

# BRE Client Report

## MMC Suppliers Optioneering Tool - Assessment Methodology, Tool Development, review and application

Prepared for: Bristol City Council

Date: 02/04/2020

Report Number: P116728-1000 issue: 1

BRE

Watford, Herts

WD25 9XX

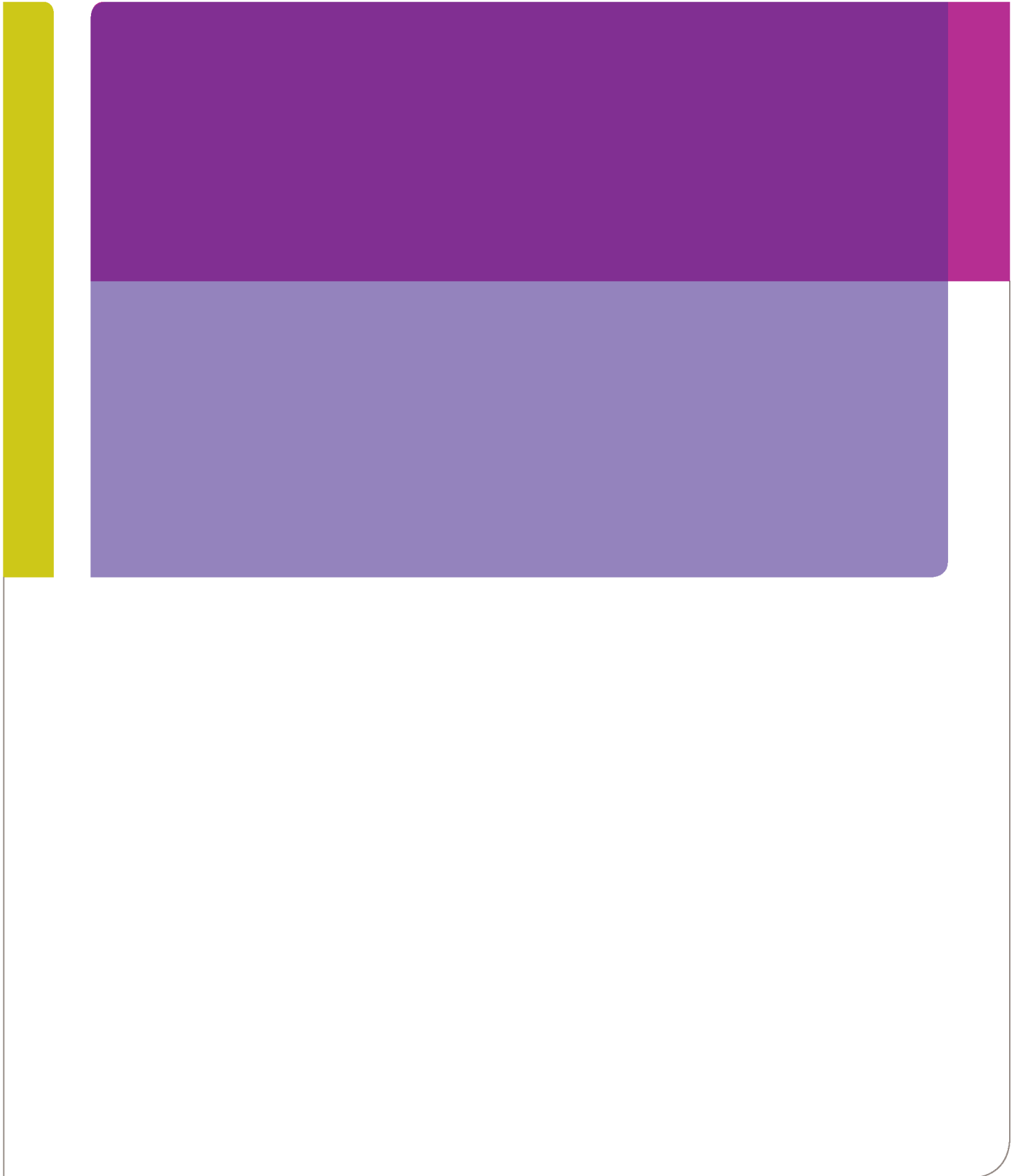
Customer Services 0333 321 8811

From outside the UK:

T + 44 (0) 1923 664000

Prepared for:

Bristol City Council






---

**Prepared by**


---

Name Dr Flavie Lowres  
Position Associate Director Strategy and Innovation team  
Date 2<sup>nd</sup> April 2020  
Signature 

---

**Authorised by**

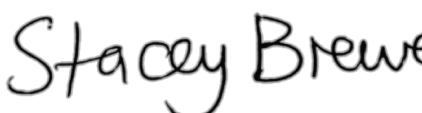
---

Name Dr Ed Suttie  
Position Director Strategy and Innovation team  
Date 2<sup>nd</sup> April 2020  
Signature 

---

**Client Approval**

---

Name Stacey Brewer  
Position Strategy and Enabling Manager  
Date 09.04.20  
Signature 

This report is made on behalf of Building Research Establishment Ltd. (BRE) and may only be distributed in its entirety, without amendment, and with attribution to BRE to the extent permitted by the terms and conditions of the contract. BRE's liability in respect of this report and reliance thereupon shall be as per the terms and conditions of contract with the client and BRE shall have no liability to third parties to the extent permitted in law.



---

## Executive Summary

---

Bristol City Council (BCC), in partnership with Bristol Housing Festival, is committed to an approach that supports learning from new and innovative ways of delivering housing. Modern Methods of Construction (MMC) in housebuilding is an exciting, evolving, but relatively immature area. Within a conservative industry, new companies, novel technologies and unproven products can bring risks. In order to champion innovative solutions for specific development sites, it is necessary for local authorities to be able to engage with one or more suppliers at early project stages. There is therefore a need for a robust process-based methodology for identifying appropriate MMC products and suppliers for specific development sites.

Funding was therefore sought to develop a tool to provide a process for BCC housing officers to identify the opportunities for MMC products and suppliers for specific development sites. This tool has been commissioned by Bristol City Council and funded by the Local Government Association (LGA), as part of their Building Council Houses Programme (BCHP) 2019/20. The tool has been developed by the Building Research Establishment (BRE) in conjunction with Bristol Housing Festival and Futureground. Through this process the Council aims to enable implementation of innovative high quality and sustainable homes, quickly, on a range of complex and sometimes small, previously unviable, city sites.

The objective of this project was to create an MMC Supplier Optioneering tool in conjunction with Bristol City Council. The tool needs to be transparent so that decisions can be scrutinised, robust, evidence-based, applicable to all MMC suppliers and comfortably and affordably administered by BCC housing officers. The tool needs to be effective in assisting decision making.

During this project, the team has:

- Developed a tool prototype in excel: the MMC Suppliers Optioneering tool. This tool has been developed in partnership with Futureground, Bristol Housing Festival and BRE. The tool has been developed using knowledge and expertise of all these organisations. Excel was chosen as BCC employees are familiar with this software and it ensures ease of access.
- Developed an MMC suppliers' questionnaire to feed into the MMC Suppliers Optioneering tool to create a database.
- Developed a dashboard to showcase the results for ease of interpretation.
- Taken into consideration feedback on the tool from MMC suppliers and BCC. Feedback has been positive and encouraging.



---

## Table of Contents

---

<b>Table of Contents</b>	<b>3</b>
<b>Introduction</b>	<b>4</b>
<b>The MMC Supplier Optioneering Tool</b>	<b>5</b>
Overview	5
Structure	5
Methodology	12
Identifying potential list of suitable Suppliers	12
Advisory notes of relevance to delivery of scheme	14
Evaluation of products and company against the four topics	15
The Tool	20
<b>Tool review and feedback by end users</b>	<b>23</b>
<b>Summary and recommendations</b>	<b>25</b>
<b>Appendix A – MMC Supplier Optioneering Tool questionnaire</b>	<b>27</b>
<b>Appendix B – Supplier Questionnaire</b>	<b>32</b>
<b>Appendix C – Feedback on MMC Optioneering Tool</b>	<b>39</b>



---

## Introduction

---

Bristol City Council (BCC), in partnership with Bristol Housing Festival, is committed to an approach that enables, successfully delivers and supports learning from new and innovative ways of delivering housing. Modern Methods of Construction (MMC) in housebuilding is an exciting, evolving, but relatively immature area. Within a conservative industry, new companies, novel technologies and unproven products can bring risks. In order to champion innovative solutions for specific development sites, it is necessary for local authorities to be able to engage with one or more suppliers at early project stages. There is therefore a need for a robust process-based methodology for identifying appropriate MMC products and suppliers for specific development sites.

Funding was therefore sought to develop a tool to provide a process for the BCC officers identify the opportunities for MMC products and suppliers for specific development sites. This tool has been commissioned by Bristol City Council and funded by the Local Government Association (LGA), as part of their Building Council Houses Programme (BCHP) 2019/20. The tool has been developed by the Building Research Establishment (BRE) in conjunction with Bristol Housing Festival and Futureground. Through this process the Council aims to enable implementation of innovative high quality and sustainable homes, quickly, on a range of complex and sometimes small, previously unviable, city sites.



---

## The MMC Supplier Optioneering Tool

---

### Overview

The tool developed through this project, the MMC Supplier Optioneering tool, facilitates an internal process of early discussions and decision-making support for the Council officers, from an early stage in the decision making process, by flagging potential suppliers and MMC systems (Volumetric, Panels and Components) that might be best aligned with a proposed development's requirements.

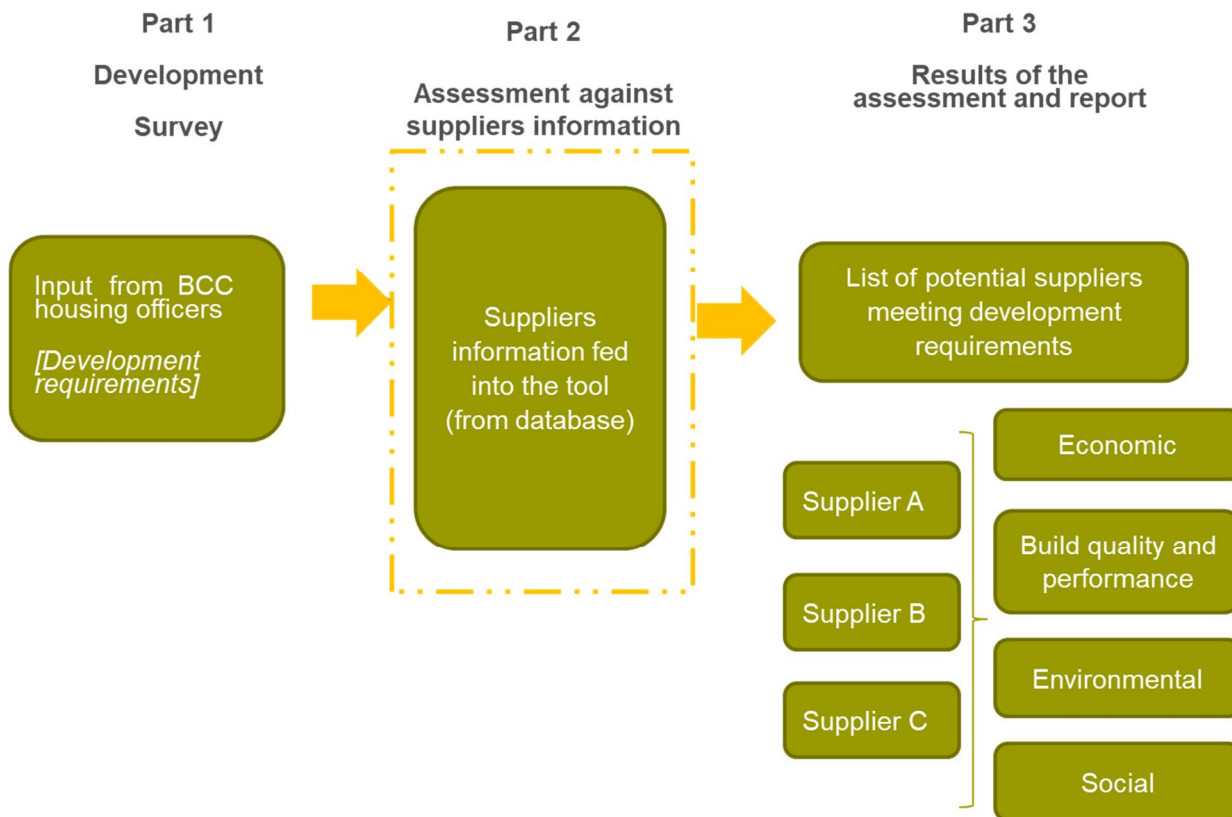
The tool has been conceived to be used by any relevant council individual involved in housing delivery. The tool relies on input of basic site information. It is anticipated that the MMC Optioneering Tool could be used at different stages of a development, once the decision has been made that a particular site is suitable for housing. The tool is designed to be easy to use and should support the user in identifying potential MMC suppliers. The tool evaluates the information provided by the user, comprising the basic site information, by comparing it against information held in a database populated with data taken from completed MMC supplier questionnaires. The supplier information is included in the tool, but not visible to the user to avoid the user accidentally tampering with the information. The tool is currently in an Microsoft Excel based format.

The outputs from the tool can be used to engage internal Council teams, support business case development and provide information to help communicate project aspirations to key stakeholders. The aim of the tool is to help the user identify the MMC suppliers that meet the criteria of the site. However, it is not about selecting a specific supplier, ranking suppliers' performances against each other or choosing MMC versus traditional build. Once solutions have been identified, the user can review the information provided by the suppliers and may need to seek additional information in order to make a final selection.

The tool is intended to be used by anyone in the council who wishes to have more information on the type of MMC systems that could be available for a particular development. The user is referred to as "tool user" in this report.

### Structure

The MMC Optioneering Tool is structured in three parts as illustrated in Figure 1 below. Part 2 is not visible to the user but feeds in from the database comprised of supplier information that is imported into the tool.



**Figure 1 – MMC Optioneering Tool structure**

The different parts of the tool are:

- Part 1: Development survey - Council officers input details of a specific proposed housing development opportunity to be evaluated – see “development information” tab
- Part 2: Assessment against supplier information - Suppliers provide non site-specific information on their organisation and MMC products and solutions in the suppliers’ questionnaire. The information is then entered in the tool’s database. The database is in the tool, but not visible to the user to avoid any accidental tampering with the data.
- Part 3: Results of the assessment and report – Results from using the tool are provided in this section in a dashboard format. A detailed report of all the information provided by the suppliers is also provided in the tool.

More information on the different parts is provided below.

### Part 1: Development Survey

This is the main tab in which the tool user inputs information on the proposed development’s site characteristics and project requirements. The user is asked to provide the following information:

- Development information: name and location of the site, scale and speed of construction of the development
- Planning context: planning status, planning constraints
- Site information: ease of access of site, storage, impact on neighbours





- Project delivery: delivery route, ownership, temporary accommodation, adaptability
- Development project impact: the user is asked to weight the importance of environmental, economic, social and build quality & performance for the development

The full questionnaire is provided in Appendix A. For most questions, the user is asked to choose answers from drop-down menus and can provide comments/explanations as text in the adjacent columns. Some questions have been marked with an asterisk “\*”. These are the mandatory questions that need to be answered in order to get a response from the tool.

Once the user has entered information about the site development, they can click on “add record” and the information for the site will be saved in the tool database. This information can later be edited by choosing “edit” in the “select the function you require” box.

Figure 2 below shows a screenshot of the Development Survey tab.

Development Survey		Add Record
Select the function you require: <input type="text"/>		
<b>Edit Existing Development Data</b>		No. of developments in the system: 4
<i>NOTE: Required fields marked with a star</i>		
	Responses	Comments / Explanations
<b>Development Information</b>		
<b>Q1</b> In which neighbourhood partnership area is the development is going to be built? <small>This refers to the 14 Neighbourhood Partnership areas in Bristol with housing development sites as per Site Allocations and Development Management Policy SA1.</small>	<input type="text"/>	<input type="text"/>
<b>Q2</b> Site name* <small>This refers to the specific project which is being assessed.</small>	<input type="text"/>	<input type="text"/>
<b>Q3</b> Postcode <small>Location of the development.</small>	<input type="text"/>	<input type="text"/>
<b>Q4</b> Scale of housing development* <small>This refers to the size of the scheme that is being assessed.</small>	<input type="text"/>	<input type="text"/>

**Figure 2 – screenshot of the “Development Survey” tab**

## Part 2: Supplier Information

A standard questionnaire on MMC products and company details is used to gather key information from interested suppliers who wish to work with the Council. Data from completed supplier questionnaires is stored within the tool as a database, to enable analysis alongside scheme specific requirements. The supplier questionnaire is structured as follows (see Appendix B for the full questionnaire and Figure 3 shows a screenshot of the “home” tab):

### *Company information:*

List of background information about a supplier that would be of interest to the Council, primarily to understand who the supplier is and flag any high-level risks (e.g. innovative product, not used elsewhere) which the Council needs to be aware of.

### *Development Interests:*



This section asks questions related to the capability and suitability of system(s) offered by a Supplier against the development information for a specific site. For example, if a site is exploring MMC options for a high-rise, high-density scheme not all MMC systems might be suitable.

**Key system and company performance criteria:**

A series of questions are used to establish what is offered by the Supplier against key triple-bottom-line and quality criteria:

1. Economic
2. Build quality and performance
3. Environmental
4. Social

Responses are used by the Tool to evaluate specific Suppliers against key development requirements as required by the tool user.

**Home**

**The MMC Tool**

The MMC tool has been commissioned by Bristol City Council (BCC) and funded by the Local Government Association (LGA), as part of their Housing Advisers Programme 2019/20. The tool has been developed by the Building Research Establishment (BRE) in conjunction with Bristol Housing Festival and Futureground.

The MMC Supplier Selection tool provides a process to enable Bristol Council officers to identify opportunities for Modern Methods of Construction (MMC) products and suppliers for specific development sites, pre-procurement.

The tool is populated with information from multiple MMC suppliers via this, the MMC Supplier Survey.

**The Survey**

The supplier survey comprises questions across the following six sections:

- S1 - Company Information: *general information about the supplier company*
- S2 - Development Interests: *establish the types of developments a supplier is interested in, and that their system(s) may be suitable for*
- S3 - Economics: *gathers information on the economic support in place for the supplier's system(s) as well as the system's longevity*
- S4 - Build Quality & Performance: *assesses the quality and flexibility of the supplier's system(s)*
- S5 - Environment: *relates to the impacts of the supplier's system(s) on both the local and the wider environment*
- S6 - Social: *looks at the impacts on the local area and its inhabitants from use of the supplier's system(s)*

Suppliers may provide additional explanatory notes/comments alongside the responses given to each question. Guidance notes (see *green text*) are provided for questions where applicable.

Home | S1-CompanyInformation | S2-DevelopmentInterests | S3-Economics | S4-BuildQuality&Performance | S5-Environment | S6-Social

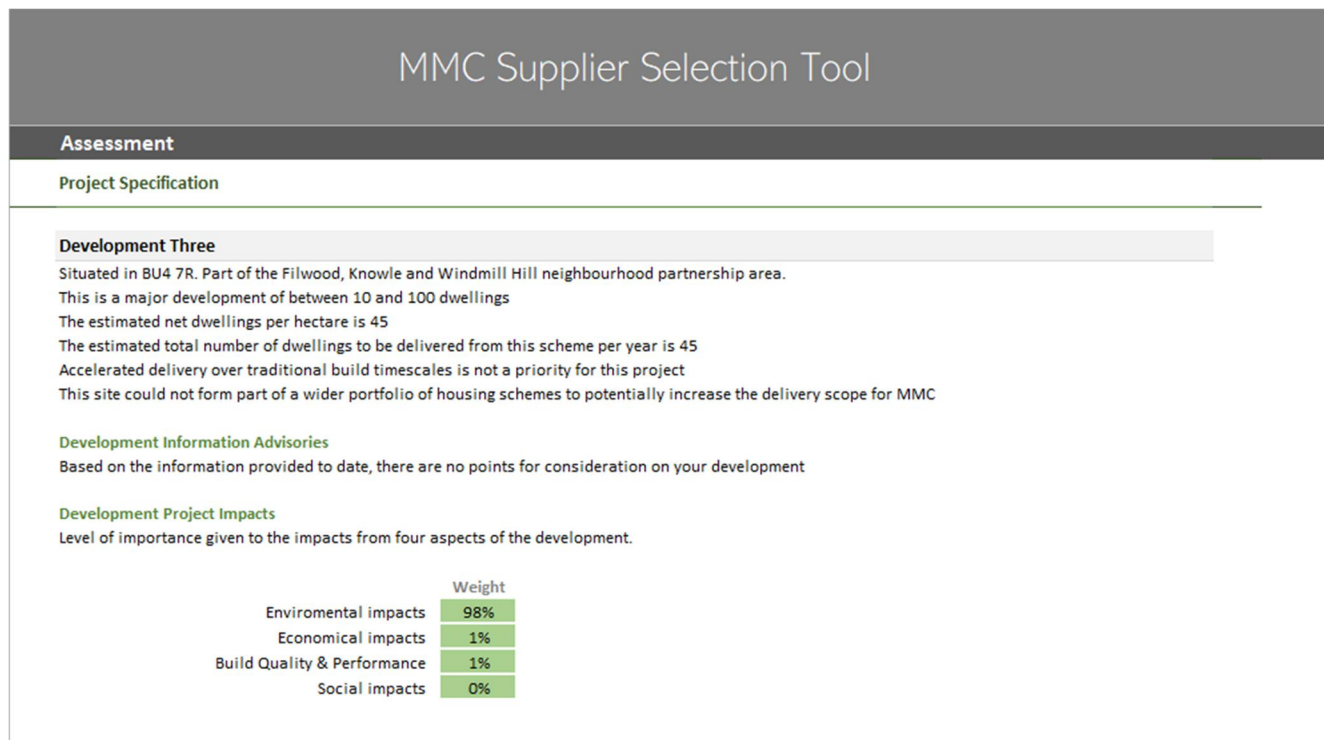
**Figure 3 – screenshot of the “home” tab of the suppliers questionnaire**



**Part 3: Assessment Report**

Based on the answers provided by the tool user in Part 1, and comparison against the database of Supplier information, provided via the Supplier questionnaire, the MMC Supplier Optioneering Tool will display the following information:

1. A summary of the information provided by the tool user
2. An overview of the weighting chosen by the tool user for the different impacts (environmental, economic, social, build quality & performance, social) – see Figure 4
3. An overview of the number of suppliers:
  - a. meeting the criteria set out by the tool user in the “development survey” tab
  - b. failing to meet the criteria
  - c. total number of suppliers considered for assessment, i.e. number of suppliers in the database
4. An overview of the number of suppliers from the database not meeting the criteria for assessment
5. The list of suppliers meeting the criteria – see Figure 5.
6. Overview of the performances of the selected suppliers against the performance criteria – see Figure 6.



**Figure 4 – Screen shot of the assessment tab – summary of information and overview of the weighting**



## MMC Supplier Selection Tool

**Assessment**

**Suppliers for consideration**

Suppliers meeting criteria	Suppliers failing to meet criteria	Total number of suppliers
<b>6</b>	<b>1</b>	<b>7</b>

Criteria for selection	No. of failed suppliers
Scale of housing development	1
Building typologies supplier system(s) caters to in relation to estimated net dwellings that can be delivered per hectare	0
Ability of the system(s) to deliver traditional architecture in historic/sensitive sites	0
Ability of the system(s) to allow external facade adaptability to create varied architectural response across a site	1
The maximum number of dwellings the supplier is able to provide in a year	0

Suppliers meeting criteria
Supplier A
Supplier E
Supplier F
Supplier X
Supplier with a longish sort of name B
Supplier C

**Figure 5 – Screen shot of the assessment tab – summary of the suppliers chosen for consideration**



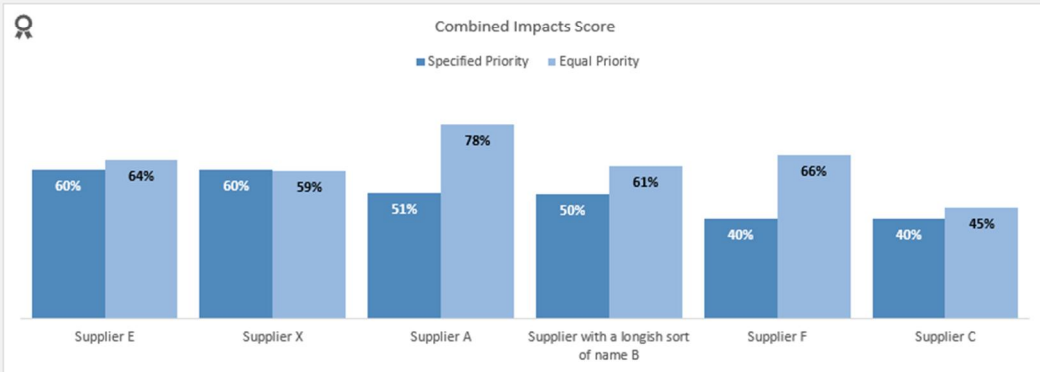
# MMC Supplier Selection Tool

## Assessment

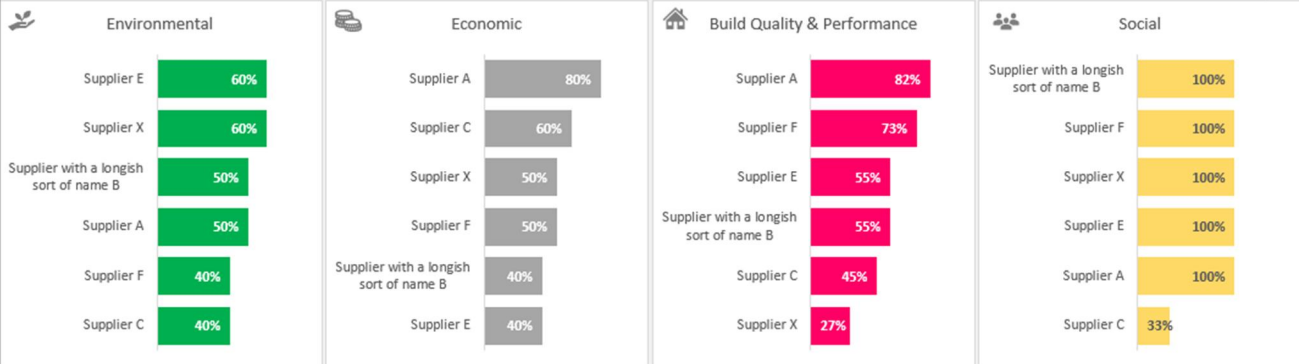
### Supplier performance

**NOTE:** Supplier scores on the impact of the 4 aspects of the development are combined with an equal priority of 25%, and with the specified development priorities.

- 98%
- 1%
- 1%
- 0%



### Individual Impact Scores



**Figure 6 – Screen shot of the assessment tab – Overview of the performances of the selected suppliers**



## Methodology

### Identifying potential list of suitable Suppliers

The full list of the questions asked to the tool user in the MMC Supplier Optioneering Tool, “Development Survey” tab, is provided in Appendix A. Some of the questions are for reference only for the user, for example: “what is the current status of planning permission for this site?”. Other questions are linked to questions asked to the suppliers’ responses and responses to those questions will influence the answers provided in the “Assessment” tab. The following table shows how specific input information in the Development Survey tab is assessed against respective supplier data (stored in the database), to arrive at a shortlist of Suppliers whose solutions could be potentially suitable, and so could be usefully engaged for further detailed discussions.

DEVELOPMENT INFORMATION		SUPPLIER INFORMATION	
Question	Answer (drop down)	Question	Answer (drop down)
Q4. Scale of housing development	< 9 dwellings	Q12. What scale of developments is your organisation best suited to? Explain why – please choose all answers that apply	< 9 dwellings
	10-100 dwellings		10-100 dwellings
	>100 dwellings		>100 dwellings
Q5. Estimated net dwellings per hectare	<30	Q13. Which building typology is your system best suited to? Explain why – please choose all answers that apply	Houses
	30 to 50		
	51 to 60		Low-rise apartments (<5 storeys)
	61 to 100		Mid-rise apartments (6 - 9 storeys)
	>100		High-rise apartments (10 storeys and above)
Q7. Maximum estimated number of dwellings expected to be completed on the site in any one year?	<10	Q16. What is the maximum number of dwellings you can supply per year currently?	<10
	<50		<50
	<250	Please provide a narrative on how this is predicted to	<250



	<500	change over the next 3 years	<500
	<750		<750
	<1,000		<1,000
Q10. Are there any specific planning constraints or known project requirements related to the external aesthetic of the dwellings? (E.g. cladding type / material choice / colour)	Yes No Don't know	Q14. Can your system offer design flexibility in façade materials use and configuration to respond to local context?	Yes, the client can input on the cladding type/ material.  Yes, our cladding system comes in a range of colours.  No. Our system has a defined aesthetic.  Other
Q11. Are there any specific planning constraints or known project requirements related to the external form of the dwellings? (E.g. position of windows / roof form)	Yes No Don't know	Q15a. Does your system allow external facade adaptability to create a bespoke or varied architectural response across a site? eg: different position of the windows	Yes, the external form can be bespoke provided it's consistent across the project.  Yes, the external form can be bespoke and vary across the project.  No  Don't know or other
Q12. Are there any specific planning constraints or known project requirements related to internal layout of the dwellings?	Yes No Don't know	Q15b. Can your system offer design flexibility in internal layout to respond to specified user needs?	Yes  No



<p>Q18. How does the Council expect/propose the new dwellings will be owned and maintained?</p>	<p>Council to own and manage</p> <p>Council owned development company to own and manage</p> <p>Private organisations to own and manage</p> <p>Housing Association to own and manage</p> <p>Unsure at this stage / a combination of the above</p>	<p>Q15c. Can your system offer design flexibility in specifications, eg: fixtures and fittings</p>	<p>Yes, end users can be offered a choice</p> <p>No, we work with a preferred supplier to achieve economies of scale.</p> <p>Not applicable</p> <p>Other</p>
---	--	--	--

### Advisory notes of relevance to delivery of scheme

The question areas set out below focus on the key issues of home ownership and maintenance, as well as home valuation and warranties. Based on comparing development requirements with supplier information, the tool provides users with advisory notes highlighting points for the Council to be aware of and discussed in detail with individual suppliers. The table below lists where advisory notes have been raised against a response given in the supplier questionnaire.

DELIVERY OF SCHEME		ECONOMIC	
<p>Q18. How does the council see the responsibility for long term ownership and maintenance of dwellings delivered by the scheme?</p>	<p>Council to own and manage</p> <p>Council owned development company to own and manage</p> <p>Private organisations to own and manage</p> <p>Housing Association to own and manage</p> <p>Unsure at this stage / a combination of the above</p>	<p>Q20. Is your system accepted by any warranty providers? Please state who is your warranty provider</p>	<p>Yes</p> <p>No</p> <p>Warranty approval in progress</p>
<p>Q 19. Is the scheme likely to include open market homes for</p>	<p>Yes</p> <p>No</p>	<p>Q22. Are you working in partnership with any mainstream lenders, valuers?</p>	<p>Yes</p> <p>No</p>





sale or shared ownership?	Don't know	Q23. Do you offer support and guidance to customers on obtaining suitable finance? If so, explain what kind of support.	Yes No
		Q24. Do you provide arrangement for future care, repair and maintenance of your systems. Eg: do you provide advice/service for repair/maintenance? Are systems designed for low maintenance?	Yes No

Some MMC solutions offer the potential for not only rapid deployment, but also subsequent removal and redeployment at another site. For Councils addressing the housing crisis through creative use of meanwhile sites, this can be a real advantage. The Tool hence includes a specific question on ability to relocate or reuse systems. Supplier responses will highlight the ability of a system to do so, and if this would be covered within their warranty arrangements.

DELIVERY OF SCHEME		DEVELOPMENT INTERESTS	
Q20. Is delivering of temporary homes with ability for relocation or reuse of structure elsewhere a priority for this scheme?	High Moderate Low	Q18. Is your system demountable for reuse and relocation?	Yes No

**Evaluation of products and company against the four topics**

Four topics have been identified as being of importance to the Council. The suppliers are asked questions to support the Tool user in gaining further understanding of the strategy of the suppliers to address those topics. These questions do not provide a full sustainability assessment of the suppliers. The topics are:

1. Economic
2. Build quality and performance
3. Environmental
4. Social



A number of questions are asked to the supplier in the Supplier Questionnaire related to these four topics. For each supplier question, a number of points is awarded based on the answer provided. There is a maximum number of points for each topic and the total number of points for each topic is reported as a percentage value.

The tool user can set out the weight of importance of one topic over another. The default value is set as 25% over the four topics and can be edited to reflect the need of a specific development.

### Economic

Questions	Answers	Score <i>Maximum score =10</i>
Q20. Is your system accepted by any warranty providers? Please state who is your warranty provider	Warranty approval in progress	1
	No	0
	Yes	2
Q21. How many moves or relocation of your systems are included within your warranty?	None	0
	1	1
	2 or more	2
Q22. Are you working in partnership with any mainstream lenders, valuers?	Yes	2
	No	0
Q23. Do you offer support and guidance to customers on obtaining suitable finance? If so, explain what kind of support.	Yes	2
	No	0
Q24. Do you provide arrangements for future care, repair and maintenance of your systems. Eg: do you provide advice/service for repair/maintenance? Are systems designed for low maintenance?	Yes	2
	No	0



## Build Quality and performance

Questions	Answers	Score
		<b>Maximum score =14</b>
<p>Q25. Is your system approved for its structural durability, safety and performance? If available, please state the name of the certifying organisation. examples of organisations include:</p> <p>BRE Global, BOPAS (Buildoffsite Property Assurance scheme), LABC (local authority building control), NHBC (national house building council).</p>	No	0
	Accreditation in progress	1
	Yes	2
<p>Q26. Can completed homes be adapted, e.g. adding an extension or additional windows, to changing occupant needs? ? If yes, please provide more details</p>	No	0
	It depends	1
	Yes	2
<p>Q28. What is the standard fabric specification of your system to improve energy efficiency of a dwelling? Choose several options if applicable – please provide more details</p>	Part L	0
	19% improvement on Part L 2013 (Code 4)	1
	Other performance - better than 19% improvement, eg: PassivHaus	2
<p>Q29. What services and supporting information do you offer in managing multiple trades delivering various aspects of construction at different stages?</p>	<ul style="list-style-type: none"> <li>• A checklist detailing the critical assembly and installation checks</li> <li>• Specification for ancillary constructions to be provided by others</li> <li>• Training and tool box talks</li> </ul>	1 per item (max score = 2)



	<ul style="list-style-type: none"> <li>Independent verification of system installed on site</li> </ul>	
Q30. Has your product/system got a Local Authority National Type Approval Confederation (LANTAC) Approval?	No	0
	Accreditation in progress	1
	Yes	2

**Environmental**

Questions	Answers	Score <i>Maximum score =10</i>
Q31. Is your system explicitly designed to enable recyclability or reusability of components of your system at end of life? If so, what is your approach?	No	0
	Strategy in development	1
	Yes	2
Q32. Do you have an Environmental Management System (EMS) for your manufacturing process?	Nothing or don't know	0
	Company internal policy	1
	Company environmental standard (ISO 14001)	2
Q33. Is your system explicitly designed and specified to have a	No, or Yes but no calculations are available	0



low embodied carbon footprint? Provide details of any calculations and measures in this regard.	Yes - Company internal calculation	1
	Yes - Independent Life Cycle Assessment (LCA) study or EPD certificate	2
Q34. Does your system(s) contain products specified to have a high recycled content?	Yes	2
	No	0
	Don't know	0
Q35. Can you demonstrate that 100% of timber and timber-based products used in your system(s) are legal and sustainably sourced as per the UK Government's Timber Procurement Policy	Yes	2
	No	0

**Social**

Questions	Answers	Score
Q36. Is the use of your system going to increase the number of local jobs created in the region during construction? Please provide explanation in the comments box	Yes	2
	No	0
Q38. Do you manufacture, supply and assemble your own systems on site?	Yes	2
	No	0
Q40. If not within West of England Combined Authority (WECA) area, are you able to manufacture the systems or parts of it within this region? If yes, please provide details	Yes	2
	No	0



## The Tool

The tool has four tabs (see Figure 7) in which the user inputs information following the order of the tabs from left to right. The different tabs are:

- Home – description of the tool and partners which funded and developed it (Figure 7)
- Development survey – in this tab, the tool user is asked questions on the development they are working on to set out the criteria for the site (Figure 8)
- Assessments – list of suppliers that meet the criteria set out by the tool user in the “development survey” tab and overview of the suppliers’ performances in terms of environment, social, economic and build quality and performance (Figure 9)
- Reports – the user can choose to review in more details the information provided by the suppliers which met the criteria set out by the tool user in the “development survey” tab (Figure 10).

**Home**

**The MMC Tool**  
 This tool has been developed with the support of a Local Government Association (LGA) Grant by BRE for the Bristol City Council.  
 The objective of this tool is to provide a process for the Bristol Council officers to identify the opportunities for Modern Methods of Construction (MMC) product for specific development sites. Through this process the Council aims to enable implementation of innovative high quality and sustainable homes, quickly, on a range of complex and sometimes small, previously unviable, city sites.

The tool is intended to provide an internal process for initial discussions and decision making support for the Council officers, before procurement, by flagging suppliers and MMC systems (Volumetric, Panels and Components) that can deliver the development aspirations for a site. The outputs from this tool can be used internally by Council teams, develop business case and provide supporting information to communicate project aspirations to external organisations.

**Other Information**  
 Providers  
[Bristol City Council](#)

Navigation: Home | Development Survey | Assessments | Report | +

Figure 7 – Screenshot of “home” page tab



## MMC Supplier Selection Tool

Development Survey
Add Record

Select the function you require:

---

**Edit Existing Development Data**

NOTE: Required fields marked with a star

No. of developments in the system: 4

Development Information	Responses	Comments / Explanations
<p><b>Q1</b> In which neighbourhood partnership area is the development is going to be built?  <small>This refers to the 14 Neighbourhood Partnership areas in Bristol with housing development sites as per Site Allocations and Development Management Policy SA1.</small></p>	<input type="text"/>	<input type="text"/>
<p><b>Q2</b> Site name*  <small>This refers to the specific project which is being assessed.</small></p>	<input type="text"/>	<input type="text"/>
<p><b>Q3</b> Postcode  <small>Location of the development.</small></p>	<input type="text"/>	<input type="text"/>
<p><b>Q4</b> Scale of housing development*  <small>This refers to the size of the scheme that is being assessed.</small></p>	<input type="text"/>	<input type="text"/>

Figure 8 – Screenshot of part of the “Development Survey” tab

## MMC Supplier Selection Tool

Assessment

Suppliers for consideration

Suppliers meeting criteria	Suppliers failing to meet criteria	Total number of suppliers
6	1	7

Criteria for selection	No. of failed suppliers
Scale of housing development	1
Building typologies supplier system(s) caters to in relation to estimated net dwellings that can be delivered per hectare	0
Ability of the system(s) to deliver traditional architecture in historic/sensitive sites	0
Ability of the system(s) to allow external facade adaptability to create varied architectural response across a site	1
The maximum number of dwellings the supplier is able to provide in a year	0

Suppliers meeting criteria
Supplier A
Supplier E
Supplier F
Supplier X
Supplier with a longish sort of name B
Supplier C

Figure 9 – Screenshot of part of the “Assessment” tab



## MMC Supplier Optioneering Tool – Supplier report

Site: **Development Three**

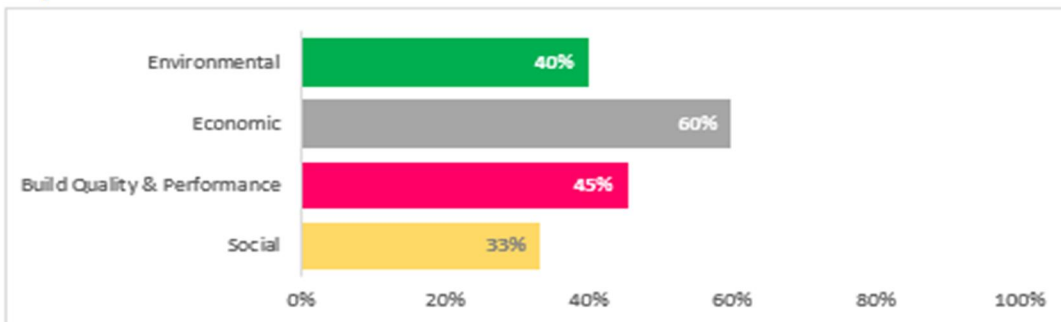
A total of 6 MMC Suppliers were identified for this site.  
 Select a supplier below to see full details on them

### Supplier C

Address: Bath

Postcode: BD1 2TU

#### Impact Scores



Combined Scores: - Equal Priority 45%, Specified Priority 40%

#### Company Information

📍 What is the size of your company?

50-249 employees

- no comment -

📍 How long has the business been operational?

> 10 years

- no comment -

Do you require the Council to procure other construction works separate to your systems?

Yes

- no comment -

Figure 10 – Screenshot of part of the “Report” tab





---

## Tool review and feedback by end users

---

As part of this project, a working draft of the Suppliers' questionnaire was shared with nine MMC suppliers already engaged with the Bristol Housing Festival. Within the project period, two suppliers completed a questionnaire for their organisation / products. This information was anonymised and entered into the Tool Supplier database, alongside a series of fictitious Supplier datasets added for the purposes of user-testing the Tool. Another two suppliers provided feedback on the questionnaire. The organisations that provided feedback are: Project Etopia UK, Tempo Housing Ltd, Totally Modular and Zed Pods Ltd.

Overall, the feedback was very positive. They mentioned that the questionnaire was thorough and no more difficult than similar questionnaires they have to fill. One manufacturer's feedback was: 'Very thorough, we're very happy with all the questions'.

Feedback was sought by Bristol Housing Festival from the council and this was gathered via a limited number of one-to-one conversations, but primarily via two User feedback workshops held on 6<sup>th</sup> February, which were attended by 10 Bristol Council employees. The list of attendees at the workshop are listed below:

- Nick James, Futureground
- Ellen Grist, Project Manager, Bristol Housing Festival
- Flavie Lowres, Associate Director, BRE
- Jessie Wilder, Deputy Director, Bristol Housing Festival
- Stacey Brewer, Interim Enabling Manager, Bristol City Council
- Kieran Highman, Housing Delivery Project Manager, Bristol City Council
- Claudette McDonald, Housing Delivery Project Officer, Bristol City Council
- Paul Plum, Housing Delivery Project Manager, Bristol City Council
- Martyn Pursey, HRA Senior Development Manager, Bristol City Council
- Michael Rogers, City Design Group, Bristol City Council
- Tim Southall, Enabling and Delivery Fund Manager, Bristol City Council
- Imen Tlili, City Design Group, Bristol City Council
- Barry Wallen, Housing Development Project Manager, Bristol City Council
- Peter Westbury, Planning Team Manager, Bristol City Council

During the sessions, the following points were covered:

- Overview of Bristol Housing Festival
- Background to the need to develop the tool
- Overview of the tool
- Live demonstration of the tool using real life examples
- Feedback through structured discussion



The feedback from the workshop, and that subsequently received by attendees following the sessions, was collated and a number of changes have subsequently been made providing the updated version of the tool. The main points were:

- Adding questions
- Amending questions

Feedback from the supplier has been collated in a word document – see Figure 11 for an example. All the comments received can be seen in Appendix C.

where this MMC tool would be used in the development process? In my view, for it to be most useful for DM, it should be used when land has been identified as a possibility for MMC development.

As general comments:

- > It is not very clear if this questionnaire is to do the choice between MMC vs traditional construction route OR if it is to identify potential suppliers for a specific site?
- > How does the tool take into account (in the selection tool) the additional comments/notes from the questionnaire?
- > How do you link the answers entered and the selection of suppliers? (Did you profile each supplier with specific pre-entered criteria?)

Q1. In which neighbourhood partnership area is the development is going to be built?

- > Is it an allocated site?
- > Is it in a designated area (SNCI, Conservation area, Green Belt...)?
- > City Centre / Suburb?
- > Avonmouth and Kingsweston
- > Henbury and Southmead
- > Henleaze, Stoke Bishop and Westbury-on-Trym
- > Horfield and Lockleaze
- > Greater Fishponds
- > Bishopston
- > Cotham and Redland
- > Cabot, Clifton and Clifton East
- > Ashley, Easton and Lawrence Hill
- > St George
- > Greater Bedminster
- > Filwood, Knowle and Windmill Hill
- > Brislington
- > Dundry View
- > Hengrove and Stockwood

No comment.

Q2. Site name\*:

**Comments:**

- Lowres, Flavie**  
specifically where a site appraisal has been conducted and the site deemed suitable for housing
- Lowres, Flavie**  
Question needed? Given question on whether allocated site is asked later on?
- Lowres, Flavie**  
-is it an allocated site?  
-is it in a designated area (SNCI, Conservation area, Green Belt...)?  
-City Centre / Suburb?

Figure 11 – Screenshot of the comments received on the MMC Supplier Optioneering Tool



---

## Summary and recommendations

---

### Summary

The objective of this project was to create an MMC Supplier Optioneering Tool in conjunction with Bristol City Council. The tool needed to be transparent so that decisions can be scrutinised, robust, evidence-based, applicable to all MMC suppliers and comfortably and affordably administered by BCC housing officers. The tool needed to be effective in assisting decision making.

During this project, the team has:

- Developed a tool prototype in Excel: the MMC Suppliers Optioneering tool. This tool has been developed in partnership with Futureground, Bristol Housing Festival and BRE. The tool has been developed using knowledge and expertise of all these organisations. Excel was chosen as BCC employees are familiar with this software and it ensures ease of access.
- Developed an MMC suppliers' questionnaire to feed into the MMC Suppliers Optioneering tool to create a database.
- Developed a dashboard to showcase the results for ease of interpretation
- Taken into consideration feedback on the tool from MMC suppliers and BCC. Feedback has been positive and encouraging.

### Recommendations

The prototype Tool is developed using Excel to demonstrate the methodology and reports - it would be useful for further detailed discussions within the Council and potential suppliers. It has been agreed that the MMC Supplier Optioneering tool will be owned and managed by the Bristol Housing Festival Working Group (an internal Bristol City Council working group). The next step will be for the owner to continue the testing of the tool and potentially to develop it into a proper web-based tool, for user-friendliness and maintenance of data. While it has been possible to create a prototype in Excel, by comparison to a web tool with a database back end, it is less flexible in what it is able to do and certainly more difficult to manage longer term.

Advantages of web tool

1. There would be better accessibility, both to the council and any suppliers that are required to provide information.
2. A web tool would remove the need to send out Excel work books to suppliers, only for them to be returned to the council and collated in a master work book.
3. Suppliers could attach documents to their submissions if it would be useful to evidence works, demonstrate capability, environmental certifications etc.
4. The two-way nature of the tool would also be easier to realise in a web environment.
  - a. you can restrict what each party using the system can see and do
  - b. a function of the tool could to allow the council to submit additional questions to one or more suppliers, around issues that arise from advisory notes presented in the assessment report.
5. Full reports would be downloadable from the tool, alternatively dashboards could be created to explore all submitted information.
6. The tool would be more secure.



Prior to this happening, the Bristol Housing Festival Working Group need to define:

- Roles and responsibilities. To manage different user categories, examples are:
  - A super-user who has overall control of the tool. The super-user can:
    - give access to user
    - enter information from suppliers to the database
    - make structural and content changes to the tool
    - be in charge of version control
    - backing up the tool regularly in case it gets corrupted
  - A general user who has only the ability to use the tool to obtain results
- A process to keep suppliers' data confidential and up to date.

Further testing of the tool is also necessary and refining of the questions/answers to ensure it remains relevant. In particular, the Bristol Housing Festival Working Group will need to test the tool against the Bristol City Council's Social Value calculator and Environmental Policy.



---

## Appendix A – MMC Supplier Optioneering Tool questionnaire

---

### Development information

Q1. In which neighbourhood partnership area is the development is going to be built?

- Avonmouth and Kingsweston
- Henbury and Southmead
- Henleaze, Stoke Bishop and Westbury-on-Trym
- Horfield and Lockleaze
- Greater Fishponds
- Bishopston
- Cotham and Redland
- Cabot, Clifton and Clifton East
- Ashley, Easton and Lawrence Hill
- St George
- Greater Bedminster
- Filwood, Knowle and Windmill Hill
- Brislington
- Dundry View
- Hengrove and Stockwood

Q2. Site name \_\_\_\_\_

Q3. Postcode \_\_\_\_\_

Q4. Scale of housing development\*

- A. < 10 dwellings
- B. 10-50 dwellings
- C. 51 – 100 dwellings
- D. >100 dwellings



Q5. Estimated density (net dwellings per hectare)\*

- <30
  - 30 to 50
  - 51 to 60
  - 61 to 100
  - >100
- 

Q6. Is accelerated delivery over traditional build timescales an express priority for this project?

- Yes
- No
- Don't know

Q7. Maximum estimated number of dwellings expected to be completed on the site in anyone year? \*

*This information will be used to map the required delivery rate at this site, against the reported delivery capability of participant MMC suppliers. Where the development is required to be delivered within one year, this will equal the total number of dwellings.*

- <10
  - <50
  - <250
  - <500
  - <750
  - <1,000
- 

Q8. Can this site potentially form part of a wider portfolio of housing developments, to increase the delivery scope for MMC?

- Yes
- No
- Maybe/Don't know



## Planning context

Q9. What is the current status of planning permission for this site?

- At feasibility stage, no planning approval
- Allocated in the Local Plan
- Outline planning consent
- Detailed planning consent
- Don't know/other

Q10. Are there any specific planning constraints or known project requirements related to the external aesthetic of the dwellings (e.g. cladding type/ material choice/colour)\*

1. Yes
2. No
3. Don't know

Q11. Are there any specific planning constraints or known project requirements related to the external form of the dwellings? (eg: position of windows/roof form)\*

4. Yes
5. No
6. Don't know

Q12. Are there any specific planning constraints or known project requirements related to internal layout of the dwellings?

7. Yes
8. No
9. Don't know

## Site Information

Q13. How would you describe the ease of delivery access via main roads and service roads leading to the site?\*

- Highly restricted/inaccessible for road vehicles\*
- Restricted
- Unrestricted
- Don't know



*Please consider distance to the motorway/main road network, as well as height, weight and width restrictions in the vicinity. If access to the site is restricted, you will need to flag this and ask for more information during discussions with the supplier.*

Q14. How would you describe the ease of crane operation on the site\*?

- Highly restricted/craneage likely to be impossible at this site\*
- Restricted
- Unrestricted
- Don't know

*Please consider the distance to and height of neighbouring properties, as well as the presence of other craneage restrictions such as overhead lines. Craneage restrictions may make some MMC options unviable at this site. Note the restrictions for discussion with the suppliers.*

Q15. How would you describe the potential for secure storage of completed components/modules on site, pre-installation?

- Restricted
- Unrestricted
- Don't know

*On restricted sites it may be appropriate to consider the potential for storage of components/modules on neighbouring sites.*

- 
- 

Q16. Is the reduction of neighbourhood impacts from construction (e.g. noise and dust) an express priority for this site?

1. Yes
2. No

### **Project delivery**

Q17. What is the intended delivery route for this scheme?

- Council to procure directly or self-delivery (HRA)
- Delivery through council owned development company (e.g. Goram Homes or JV with Goram and Other)
- Site disposal (best-value land transaction - inc. Social Value Act)
- Site disposal to RP
- Any of the above or unsure





Q18. How does the Council expect/propose the new dwellings will be owned and maintained?

- Council to own and manage
- Council owned development company to own and manage
- Private organisations to own and manage
- Housing Association to own and manage
- Unsure at this stage/ a combination of the above

Q19. Is the scheme likely to include homes for sale on the open market or shared ownership homes?

10. Yes

11. No

12. Don't know

Q20. Is delivering of temporary homes with ability for relocation or reuse of structure elsewhere a priority for this scheme?

13. High

14. Moderate

15. Low

Q21. Is future adaptation of the homes an express priority for this scheme? (e.g. for changes in residents mobility/ageing in place?)

16. Yes

17. No

18. Don't know

### **Project Development Impact Priorities**

- Economic
- Environmental
- Build Quality & performance
- Social



## Appendix B – Supplier Questionnaire

COMPANY INFORMATION	GUIDANCE NOTES	Response (drop down)
Q1. Company Name		
Q2. Address		
Q3. Post code		
Q4. What is the size of your company?	Size of a company as defined by the Department for Business, Energy & Industrial Strategy based on staff headcount and, either turnover or balance sheet total.	0-9 employees 10-49 employees 50-249 employees >250 employees
Q5. How long has the business been operational?	Please state how long the MMC manufacturing and supply element of your business has been operational.	<3 years 3-6 years 7-10 years >10 years
Q6. Do you require the Council to procure other construction works separate to your systems?	This will help the MMC Supplier Selection Tool user to understand which aspects you would deliver and identify elements of the project to be delivered by other parties.	Yes No
Q6a. If yes, which project delivery aspect [e.g. enabling, ground works] would you say as the most critical factor to resolve in a scheme, to ensure anticipated cost savings from your system is achieved?	Please highlight elements of any scheme which would make significant difference in getting it "oven ready" for delivery by you.	
Q7. Are you part of any existing council, or MMC procurement frameworks (e.g. LHC)?	This helps to understand your current position in bidding and delivering projects for councils. If none, it does not eliminate you but flag to the council the status.	Yes No
Q8. How many homes have you delivered in 2018 and 2019?	This will help the MMC Supplier Selection Tool user to understand who and how many schemes have opted for your system. If none, it does	



Please list 3 clients who have used your system	not eliminate you but flag to the council the status.	
Q9. What differentiates your system/product/company from your competitors? Please give a brief description – max 200 words	This will help the MMC Supplier Selection Tool user understand what is “special” about your system/product/company	
<b>DEVELOPMENT INTERESTS</b>	<b>GUIDANCE NOTES</b>	
Q10. What type of MMC system do you offer most?	This refers to the Ministry of Housing, Communities and Local Government MMC Definition Framework, Categories 1-3.	Pre-manufacturing 3D primary structural systems Pre-manufacturing 2D primary structural systems Pre-manufactured components
Q10a. What is your system made of?	This refers to the primary structural element of your system.	Light Steel frame Cross Laminated Timber Structurally Insulated Panels Timber Permanent formwork Insulated concrete formwork Thin joint formwork AAC
Q11. In addition to the above, are there any other MMC systems you could offer?	If you offer multiple systems, please state the second system here.	Pre-manufacturing 3D primary structural systems Pre-manufacturing 2D primary structural systems Pre-manufactured components
Q11a. What is your other system made of?	This refers to the primary structural element of your second system.	Light Steel frame Cross Laminated Timber Structurally Insulated Panels Timber Permanent formwork Insulated concrete formwork



		Thin joint formwork AAC
Q12. What scale of developments is your organisation best suited to? Explain why – please choose all answers that apply	This gives an indication to the MMC Supplier Selection Tool user the scale of development you are interested in and production line is set to go for delivery.	<9 dwellings 10-100 dwellings >100 dwellings
Q13. Which building typology is your system best suited to? Explain why – please choose all answers that apply	Please confirm how many storeys can one build using your system, this is as per what your warranty provider has approved.	Houses Low rise apartments (<5 storeys) Mid rise apartments (6-9 storeys) High rise apartments (10 storeys and above)
Q14. Can your system offer design flexibility in façade materials use and configuration to respond to local context?	This is to understand if you are able to deliver schemes able to adapt to local context, for example: in historic or conservation sites.	Yes, the client can input on the cladding type/ material. Yes, our cladding system comes in a range of colours. No. Our system has a defined aesthetic. Other
Q15a. Does your system allow external facade adaptability to create varied architectural response across a site? eg: different position of the windows	This is to understand if you are able to adapt the external façade of your system to create site specific architectural response and external variations.	Yes, the external form can be bespoke provided it's consistent across the project. Yes, the external form can be bespoke and vary across the project. No Don't know or other
Q15b. Can your system offer design flexibility in internal layout to respond to user needs?	This is to understand whether the internal space can be adapted for future use	Yes No
Q15c. Can your system offer design flexibility in specifications, eg: fixtures and fittings	This is to understand whether there are constraints on the different internal specifications	Yes, end users can be offered a choice



		No, we work with a preferred supplier to achieve economies of scale. Not applicable Other
Q16. What is the maximum number of dwellings you can supply per year currently?  Please provide a narrative on how this is predicted to change over the next 3 years	This refers to your manufacturing capacity per year	<10 <50 <250 <500 <750 <1,000
Q17. Provide examples of collaboration, innovation and partnerships in delivering a scheme using your system	This will help the council to understand ways by which you have collaborated with clients/project teams to incorporate your system in delivering housing schemes.	
Q18. Is your system demountable for reuse and relocation?	In situations where there is a requirement to be able to demount your system for adaptive reuse/ repair, having this information about your system will be helpful to the MMC Suppliers Selection Tool.	Yes No
<b>ECONOMIC</b>	<b>GUIDANCE NOTES</b>	
Q19. What is the design life of your system?	This refers to how long is the intended lifespan of your system.	
Q20. Is your system accepted by any warranty providers? Please state who is your warranty provider	This is to demonstrate to finance providers that the homes delivered using your system are of good quality and durable over long-term to obtain valuations, mortgages and insurance. Where there are mix of tenures [open market homes, self-build, shared ownership etc], this information is key to increasing consumer awareness and confidence .	Yes Warranty approval in progress No
Q20a. If yes, how long is the warranty period?		



Q21. How many moves or relocation of your systems are included within your warranty?	This information is to understand if your current warranty provider will cover for secondary use i.e. if the system is relocated or reused elsewhere.	None 1 2
Q22. Are you working in partnership with any mainstream lenders, valuers?	This is to understand if you are offering any support for ease of access to mortgage and valuation, thereby encouraging the uptake of your system.	Yes No
Q23. Do you offer financial support to open market and shared ownership residential owners to secure mortgages and insurance? If so, explain what kind of support.	This is to understand if you are offering any financial help in encouraging the uptake of your system.	Yes No
Q24. Do you provide arrangement for future care, repair and maintenance of your systems. Eg: do you provide advice/service for repair/maintenance? Are systems designed for low maintenance?	The purpose of this is to understand how long-term maintenance or repair costs would be met over long-term, and what would be covered.	Yes No
<b>BUILD QUALITY AND PERFORMANCE</b>	<b>GUIDANCE NOTES</b>	
Q25. Is your system approved for its structural durability, safety and performance? If available, please state the name of the certifying organisation. examples of organisations include:  BRE Global, BOPAS (Buildoffsite Property Assurance scheme), LABC (local authority building control), NHBC (national house building council)	Assurance of whether the system satisfies appropriate and current building code for structural safety, robustness and durability is key. An independent verification of internal calculations and design assures the Council of performance of the system.	Yes Accreditation in progress No
Q26. Are the homeowners able to add an extension or additional windows once the property has been constructed? If yes, please provide more details	This is to understand the implications of any future changes made to the structure, and if this is restricted.	Yes Possibly No
Q27. What are the allowable adaptations during the warranty period? And, what happens if	This is to highlight if there are any limitations to what adaptations can be	



changes are made outside the warranty period?	made to the property and its impact on warranty.	
Q28. What is the standard fabric specification of your system to improve energy efficiency of a dwelling? Choose several options is applicable – please provide more details	This is to understand how much future-proofing has been allowed for within the building fabric, to improve overall energy efficiency of homes.	Part L 19% improvement on Part L 2013 (Code 4) Other performance - better than 19% improvement, eg: PassivHaus
Q29. What services and supporting information do you offer in managing multiple trades delivering various aspects of construction at different stages?	This is to understand as a supplier how far you go in ensuring quality on site, especially where there are multiple services which could potentially impact on the performance of your system. For example, if you don't appoint your own trades, an understanding of how you interact with other installation (e.g. electrical) will be of help. Especially, where if a work by another supplier is not installed correctly resulting in failure of your system (e.g. fire) how would it impact warranty.	<ul style="list-style-type: none"> <li>• A checklist detailing the critical assembly and installation checks</li> <li>• Specification for ancillary constructions to be provided by others</li> <li>• Training and tool box talks</li> </ul> Independent verification of system installed on site
Q30. Has your product/system got a Local Authority National Type Approval Confederation (LANTAC) Approval?		Yes Accreditation in progress No
<b>ENVIRONMENTAL</b>	<b>GUIDANCE NOTES</b>	
Q31. Is your system explicitly designed to enable recyclability or reusability of components of your system at end of life? If so, what is your approach	Reusability looks at the continuous use of products for the same function with no modification. Recyclability is the measure of how much of the products materials can be recycled at end of life.	Yes Strategy in development No
Q32. Do you have an Environmental Management System (EMS) for your manufacturing process?	This is a measure of the environmental management system of the manufacturing process adopted within your company.	ISO 14001 Company internal policy None or don't know
Q33. Is your system explicitly designed and specified to have a low embodied carbon footprint?	The amount of CO2 emitted throughout the life of your system, this includes the emissions during	Independent LCA study or EPD certificate Internal company calculations



Provide details of any calculations and measures in this regard.	production, transport, installation, operation and end of life.	No calculations available
Q34. Does your system(s) contain products specified with a high recycled content?	High recycled content in a system means use of recycled materials that have been diverted from landfill.	Yes No Don't know
Q35. Can you demonstrate that 100% of timber and timber-based products used in your system(s) are legal and sustainable as per the UK Government's Timber Procurement Policy	This is a measure of responsible sourcing of timber products used within your system.	Yes No
<b>SOCIAL</b>	<b>GUIDANCE NOTES</b>	
Q36. Is use of your system going to increase the number of local jobs created in the region during construction? If yes, please provide explanation in the comments box	This is to ascertain if your system can have an impact on local supply chains.	Yes No
Q37. How does use of your system increase innovation & partnerships?	This is a measure of what is innovative about your system and what successful partnerships have you established to demonstrate the same.	
Q38. Do you manufacture, supply and assemble your own systems on-site?	This is to ascertain if your system can have an impact on local manufacturing sector.	Yes No
Q39. Where do you manufacture your systems?		
Q40. If not within West of England Combined Authority (WECA) area, are you able to manufacture the systems or parts of it within this region? If yes, please provide details		Yes No





## Appendix C – Feedback on MMC Optioneering Tool

Feedback received has been anonymised and collated in the following document. Different people have been allocated different colours.

where this MMC tool would be used in the development process? In my view, for it to be most useful for DM, it should be used when land has been identified as a possibility for MMC development.

As general comments:

- > It is not very clear if this questionnaire is to do the choice between MMC vs traditional construction route OR if it is to identify potential suppliers for a specific site?
- > How does the tool take into account (in the selection tool) the additional comments/notes from the questionnaire?
- > How do you link the answers entered and the selection of suppliers? (Did you profile each supplier with specific pre-entered criteria?)

¶

Q1. In which neighbourhood/partnership area is the development is going to be built?

- > Is it an allocated site?
- > Is it in a designated area (SNCI, Conservation area, Green Belt...)?
- > City Centre / Suburb?
- > Avonmouth and Kingsweston
- > Henbury and Southmead
- > Henleaze, Stoke Bishop and Westbury-on-Trym
- > Horfield and Lockleaze
- > Greater Fishponds
- > Bishopston
- > Cotham and Redland
- > Cabot, Clifton and Clifton East
- > Ashley, Easton and Lawrence Hill
- > St George
- > Greater Bedminster
- > Filwood, Knowle and Windmill Hill
- > Brislington
- > Dundry View
- > Hengrove and Stockwood

No comment.

¶

Q2. Site name: \_\_\_\_\_



Lowres, Flavia

specifically where a site appraisal has been conducted and the site deemed suitable for housing



Lowres, Flavia

Question needed? Given question on whether allocated site is asked later on



Lowres, Flavia

-is it an allocated site  
-is it in a designated area (SNCI, Conservation area, Green Belt...)  
-City Centre / Suburb?

¶



Q3. Postcode \_\_\_\_\_

No comment.



Q4. Can this site form part of a wider portfolio of housing schemes to potentially increase the delivery scope for MMC?

- → Yes
- → No
- → Don't know

This question also needs to be asked to inform the asset management / Development strategy in terms of the future BCC workbook and business plan development and future budget setting when establishing medium and long term development strategies (5-10 years out). It should also be considered when allocating sites to different delivery agents via the BCC Hopper. (Declan Cooney will have more information regarding this).

Q4. Scale of housing development

- → < 9 dwellings
- → 10-100 dwellings
- → 100+ dwellings

Suggest this needs to be broken down further i.e. 1-10, 10-20, 30-40 etc and linked to unit cost. In my experience MMC Suppliers provide a cost per unit, however this is usually based on a minimum order of 100 units. So for example a supplier may quote £150k / unit, however this may increase dramatically for say 20 units and effect scheme viability.

Q5. Estimated net dwellings per hectare



Q6. Estimated total number of dwellings to be delivered from this scheme per year

Suggest this will be site specific and not operate / Guarantee supply over a number of years. I have worked on previous schemes where a minimum supply is guaranteed over a number of years, then budgets / funding parameters are changed and compensation is then paid to the supplier.



Q7. Is accelerated delivery over traditional build timescales a priority for this project?

- → Yes

**Lowres, Flavie**  
Could tool allow ability to identify small clusters that are matches (think 'MMC dating site', where projects with similar characteristics could be lumped into portfolios?)

**Lowres, Flavie**  
I would break it down to more categories - To reflect the density objectives or site capacity for different size of sites  
This question also inform the client if supplier can cope with certain scale of projects

**Lowres, Flavie**  
Change to "what is the estimated rate of build for this scheme per year?"

**Lowres, Flavie**  
Explanation in tool = This information is to map how many homes the council is expecting to come forward from this site, against the scale of delivery capability by MMC suppliers. An understanding what is possible to be delivered by various MMC suppliers could inform the business case.

**Lowres, Flavie**  
To my mind this question is skewed as it suggest that MMC is always quicker than traditional. I will formulate it this way: would you consider MMC as a way to deliver your project faster?

**Lowres, Flavie**  
Question needed? Accelerating delivery will almost always be desired providing quality not sacrificed, given there's a housing crisis?



•→ No¶

It does need to be recognised that certain timescales are fixed i.e. the need to carry out intrusive surveys, go through the planning process, Governance process, procurement & contract process as well as detailed design review to mention a few. I.e. the project lifecycle needs to be measured as a whole and not just the Implementation phase. MMC is likely to be quicker than traditional construction however other factors need to be considered alongside this i.e. cost, quality, design life, future maintenance and adaptation etc. ¶

Q8. What is the current status of planning permission for this site?¶

- At feasibility stage, no planning approval¶
- Outline Planning¶
- Don't know¶

As discussed at the presentation, the decision on which form of construction to use needs to be considered as early as possible in the design phase and possibly consideration of a high-level construction method strategy, heating and ventilation strategy & viability study needs to be carried out to establish the costs and benefits of a particular method of construction. ¶

Discussion around the choice of MMC should be decided prior to the planning application (RIBA STAGE 0 = Strategic definition or if too early at STAGE 1: Preparation and Brief). MMC needs also to be considered with building regulation in mind too at this stage. ¶

Q9. How would you describe the ease of delivery access via main roads and service roads leading to the site?¶

- Restricted¶
- Unrestricted¶
- Don't know¶

Suggest this question needs to be asked to suppliers differently i.e. what are the dimensions of the smallest delivery vehicle / craneage requirements and minimum road widths that can be used to deliver the suppliers whole units to a specific site. Also probably need to identify and roads with weight restrictions, low bridges in the vicinity of the site. Key consideration if it is not possible to deliver the units then the supplier cannot deliver. ¶

¶

Q10. What is the available site storage to hold MMC systems / components for installation?¶

- Restricted¶
- Unrestricted¶
- Don't know¶

Lowres, Flavie  
Move up¶

Lowres, Flavie  
Suggest change to:¶  
Pre-application¶  
Full application¶  
Application granted¶  
Don't know¶

Lowres, Flavie  
feedback from workshop:¶  
At feasibility stage, no planning approval¶  
allocated in the Local Plan¶  
Outline Planning¶  
Detailed Planning¶  
Don't know/other¶

Lowres, Flavie  
This question needs to inform the developer that the supplier have the right machinery to overcome access issue¶

Lowres, Flavie  
Please consider height, weight, width, craneage requirements, presence of low bridges and overhead lines in the vicinity. If access to the site is restricted, you will need to flag this and ask for more information during discussions with the supplier. ¶

Lowres, Flavie  
I assume whoever is developing site provides security for stored items; but could be MMC provider? Also is secondary question needed regarding whether assembly and/or MMC factories are suitable for site?¶



Suggest this would be the suppliers responsibility to advise method of installation, otherwise this could potentially lead to contractual disputes if BCC agreed an area for storage of MMC components and for some reason it was unavailable. ¶

Q11. What is the proximity of site boundary to adjacent buildings to install MMC systems using cranes? ¶

- <30-m ¶
- >=30-m ¶

Ditto-Q:10 response. ¶

Q12. Are there any specific planning constraints related to site heritage? ¶

- Yes ¶
- No ¶
- Don't know ¶

Suggest probably need to expand on this i.e. listed buildings, conservation areas, TPO's ¶

**POLICY COMPLIANCY AND PLANNING CONSIDERATION ¶**

- This part of the questionnaire needs to give the developer an idea of how the supplier the product's flexibility to address specific site constraints: physical and immaterial. ¶
- Heritage: Not only about heritage and conservation, our policy DM-26 is about the Character and Identity of an area ¶
- Environmental and Sustainable design. ¶
- Space Standards (National space standards) ¶
- The problem here is the question only consider the product as an isolated piece of the project. The potential of the product to create good site layout, quality places to live is missing in this questionnaire. ¶

It would be good to make PLANNING CONTEXT a theme and grouping questions under this title as appropriate. ¶

Where we ask about design flexibility this needs to cover three areas: Aesthetic of the facade, external form (e.g. position of windows and roof form) and internal layout. ¶

¶

Other question recommended for the suppliers: Can the modular units be staggered? (To produce a curve on plan, or to deal with a varying topography?) ¶

¶

Q13. Please describe any other development constraints (eg flooding, soil conditions, demolition). ¶

**Lowres, Flavie**  
 "how would describe the ability of the site to enable craneage?" responses: "unrestricted, restricted, don't know" ¶  
 Add: question refers to nearby structures near site, which could reduce the site ability to have a crane, eg: overhead lines, nearby buildings, access permission to nearby site ¶

**Lowres, Flavie**  
 Combine Q12 and Q13 ¶

**Lowres, Flavie**  
 Not just for heritage areas, but some thinking/work required on how MMC reflects typical built form outside conservation areas (et al) ¶

**Lowres, Flavie**  
 You need a section in your questionnaire about Planning consideration / Planning context ¶

**Lowres, Flavie**  
 Very relevant to development management - move up? ¶

**Lowres, Flavie**  
 This includes questions: Q8, Q12 and Q13 ¶

**Lowres, Flavie**  
 Think it'd be useful to separate these out and link back to forms of construction (e.g. flood risk, whether dwellings suited to ground floor; contaminated sites where certain foundations could be preferable to others; steep topo suiting certain MMC solutions; etc) ¶

# bre

Suggest probably need to expand on this to take into account any environmental constraints i.e. bats, birds, newts, badgers, flora & fauna etc.

¶

---

¶

Q14. Is reduction in neighbourhood impacts from construction noise and dust a priority for this site?

- → Yes
- → No

This is probably a priority for any construction site and although noise from the number of transport movements and construction activity will be reduced, groundworks and installation of foundations will still be required and delivery of MMC components will still need consideration.

¶

Q15. What is the current status of planning permission for this site?

- → At initial internal discussions
- → An outline scheme has been developed, testing for MMC opportunities
- → Writing a development brief and setting out expectations

No Comment.

¶

Q16. How does the Council intend to deliver this development?


- → Council to procure directly
- → Delivery in partnership with commercial developer
- → Either of the above or unsure at this stage


No Comment.


¶


Q17. How does the council see the responsibility for long term ownership and maintenance of dwellings delivered by the scheme?

- → Council to own and manage
- → Council housing delivery company to own and manage
- → Housing Association to own and manage

 **Lowres, Flavia**  
Question needed? This will always be preferable, but difficult to validate or condition compared to standard construction via approvals processes

 **Lowres, Flavia**  
¶ Repeats Q9

 **Lowres, Flavia**  
Does it need to be Council? Could potential users of tool be expanded by just stating "How do you intend...?"

 **Lowres, Flavia**  
Question needed? As unless BCC is developing itself (e.g. HRA) then these responsibilities would pass to developer



- Any of the above or unsure at this stage¶

**No-Comment.**¶

Q18. Is the scheme likely to include homes for sale on the open market or shared ownership homes?¶

- Yes¶
- No¶
- Don't know¶

Generally homes for shared ownership / private sale will include a higher specification in terms of fixtures and fittings, kitchens and bathrooms etc. Does the supplier have capacity to include for different specifications and what is the extra / over cost.¶

¶

Q19. Is delivery of temporary homes with ability for relocation or reuse of structure elsewhere a priority for this scheme?¶

- Yes¶
- No¶

It needs to be established if it is really practical and possible to relocate and re-use these temporary homes and fundamentally what is the cost & time for doing this and what is the impact on the design life. It may end up costing more to dis-mantle and relocate these units than providing new units.¶

**Project-Development-Impact-Priorities**¶

- Economic¶
- Environmental¶
- Build-Quality-&-performance¶
- Social¶

**Other-Considerations-/-Questions-for-MMC-suppliers.**¶

**Future-adaptation:**¶

- Can these units be adapted in the future for tenants with disability needs.¶
- Can these units be extended and what are the structural impacts.¶

¶

**Future-maintenance:**¶

- If for example the units have a design life of 60 years, services renewal may need to be carried out every 25 years and need accessible service ducts to carry this out which means in turn these need to be designed into the unit design.¶



**Lowres, Flavia**

¶  
Question needed? Should this not go into general guidance intro to tool? Or will some MMC providers provide certain solutions others won't¶



**Lowres, Flavia**

¶  
FL: true cost may be higher, but that would be a discussion to be had anyway. We are only asking whether this is a necessity here or not¶

**Lowres, Flavia**

¶



**Lowres, Flavia**

¶  
FL: add question¶  
"is future adaptability an express priority?" eg: for changes in users' mobility?¶  
Yes/no/don't know¶

¶

Q26 of supplier questionnaire to be changed to:¶  
"can the homes be easily adapted to meet changing/future needs? Eg: doors/windows/hoist installation/chair lift/etc"¶  
Yes/no/possibly¶



**Lowres, Flavia**

¶  
FL: add question¶

**Lowres, Flavia**

¶  
Change Q24 to: Do you offer on-going customer support to clients who use your systems regarding repairability, maintenance and modifications, specifically relating to the associated costs and practicalities of repair?¶



### Planning / operation:

- Refuse removal: Generally Bristol waste will not remove any refuse if it is not on an adopted highway. This needs to be considered and consulted at an early stage if the development is not served by an adopted highway. Alternatively an adopted highway may need to be considered which could impact cost & viability.

### Fire Integrity considerations:

- Although MMC suppliers units may achieve building regulation compliance in their own right, consideration needs to be given in relation of their context on site for example it may be that a car park is to be provided beneath the MMC units and additional fire integrity precautions may be required.



- Has consideration been given to Compliance with the Building Regulations and allied legislation: Answer Y/N
- Have you engaged with a Building control team to review layouts and fire safety: Answer Y/N
- Have you engaged with consultants to advise on Structure, thermal, ventilation and energy use, Acoustics and accessibility
- Has the product been subjected to any recognised testing? Answer yes — supplementary Q: By whom and what is the accreditation? If no has the product been used already in a similar circumstance
- Have you considered potential site specifics e.g. developing on brownfield and / or contaminated land sites.



### Scope of work:

- The scope of work needs to be clearly defined i.e. what is the MMC supplier providing and what are other contractors required to deliver and are there any gaps.

### Sustainability:

- Clear requirements for sustainability need to be included in any questionnaire to MMC suppliers i.e. zero carbon, low energy etc.

### Procurement route / conditions of contract:

- Although the above is being considered as a separate workstream the payment structure is different to that of traditional construction whereby a larger % of work will be paid up front and prior to the units being delivered to site which is dealt with

# bre

by vesting certificates and requires the Client to visit the suppliers manufacturing base to confirm the goods completed are those of the Client and for various quality checks to be carried out.

- Any Contract needs to include the requirement for a professional services element and depending on the procurement route taken needs to be on a full design & build basis.
- Some type of Indemnity Insurance may also need to be taken out by the Client to protect their interests.
- BIM (Building information modelling) Requirements: Level 2 BIM is required on all BCC projects albeit BCC have no process or BIM specifications in place, however should be included within the contract requirements. This has particular benefits in terms of design review, future planned & preventative maintenance and any future relocation of the units.
- Depending on the size of the modular supplier a detailed financial credit report will be needed to assess the liquidity of the company prior to entering into any contract. This information could be requested as part of the entry requirements onto any MMC approved list.
- Warranties need to be included and an accredited scheme in place i.e. BOPAS (Build Off-site property assurance scheme) ensures mortgageability for MMC suppliers to at least 60 years and Q assure warranty conditions

¶  
Suggest to add a section in your supplier questionnaire:

## DESIGN FLEXIBILITY/QUALITY:

- First and MOST IMPORTANT QUESTION: What type of MMC your company provide: Floor module, House module, Panel system, Frame system...
- Constitution of a Design team: Has the supplier has an in-house Architect / Urban Designer, How they compose their design team: Architect / Structural Engineer / M&E
- How much flexibility your product allow?: Alterations during Design / Alteration during production / Alteration during implementation on-site / Occupant alterations
- Compliance with NDSS standards
- Ability to accommodate Building Regs Part M(2) & Part M(3) requirements - Accessibility
- Floor ceiling range possibilities
- Ability to re-hand floorplan templates
- Ability to achieve living rooms at the front of the building or open plan ground floor arrangements
- Position of stairwell / vertical circulation core
- Ability to create dual aspect units (where apartments)
- Potential to alter size and proportion of window openings
- Ability to accommodate windows to flank elevations
- Potential to clad external elevations with a variety of traditional and contemporary materials
- Question about the thermal performance, airtightness and general environmental performance of the product.