

# Design Assessment Checklists for Geocellular/Sub-surface Storage Systems/Multiple Property Soakaways

## Objectives

This checklist can be used by the organisation approving the drainage scheme (drainage approving body) to help assess submissions for drainage approval.

This checklist is aimed at providing a consistent assessment process and ensuring that designs meet the key design requirements set out in the SuDS Manual (CIRIA C697). The design guidance in the Manual provides details that support the implementation of this checklist so that designs and compliance assessment can be delivered effectively.

**Appropriate page references are provided in the checklist.**

This checklist should form part of a suite of documents required for a submission for drainage approval, including (but not limited to):

- A Scheme Design Assessment;
- Detailed Infiltration Assessment (where infiltration components are proposed);
- A Scheme Health and Safety Risk Assessment (if required);
- A Scheme Construction Method Statement;
- A Scheme Maintenance Plan.

It can be used as a checklist by organisations responsible for the approval and adoption of SuDS to support their assessment of schemes, or it can be used as part of the required submissions from the developer. It can also help designers ensure that they have provided all relevant information to the drainage approving body in their submissions for approval.

The checklist can be used for a single system or groups of systems with the same characteristics.

**Table 2 Design Assessment Checklist: Geocellular Storage/ Multiple Property Soakaway**

GENERAL INFORMATION			
Site ID			
Asset ID(s)			
System location(s) and co-ordinates		Drawing Reference(s)	
Date of assessment		Specification Reference(s)	
Primary function(s) of system	Conveyance / Attenuation / Infiltration / Treatment		

Check	DtCR	Summary details (See Note)	Acceptable (Y/N)	Comments/ Remedial actions
<b>DIMENSIONS (SuDS Manual Ref.)</b>				
Length (m)				
Width (m)				
Depth to base – maximum and minimum (m)				
Depth of cover over top of system – maximum and minimum (m)				
Longitudinal base slope (1 in ?)				
<b>INFLOWS (SuDS Manual Ref.)</b>				
Provide a description of the contributing catchment land use and its size (m <sup>2</sup> ).				
Does the design include suitable silt interception upstream of system?				
Does the design include suitable inlet and/or conveyance system to manage design flows – provide flow rate of water through side of crates, through perforated pipes or similar?				
<b>OUTFALL ARRANGEMENTS (SuDS Manual Ref.)</b>				
Provide details of any flow control systems, overflow arrangements, drain down time and limiting discharge rate from system.				
Is the system designed to allow infiltration? If yes, attach Infiltration Assessment				
Is a geomembrane required to prevent infiltration? If yes, give reason.				
Depth to maximum likely groundwater level (m)				

Check	DtCR	Summary details (See Note)	Acceptable (Y/N)	Comments/ Remedial actions
<b>STORAGE (SuDS Manual Ref.)</b>				
Design return period(s) (years)				
Maximum design water depth(s) and level(s)				
Maximum design storage volume(s) (m <sup>3</sup> ) (include total system volume, void ratio and available volume)				
<b>STRUCTURAL (SuDS Manual Ref.)</b>				
Confirm type of unit or structure to be used.				
Confirm assumed traffic or other design loadings used in design plus short term and long term performance.				
Confirm that calculations are provided to demonstrate acceptable structural capacity over the proposed system design life that are approved by a Chartered Engineer				
Confirm that design and construction checklists, project roles and sign off, designer evaluation form and product evaluation form in accordance with CIRIA RP962 have been provided.				
Are there any unusual geotechnical risks? If yes, state and confirm acceptable risk management measures are proposed.				
Has sufficient venting been provided to allow excess air pressure to be released when tank fills?				
<b>CRITICAL MATERIALS/ PRODUCT SPECIFICATIONS</b>				
Geomembrane				
Geotextile (non-woven)				
Topsoil				
Other (including proprietary systems):				
<b>CONSTRUCTABILITY (SuDS Manual Ref.)</b>				
Are there any identifiable construction risks?				

Check	DtCR	Summary details (See Note)	Acceptable (Y/N)	Comments/ Remedial actions
If yes, state and confirm acceptable risk management measures are proposed.				
<b>MAINTAINABILITY (SuDS Manual Ref.)</b>				
Confirm that access for maintenance is acceptable and summarise details.				
Are there specific features that are likely to pose maintenance difficulties? If yes, identify mitigation measures required.				
<b>SYSTEM DESIGN ACCEPTABILITY (SuDS Manual Ref.)</b>		<b>Summary details including any changes required</b>	<b>Acceptable (Y/N)</b>	<b>Date changes made</b>
Acceptable: Minor changes required: Major changes required / re-design:				

Note: Input range if applied to > 1 system. If there is a DtCR (as indicated) confirm whether or not this is met and provide details of any variations.