



Integrated Urban Drainage Modelling Guide

Appendix B

Project Definition Proforma

1. Summary

Section A3 of the modelling guide explains the importance of Project Definition and the areas that should be considered at this stage of a modelling project. This form / checklist is provided as a possible method for documenting the decisions made during the Project Definition stage which are likely to evolve in the technical approach for the modelling.

Space has been allowed for the user of this guide to provide responses to the checks. Ideally most of the answers to the checks would be 'Yes' to help plan a successful study. Where responses are 'No' this may highlight potential causes for concern with the project definition and may require additional input from the Project Steering Group. Some responses to the checks are simply to provide names, numbers etc, to help you check that you have considered all aspects of the project. Some responses require a descriptive answer, this will help provide a narrative for the project. Additional detail can be added to this form / checklist by adjusting the format of the table to best suit your project, but it is recommended that the main header questions (in bold) are retained, however the format is modified.

CIWEM UDG Integrated Urban Drainage Modelling Guide
Appendix B – Project Definition Checklist

Partners & Stakeholders		
1. Have all stakeholders and partners been identified, informed and/or consulted about their role in the project?	Yes	No
2. Has a Project Steering Group been formed, including representatives from all Partners and Key Stakeholders?	Yes	No
3. Has a stakeholder engagement plan been developed, with a clear implementation plan? One way of setting up a stakeholder engagement plan is to use a RACI format and for each stage of project classify stakeholders into four categories: Responsible, Accountable, Consulted or Informed?	Yes	No
4. Is there a common agreement of the project scope by all involved i.e. no residual questions / disagreements?	Yes	No
5. Has your project team worked with the partners and stakeholders to define the project scope? List the Partners and Stakeholders who have been consulted to help define scope.	Name:	Role:
6. Does the scope clearly identify the need(s) or issue(s) to be resolved by the project? List the issues and what aspect of the project will address the needs.	Issue identified:	Scope item:
7. Have you identified suitably qualified and experienced modelling personnel? List who they are and what their role will be in the project.	List personnel and their roles.	
8. Are resources to be used / anticipated team size defined?	List Resources/team members (and estimate of effort required as FTE)	
9. Is your project scope understood by all users? Have you received confirmation that it has been understood?	Yes	No
10. Have all signed-off their agreement to the project scope statement?	Yes	No

Purpose and Drivers of the Project

11. What is the initial understanding of the problem(s)?

Describe the issues.

Consider:

- flood mechanisms and interactions between different urban drainage systems;
- whether there is a pluvial (surface water) runoff element in the flooding mechanism;
- scale of the flooding (e.g. localised, town-wide or river catchment wide);
- frequency of the flooding;
- consequence of the flooding (e.g. degree of nuisance, cost).

12. Describe the proposed purpose and final use of the model?

13. Describe why is IUD modelling required to meet the purpose of this project?

Can the required outcomes of the study be achieved with a simpler model approach?

Which interactions between systems need to be represented, and is this then justification for an IUD model?

14. What information / output is required from the model to meet its primary purpose?

15. What model concept type is proposed for this study?

(See [Section A2](#) for definitions of types #A, #B, #C and #D)
Consider areas of the model which may require more detail to understand flooding mechanisms.

Has a model schematic plan been prepared?

16. What level of confidence is required in the model outputs? Does this vary across the study area / model extent? If so, describe how this may impact the study.

Technical Approach / Strategy

17. What existing models are available for the catchment and what is the outcome of an initial review into their suitability for use in this project?

18. What calibration / verification data is available for the catchment? (Include time series data and flood history

records). What are the acceptance criteria for calibration and verification?	
<p>19. What other data is available and has been used to inform this technical approach?</p> <ul style="list-style-type: none"> Review Sections B1 and B2 of the Guide. Is a further data review / gap analysis period needed? 	
<p>20. What kind of modelling is required – 1D,2D or 1D-2D?</p>	
<p>21. What hydrological approach will be applied?</p> <ul style="list-style-type: none"> Include consideration of the application of combined events and joint probability) Consider different hydrological approaches concerning critical storms for rivers and drainage systems. Has representation of tidal influences been agreed as part of the scope? Have climate change parameters been agreed by stakeholders? Does this follow the latest published guidance? 	
<p>22. What hydraulic approaches will be taken?</p>	
<p>23. Is the application of Population Growth and Urban Creep required to assess future changes in the catchment?</p>	
<p>24. What software will be used for the integrated model and why has this been selected?</p>	
<p>25. How will existing data (models, survey or other) be incorporated in to the modelling?</p>	
<p>26. What new data is needed for the proposed model? (Including survey)</p> <ul style="list-style-type: none"> Review Sections B1 and B2 of the Guide. Consider if there is any additional pertinent data you require for the proposed model 	
<p>27. What is the intended programme for the modelling study?</p> <ul style="list-style-type: none"> Consider time scales of all parts of the project, including collecting data requirements (such as flow surveys) which may require considerable time to collect. 	
<p>28. What audit process will be applied to the model? (Roles and responsibilities)</p>	
<p>29. What outputs and deliverables are required? Consider:</p> <ul style="list-style-type: none"> What probability events need to be modelled? What format outputs are required? (Tabular, GIS, maps) What scenarios need modelling? (e.g. blockage) 	

<ul style="list-style-type: none"> Has the format of metadata been agreed? (Model logs, GIS metadata) 		
Scope – final checks		
1. Does the scope clearly state the agreed outcome(s), objective(s), or deliverable(s)? List what they are.	Outcomes:	
	Objectives:	
	Deliverables:	
2. Has your scope been quantified wherever possible?	Yes	No
3. Does your scope statement clearly list what is included within the project and specify the project and model boundaries? List these inclusions and create a map showing hydrological boundary, model boundary and study boundary.	List inclusions:	
	Boundary Map:	
4. Does your scope statement list what is specifically excluded from the project? List these exclusions.	List exclusions:	
5. Have your scope assumptions been documented? List these assumptions.	List assumptions:	
6. Has your scope definition been checked / verified / approved?	Yes	No
Contractual		
1. Do users / stakeholders understand 'scope management' and the potential problems caused by scope creep?	Yes	No
2. Do you have a formal process for managing scope changes, which the Client and modelling provider understand and will use?	Yes	No

3. Do you have an agreed process for dealing with areas / items which you are unsure whether they are included or excluded?	Yes	No
4. Have Intellectual Property Rights of the input data, modelling, model outputs and deliverables been agreed?	Yes	No
5. Have data sharing agreements been set up between the Stakeholders and Partners?	Yes	No
and afterwards...		
1. Who will retain a copy of the model and how will updates be controlled?		
2. Who will be custodian of the final model?		
3. Will the model be maintained and if so by whom, at what intervals and how will it be funded?		
4. Who will have access to the model?		
5. Will the model be made available to external third parties?		