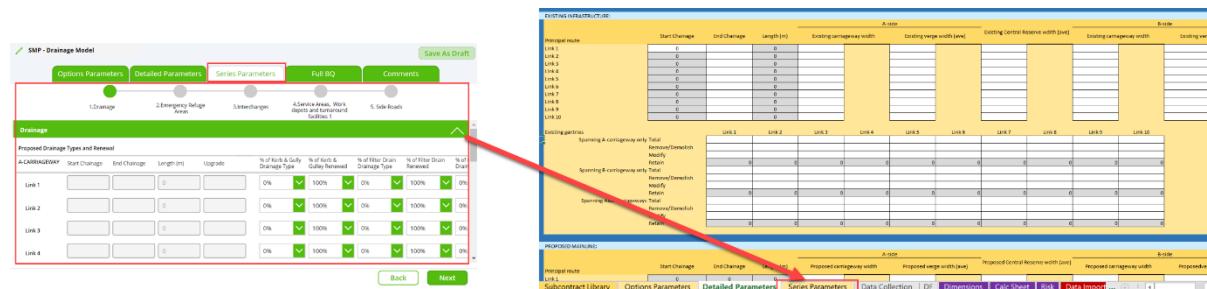
| Scheme Credentials | | | | | |
|--------------------|-------------|-----------------------|-------------------|-------------------|--|
| Scheme name | | | | | |
| Project Manager | | | | | |
| Cost Engineer | | | | | |
| PCU ID | | | | | |
| Estimate Reference | | | | | |
| Date of Estimate | | | | | |
| Scheme Type | | | | | |
| Existing motorway | Length (km) | Detailed Sections (m) | Standard (A-side) | Standard (B-side) | Length of Central Reserve existing VCB |
| Link 1 | | | | | |
| Link 2 | | | | | |
| Link 3 | | | | | |
| Link 4 | | | | | |
| Link 5 | | | | | |
| Link 6 | | | | | |
| Link 7 | | | | | |
| Link 8 | | | | | |
| Link 9 | | | | | |
| Link 10 | | | | | |

Detailed Parameters



| Existing Infrastructure | | | | | |
|-------------------------|------------|------------|----------------------------|---------------------------|------------------------------------|
| | A-side | B-side | | | |
| Start Change | End Change | Length (m) | Existing carriageway width | Existing verges width (m) | Existing central reserve width (m) |
| Link 1 | | | | | |
| Link 2 | | | | | |
| ... | | | | | |
| | | | | | |

Series Parameters



| Drainage | | | | | |
|-------------------------------------|--------------|------------|------------|---------|---------------------------------|
| | A-side | B-side | | | |
| Proposed Drainage Types and Renewal | Start Change | End Change | Length (m) | Upgrade | % of Kerb & Gully Drainage Type |
| A-CARRIAGEWAY | Link 1 | | | | 0% |
| | Link 2 | | | | 0% |
| | Link 3 | | | | 0% |
| | Link 4 | | | | 0% |

Signs & Lighting

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

Options Parameters

| Options Parameters | | Detailed Parameters | | Signs Parameters | | Markings Parameters | | Lighting Parameters | | Full BQ | | Comments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------|---------------------|----------|----------------------|----------|---------------------|----------|---------------------|----------|---------------------------|----------|-----------------|----------|-------------------|--|-------------|--|----------------------|--|-------------------|--|-------------------|--|---------------------------|--|-----------------|--|--------|--|---|--|---|--|---|--|---|--|---------------------|--|---|--|--------|--|---|--|---|--|---|--|---------------------------|--|---|--|---|--|--------|--|---|--|---|--|------------------|--|---|--|---|--|---|--|--------|--|---|--|---------------------|--|---|--|---|--|---|--|---|--|-----|--|---------------------|--|--|--|--|--|--|--|--|--|--|--|-----------------|--|--|--|--|--|--|--|--|--|--|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|
| 1. Address | 2. Name | 3. Address | 4. Name | 5. Address | 6. Name | 7. Address | 8. Name | 9. Address | 10. Name | 11. Address | 12. Name | 13. Address | 14. Name | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. Address | 16. Name | 17. Address | 18. Name | 19. Address | 20. Name | 21. Address | 22. Name | 23. Address | 24. Name | 25. Address | 26. Name | 27. Address | 28. Name | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Site Information | | | | | | | | | | | | | | Basic Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Existing motorway</th> <th colspan="2">Length (km)</th> <th colspan="2">Bounded Sections (m)</th> <th colspan="2">Standard (A-side)</th> <th colspan="2">Standard (B-side)</th> <th colspan="2">Length of Central Reserve</th> <th colspan="2">Length (C-side)</th> </tr> </thead> <tbody> <tr> <td>Unit-1</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Unit-2</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Unit-3</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Unit-4</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | | | | Existing motorway | | Length (km) | | Bounded Sections (m) | | Standard (A-side) | | Standard (B-side) | | Length of Central Reserve | | Length (C-side) | | Unit-1 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | Unit-2 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | Unit-3 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | Unit-4 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | UDT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Existing motorway | | Length (km) | | Bounded Sections (m) | | Standard (A-side) | | Standard (B-side) | | Length of Central Reserve | | Length (C-side) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unit-1 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unit-2 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unit-3 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unit-4 | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">Interchanges</th> <th colspan="2">Nbr.</th> <th colspan="2">Other</th> <th colspan="2">Service areas</th> <th colspan="2">A-side</th> <th colspan="2">B-side</th> </tr> </thead> <tbody> <tr> <td>Grade separated</td> <td></td> </tr> <tr> <td>Subcontract Library</td> <td></td> </tr> <tr> <td>Options Parameters</td> <td></td> </tr> <tr> <td>Signs Parameters</td> <td></td> </tr> <tr> <td>Markings Parameters</td> <td></td> </tr> <tr> <td>Lighting Parameters</td> <td></td> </tr> <tr> <td>Data Collection</td> <td></td> </tr> <tr> <td>Done</td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | | | | Interchanges | | Nbr. | | Other | | Service areas | | A-side | | B-side | | Grade separated | | | | | | | | | | | | Subcontract Library | | | | | | | | | | | | Options Parameters | | | | | | | | | | | | Signs Parameters | | | | | | | | | | | | Markings Parameters | | | | | | | | | | | | Lighting Parameters | | | | | | | | | | | | Data Collection | | | | | | | | | | | | Done | | | | | | | | | | | | Done | |
| Interchanges | | Nbr. | | Other | | Service areas | | A-side | | B-side | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grade separated | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcontract Library | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Options Parameters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Signs Parameters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Markings Parameters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lighting Parameters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data Collection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Done | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Detailed Parameters

The screenshot shows the 'Existing Infrastructure' section of the 'Existing Infrastructure' tab. It includes a table for 'Existing Infrastructure' with columns for 'Start Change', 'End Change', 'Length (m)', 'Existing verge width [maw]', 'Existing central reserve width [maw]', and 'Existing carriage way'. Below this is a 'Comments' section with tabs for 'Options Parameters', 'Detailed Parameters', 'Signs Parameters', 'Markings Parameters', 'Lighting Parameters', 'Full BQ', and 'Comments'. A green button 'Save As Draft' is at the top right. The right side of the interface shows the 'Existing Infrastructure' tab's content, which includes tables for 'Existing Infrastructure' and 'Existing Infrastructure' (Details), and sections for 'Markings', 'Lighting', and 'Data Collection'.

Signs Parameters

SMP - Signs & Lighting Model

Save As Draft

Options Parameters Detailed Parameters Signs Parameters Markings Parameters Lighting Parameters Full BQ Comments

1 Worksites 2 Emergency Refuge Areas 3 Resources 4 Hazardous Areas, Work Details and Reference Facilities 5 Job Roads

Main Carriageway

Proposed Drainage Types and Renewals

| AC-ARM/ACWY | Start Change | End Change | Length (m) | Upgrades | Unit to 1m2 | Unit 1.5m2 | Unit 3.0m2 | Unit Over 10m2 | Unit 10m2+ |
|-------------|--------------|------------|------------|----------|-------------|------------|------------|----------------|------------|
| Link 1 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| Link 2 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| Link 3 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| Link 4 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |

Back Next

Proposed Drainage Types and Renewals

| AC-ARM/ACWY | Start Change | End Change | Length (m) | Upgrades | Unit to 1m2 | Unit 1.5m2 | Unit 3.0m2 | Unit Over 10m2 | Unit 10m2+ |
|-------------|--------------|------------|------------|----------|-------------|------------|------------|----------------|------------|
| Link 1 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| Link 2 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| Link 3 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |
| Link 4 | | | 0 | Unknown | Unknown | Unknown | Unknown | Unknown | Unknown |

Signs Parameters

| Sign Type | Description | Quantity | Notes |
|-----------|-------------------|----------|-------|
| Link 1 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 2 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 3 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 4 | 1x 10m2 Wall Sign | 1 | 0 |

Markings Parameters

| Marking Type | Description | Quantity | Notes |
|--------------|-------------------|----------|-------|
| Link 1 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 2 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 3 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 4 | 1x 10m2 Wall Sign | 1 | 0 |

Lighting Parameters

| Lighting Type | Description | Quantity | Notes |
|---------------|-------------------|----------|-------|
| Link 1 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 2 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 3 | 1x 10m2 Wall Sign | 1 | 0 |
| Link 4 | 1x 10m2 Wall Sign | 1 | 0 |

Data Collection

| Category | Value |
|------------------------|-------|
| Links | 10 |
| Worksites | 1 |
| Emergency Refuge Areas | 2 |
| Resources | 3 |
| Hazardous Areas | 4 |
| Work Details | 5 |
| Reference Facilities | 6 |
| Job Roads | 5 |

Dimensions Calc Sheet

Markings Parameters

Proposed Drainage Types and Emergency

1. Proposed drainage types and routes
2. Emergency Failure Areas
3. Water charges
4. Assessments, Work Details and Performance Facilities
5. Site Details

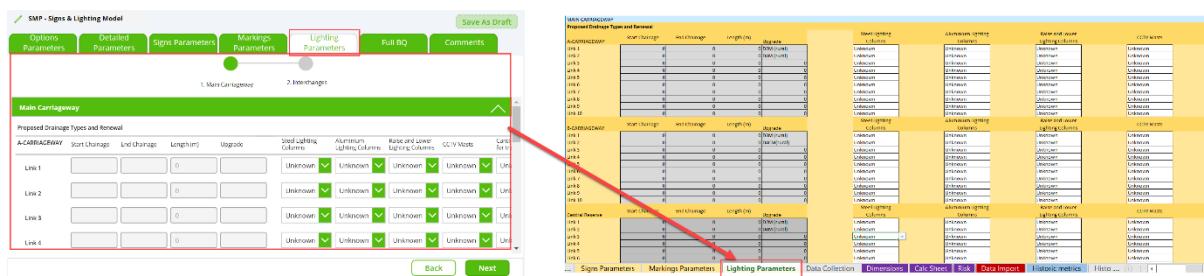
Proposed Drainage Types and Emergency

| Action | Start Location | End Location | Length (m) |
|----------------|----------------|--------------|------------|
| As-Carriedaway | | | |
| Link 1 | 0 | UnKnown | Unknown |
| Link 2 | W | UnKnown | Unknown |

Emergency Failure Areas

| Area ID | Area Name | Description |
|---------|-----------|----------------------|
| 1 | Area 1 | Area 1 Description |
| 2 | Area 2 | Area 2 Description |
| 3 | Area 3 | Area 3 Description |
| 4 | Area 4 | Area 4 Description |
| 5 | Area 5 | Area 5 Description |
| 6 | Area 6 | Area 6 Description |
| 7 | Area 7 | Area 7 Description |
| 8 | Area 8 | Area 8 Description |
| 9 | Area 9 | Area 9 Description |
| 10 | Area 10 | Area 10 Description |
| 11 | Area 11 | Area 11 Description |
| 12 | Area 12 | Area 12 Description |
| 13 | Area 13 | Area 13 Description |
| 14 | Area 14 | Area 14 Description |
| 15 | Area 15 | Area 15 Description |
| 16 | Area 16 | Area 16 Description |
| 17 | Area 17 | Area 17 Description |
| 18 | Area 18 | Area 18 Description |
| 19 | Area 19 | Area 19 Description |
| 20 | Area 20 | Area 20 Description |
| 21 | Area 21 | Area 21 Description |
| 22 | Area 22 | Area 22 Description |
| 23 | Area 23 | Area 23 Description |
| 24 | Area 24 | Area 24 Description |
| 25 | Area 25 | Area 25 Description |
| 26 | Area 26 | Area 26 Description |
| 27 | Area 27 | Area 27 Description |
| 28 | Area 28 | Area 28 Description |
| 29 | Area 29 | Area 29 Description |
| 30 | Area 30 | Area 30 Description |
| 31 | Area 31 | Area 31 Description |
| 32 | Area 32 | Area 32 Description |
| 33 | Area 33 | Area 33 Description |
| 34 | Area 34 | Area 34 Description |
| 35 | Area 35 | Area 35 Description |
| 36 | Area 36 | Area 36 Description |
| 37 | Area 37 | Area 37 Description |
| 38 | Area 38 | Area 38 Description |
| 39 | Area 39 | Area 39 Description |
| 40 | Area 40 | Area 40 Description |
| 41 | Area 41 | Area 41 Description |
| 42 | Area 42 | Area 42 Description |
| 43 | Area 43 | Area 43 Description |
| 44 | Area 44 | Area 44 Description |
| 45 | Area 45 | Area 45 Description |
| 46 | Area 46 | Area 46 Description |
| 47 | Area 47 | Area 47 Description |
| 48 | Area 48 | Area 48 Description |
| 49 | Area 49 | Area 49 Description |
| 50 | Area 50 | Area 50 Description |
| 51 | Area 51 | Area 51 Description |
| 52 | Area 52 | Area 52 Description |
| 53 | Area 53 | Area 53 Description |
| 54 | Area 54 | Area 54 Description |
| 55 | Area 55 | Area 55 Description |
| 56 | Area 56 | Area 56 Description |
| 57 | Area 57 | Area 57 Description |
| 58 | Area 58 | Area 58 Description |
| 59 | Area 59 | Area 59 Description |
| 60 | Area 60 | Area 60 Description |
| 61 | Area 61 | Area 61 Description |
| 62 | Area 62 | Area 62 Description |
| 63 | Area 63 | Area 63 Description |
| 64 | Area 64 | Area 64 Description |
| 65 | Area 65 | Area 65 Description |
| 66 | Area 66 | Area 66 Description |
| 67 | Area 67 | Area 67 Description |
| 68 | Area 68 | Area 68 Description |
| 69 | Area 69 | Area 69 Description |
| 70 | Area 70 | Area 70 Description |
| 71 | Area 71 | Area 71 Description |
| 72 | Area 72 | Area 72 Description |
| 73 | Area 73 | Area 73 Description |
| 74 | Area 74 | Area 74 Description |
| 75 | Area 75 | Area 75 Description |
| 76 | Area 76 | Area 76 Description |
| 77 | Area 77 | Area 77 Description |
| 78 | Area 78 | Area 78 Description |
| 79 | Area 79 | Area 79 Description |
| 80 | Area 80 | Area 80 Description |
| 81 | Area 81 | Area 81 Description |
| 82 | Area 82 | Area 82 Description |
| 83 | Area 83 | Area 83 Description |
| 84 | Area 84 | Area 84 Description |
| 85 | Area 85 | Area 85 Description |
| 86 | Area 86 | Area 86 Description |
| 87 | Area 87 | Area 87 Description |
| 88 | Area 88 | Area 88 Description |
| 89 | Area 89 | Area 89 Description |
| 90 | Area 90 | Area 90 Description |
| 91 | Area 91 | Area 91 Description |
| 92 | Area 92 | Area 92 Description |
| 93 | Area 93 | Area 93 Description |
| 94 | Area 94 | Area 94 Description |
| 95 | Area 95 | Area 95 Description |
| 96 | Area 96 | Area 96 Description |
| 97 | Area 97 | Area 97 Description |
| 98 | Area 98 | Area 98 Description |
| 99 | Area 99 | Area 99 Description |
| 100 | Area 100 | Area 100 Description |

Lighting Parameters



The screenshot shows the 'Lighting Parameters' section of the app's user interface. The top navigation bar includes tabs for Options, Parameters, Detailed Parameters, Signs Parameters, Markings Parameters, Lighting Parameters, Full BQ, and Comments. The 'Lighting Parameters' tab is highlighted with a red border. Below the navigation bar is a table titled 'Main Carriageway' with columns for Proposed Drainage Types and Renewal, Start Chaining, End Chaining, Length(m), Upgrade, Steel gantry columns, Aluminium Columns, Metal and Glass, Bollard Covers, CCW Mats, Lane, and Status. The table has four rows labeled Line 1 through Line 4. At the bottom of the table are 'Back' and 'Next' buttons.

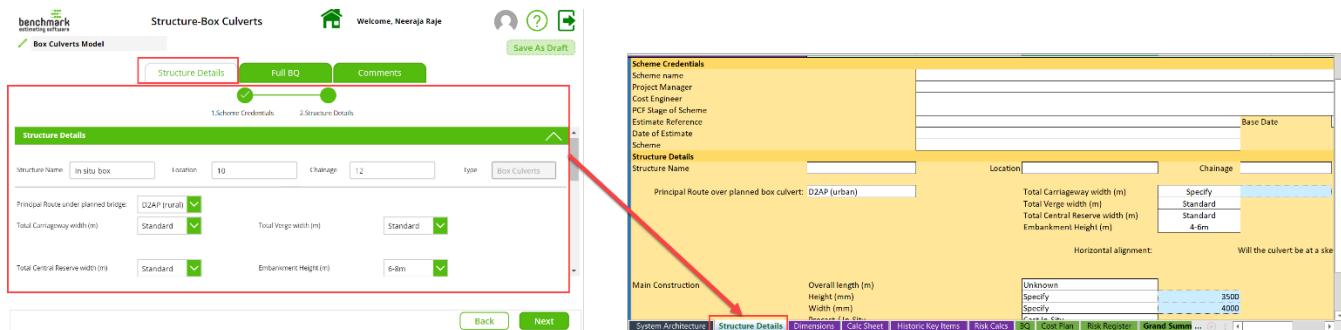
The Parametric Model worksheet on the right is titled 'MAIN CARRIAGEWAY' and contains several tables under sections like 'Proposed Drainage Types and Renewal', 'Steel gantry', 'Aluminium Column', 'Metal and Glass', 'Bollard Cover', 'CCW Mats', 'Lane', and 'Status'. The 'Lighting Parameters' tab is also highlighted with a red border at the bottom of the worksheet.

Structure

Box Culverts

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

Structure Details



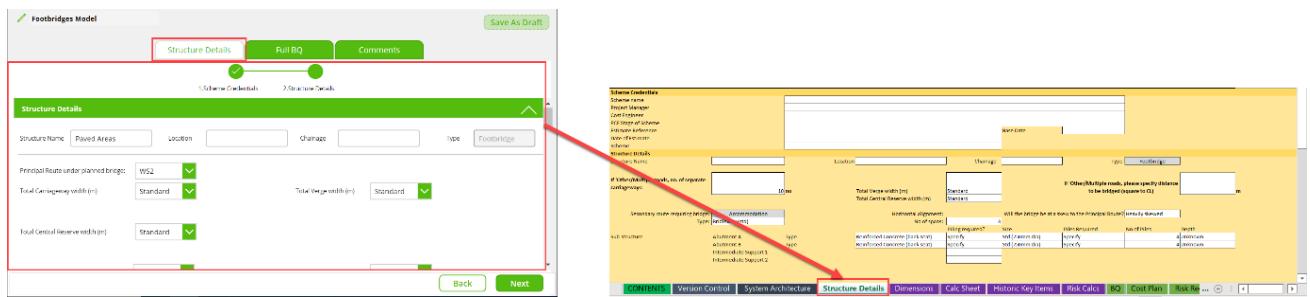
The screenshot shows the 'Structure Details' section of the app's user interface. The top navigation bar includes tabs for Structure Details, Full BQ, and Comments. The 'Structure Details' tab is highlighted with a red border. Below the navigation bar is a table with fields for Structure Name (In-situ box), Location (10), Chaining (12), Type (Box Culverts), Principal Route under planned bridge (D2AP (rural)), Total Carriageway width (m) (Standard), Total Verge width (m) (Standard), Total Central Reserve width (m) (Standard), and Embankment Height (m) (6.8m). At the bottom are 'Back' and 'Next' buttons.

The Parametric Model worksheet on the right is titled 'Structure Credentials' and contains sections for Scheme Details, Main Construction, and System Architecture. The 'Structure Details' tab is highlighted with a red border at the bottom of the worksheet.

Footbridges

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

Structure Details



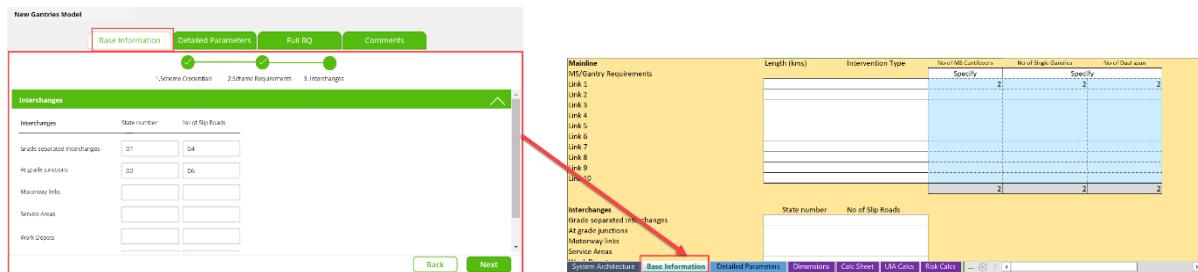
The screenshot shows the 'Structure Details' section of the app's user interface. The top navigation bar includes tabs for Structure Details, Full BQ, and Comments. The 'Structure Details' tab is highlighted with a red border. Below the navigation bar is a table with fields for Structure Name (Paved Areas), Location, Chaining, Type (Footbridge), Principal Route under planned bridge (WS2), Total Carriageway width (m) (Standard), Total Verge width (m) (Standard), and Total Central Reserve width (m) (Standard). At the bottom are 'Back' and 'Next' buttons.

The Parametric Model worksheet on the right is titled 'Structure Credentials' and contains sections for Scheme Details, Main Construction, and System Architecture. The 'Structure Details' tab is highlighted with a red border at the bottom of the worksheet.

Gantries

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

Base Information



| Link | Length (km) | Intervention Type | No of MS Culverts | No of Single Gullies | No of Dual gullies |
|---------|-------------|-------------------|-------------------|----------------------|--------------------|
| Link 1 | | Specify | 2 | 2 | 2 |
| Link 2 | | Specify | 2 | 2 | 2 |
| Link 3 | | Specify | 2 | 2 | 2 |
| Link 4 | | Specify | 2 | 2 | 2 |
| Link 5 | | Specify | 2 | 2 | 2 |
| Link 6 | | Specify | 2 | 2 | 2 |
| Link 7 | | Specify | 2 | 2 | 2 |
| Link 8 | | Specify | 2 | 2 | 2 |
| Link 9 | | Specify | 2 | 2 | 2 |
| Link 10 | | Specify | 2 | 2 | 2 |

Detailed Parameters

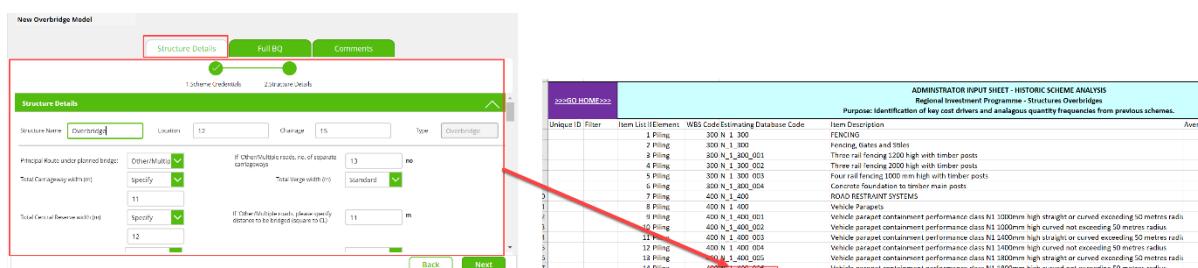


| Reference | Chainage | Carriageway | Type | Piling | Diameter | No of piles | Depth |
|-----------|----------|-------------|------|---------|----------|-------------|--------|
| MS-1 | 38 | A-way | MS3 | Specify | ne 600mm | Unknown | ne 10m |
| MS-2 | 42 | B-way | MS3 | Unknown | | | |
| MS-3 | 60 | A-way | MS4 | Unknown | | | |

Overbridges

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

Structure Details



| Unique ID | Item List (Element) | WBS Code Estimating Database Code | Item Description |
|-----------|---------------------|-----------------------------------|--|
| 1 | Piling | 300 N 1_300 | FENCING |
| 2 | Piling | 300 N 1_300 | Fencing, Gates and Gates |
| 3 | Piling | 300 N 1_400_001 | Three rail fencing 1000 mm high with timber posts |
| 4 | Piling | 300 N 1_400_002 | Three rail fencing 2000 mm high with timber posts |
| 5 | Piling | 300 N 1_300_003 | Four rail fencing 1000 mm high with timber posts |
| 6 | Piling | 300 N 1_300_004 | Concrete foundation to timber main posts |
| 7 | Piling | 400 N 1_400 | Vehicle parapet containment performance class N1 1000mm high straight or curved exceeding 50 metres radius |
| 8 | Piling | 400 N 1_400_001 | Vehicle parapet containment performance class N1 1000mm high curved not exceeding 50 metres radius |
| 9 | Piling | 400 N 1_400_001 | Vehicle parapet containment performance class N1 2000mm high straight or curved exceeding 50 metres radius |
| 10 | Piling | 400 N 1_400_002 | Vehicle parapet containment performance class N1 2000mm high curved not exceeding 50 metres radius |
| 11 | Piling | 400 N 1_400_003 | Vehicle parapet containment performance class N1 3000mm high straight or curved exceeding 50 metres radius |
| 12 | Piling | 400 N 1_400_004 | Vehicle parapet containment performance class N1 3000mm high curved not exceeding 50 metres radius |
| 13 | Piling | 400 N 1_400_005 | Vehicle parapet containment performance class N1 4000mm high straight or curved exceeding 50 metres radius |
| 14 | Piling | 400 N 1_400_006 | Vehicle parapet containment performance class N1 4000mm high curved not exceeding 50 metres radius |
| 15 | Piling | 400 N 1_400_007 | Vehicle parapet containment performance class N1 4000mm high straight or curved exceeding 50 metres radius |
| 16 | Piling | 400 N 1_400_008 | Vehicle parapet containment performance class N1 4000mm high curved not exceeding 50 metres radius |

Piped Culverts

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

Base Information

The screenshot shows the 'Piped Culvert Model' application window. At the top, there are tabs for 'Base Information', 'Detailed Information', 'Full BQ', and 'Comments', with 'Base Information' highlighted by a red box. A green 'Save As Draft' button is also at the top right. Below the tabs, a navigation bar has two items: '1.Scheme Credentials' and '2.Scheme Requirements'. The main area is divided into two sections: 'Scheme Requirements' on the left and 'Scheme Credentials' on the right. The 'Scheme Requirements' section contains fields for 'Manline' (Length: 20), 'MS/Gravity Requirements' (Length: 15), and 'Link 1' through 'Link 9' (Lengths: 5, 5, 5, 5, 5, 5, 5, 5, 5). It also includes a 'No Of Culverts' field set to 'Unknown - N' with a checkmark. The 'Scheme Credentials' section on the right includes fields for 'Base Date' (set to 'Unknown'), 'Project Manager', 'Cost Estimator', 'PDF Stage of Scheme', 'Estimate Reference', 'Date of Estimate', and 'Scheme Type'. A red arrow points from the 'Base Information' tab in the top navigation to the 'Base Date' field in the 'Scheme Credentials' section.

Detailed Parameters

Piped Culvert Model
Last Modified Date: 11/10/2022 Last Modified By: Neeraj Raje

[Save As Draft](#)

[Base Information](#) [Detailed Information](#) [Full BQ](#) [Comments](#)

1.7 Piped Culverts Schedule

| Reference | Change | Category | Length | Diameter | Design Category (1 to 20) | Depth category | Depth Category (1 to 20) | Depth Category (2 to 40) | Depth length |
|-----------|--------|----------|--------|----------|---------------------------|----------------|--------------------------|--------------------------|--------------|
| CUL-1 | | | | | | | | | |
| CUL-2 | | | | | | | | | |
| CUL-3 | | | | | | | | | |
| CUL-4 | | | | | | | | | |
| CUL-5 | | | | | | | | | |
| CUL-6 | | | | | | | | | |
| CUL-7 | | | | | | | | | |
| CUL-8 | | | | | | | | | |
| CUL-9 | | | | | | | | | |
| CUL-10 | | | | | | | | | |
| CUL-11 | | | | | | | | | |
| CUL-12 | | | | | | | | | |
| CUL-13 | | | | | | | | | |
| CUL-14 | | | | | | | | | |
| CUL-15 | | | | | | | | | |
| CUL-16 | | | | | | | | | |
| CUL-17 | | | | | | | | | |
| CUL-18 | | | | | | | | | |
| CUL-19 | | | | | | | | | |
| CUL-20 | | | | | | | | | |

[Back](#) [Next](#)

[Log BOMs](#) [Version Control](#) [System Architecture](#) [Base Information](#) [Detailed Parameters](#) [Dimensions](#) [Calc Sheet](#) [Historic Key Items](#) ...

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

The screenshot shows the 'New Underbridge Model' interface with the 'Structure Details' tab selected. The top navigation bar includes tabs for 'Structure Details', 'Full BQ', and 'Comments'. Below the tabs, there are two circular progress indicators: '1 Scheme Credentials' and '2 Structure Details'. The main content area is titled 'Structure Details' and contains fields for 'Structure Name' (Underbridge), 'Location' (11), 'Chaining' (21), and 'Type' (Underbridge). It also includes sections for 'Principal route under planned bridge' (Other/Multiple) and 'Total Carrigeway width (m)' (Standard). A note indicates that if multiple roads are present, separate categories must be used. The 'Secondary route requiring bridge load' section is currently empty. The bottom navigation bar includes links for 'Back', 'Next', 'Dimensions', 'Calc Sheet', 'Historic Key Items', 'Risk Calc', and 'Cost Plan'.

Viaducts

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

Structure Details

Technology

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

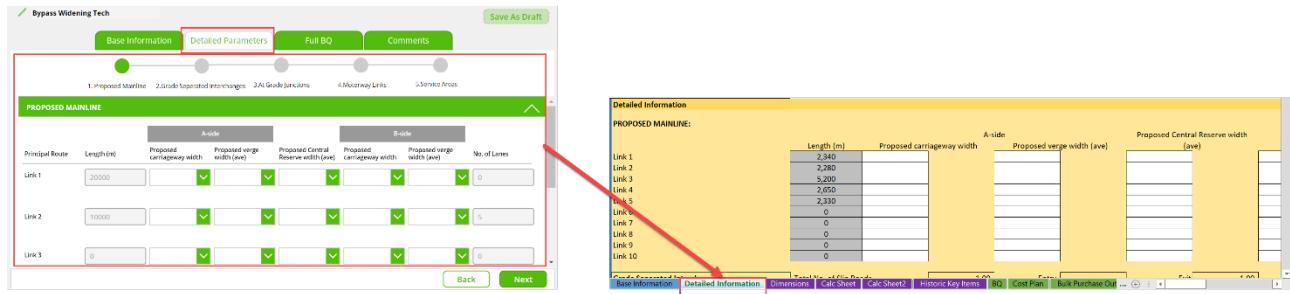
Base Information

The screenshot shows the 'Bypass Widening Tech' application interface. At the top, there are tabs for 'Base Information', 'Detailed Parameters', 'Full BQ', and 'Comments', with 'Base Information' being the active tab. A green 'Save As Draft' button is located at the top right. Below the tabs, two circular progress indicators are shown: one for 'Scheme Credentials' (green) and one for 'Scheme Requirements' (green). The main content area is divided into sections:

- Scheme Requirements**: This section has a header 'Mainline' and contains:
 - An 'Intervention Type' dropdown set to 'Bypass/Widening - lvl 1'.
 - A 'Technology Intervention' box containing the text: "Scheme focus is on building carriageway. Technology provision assumed to be ERTs and Traffic Counting Equipment in layby(s) i.e. not Expressways or A14 standard".
 - A table with columns 'Length (Kms)', 'Upgrade (Carriageway A)', and 'Upgrade (Carriageway B)'. The first row is labeled 'Link1'.
- Scheme Requirements**: This section has a header 'Mainline' and contains:
 - An 'Intervention Type' dropdown set to 'Bypass/Widening - lvl 1'.
 - A 'Technology Intervention' box containing the text: "Scheme focus is on building carriageway. Technology provision assumed to be ERTs and Traffic Counting Equipment in layby(s) i.e. not Expressways or A14 standard".
 - A table with columns 'Length (Kms)', 'Upgrade (Carriageway A)', and 'Upgrade (Carriageway B)'. The table data is as follows:

| Link | Length (Kms) | Upgrade (Carriageway A) | Upgrade (Carriageway B) |
|---------|--------------|-------------------------|-------------------------|
| Link 1 | 2.34 | D2AP (urban) | D2AP (urban) |
| Link 2 | 2.38 | D2AP (urban) | D2AP (urban) |
| Link 3 | 5.20 | D2AP (urban) | D2AP (urban) |
| Link 4 | 2.65 | D2AP (urban) | D2AP (urban) |
| Link 5 | 2.32 | D2AP (urban) | D2AP (urban) |
| Link 6 | | | |
| Link 7 | | | |
| Link 8 | | | |
| Link 9 | | | |
| Link 10 | | | |

Detailed Information / Detailed Parameters



The screenshot illustrates the 'Detailed Parameters' tab of the software interface. At the top, there are tabs for 'Base Information', 'Detailed Parameters' (which is currently selected), 'Full BO', and 'Comments'. Below these tabs, a horizontal bar shows five project milestones: 1. Proposed Mainline, 2. A-side separated intersections, 3. A-side junctions, 4. Motorway Links, and 5. Service Areas. The main area is titled 'PROPOSED MAINLINE' and contains a table for 'Principal Route' with three rows labeled 'Link 1', 'Link 2', and 'Link 3'. The table includes columns for 'Length(m)', 'Proposed carriageway width', 'Proposed verge width (ave)', 'Proposed Central Reserve width (ave)', 'Proposed carriageway width', 'Proposed verge width (ave)', and 'No. of Lanes'. A red box highlights this table. At the bottom of this section are 'Back' and 'Next' buttons.

A red arrow points from the highlighted table in the left screenshot to the 'Detailed Information' view in the right screenshot. The 'Detailed Information' view shows a table for 'PROPOSED MAINLINE' with ten rows labeled 'Link 1' through 'Link 10'. The columns include 'Length (m)', 'Proposed carriageway width', 'A-side', 'Proposed verge width (ave)', and 'Proposed Central Reserve width (ave)'. The 'Length (m)' column values are: Link 1 (3,340), Link 2 (3,280), Link 3 (3,200), Link 4 (2,650), Link 5 (2,330), Link 6 (0), Link 7 (0), Link 8 (0), Link 9 (0), Link 10 (0). The 'A-side' column has a single value 'A-side' repeated for all rows. The 'Proposed verge width (ave)' and 'Proposed Central Reserve width (ave)' columns are empty for all rows.

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.

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