

Lineside Way, Wick, Littlehampton, BN17 7EH

Reference: [R0828] -Rev - V2

nov-25

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Rev 1 Produced by: ARD 079 721 44579

Lineside Way, Wick, Littlehampton, BN17 7EH

Reference: [R0828] -Rev - V2

Report Limitations

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Oxford Innospace, Old Music Hall, 106-108 Cowley Road, Oxford, OX4 1JE
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Drainage Strategy

Purpose of this report

- 1.1 The purpose of this statement is to accompany the technical drawings and details showing the proposed Surface Water drainage system as part of the planning application for this development.

Scope

- 1.2 This Sustainable Drainage Strategy (SDS) outlines the key drainage principles and requirements for the proposed development at Lineside Way, Wick, Littlehampton, BN17 7EH. It provides a summary of the sustainable drainage system (SuDS) design, based on the specific site conditions and relevant guidelines, including Building Regulations Approved Document Part H and CIRIA C753: The SuDS Manual 2015. As the project progresses and new information becomes available, this strategy will be updated to reflect ongoing changes and the development of the detailed design.

Site Characteristics

- 2.1 The site background is clearly identified through answers to the questions in table 1 below.

Table 1: Site Characteristics . See appendix B for support documentation

TOPIC	QUESTION	ANSWER
Protected species or habitat	Is the site near to designated sites and priority habitats?	No
Flood Plain	Is the site located in the flood plain?	Yes
Soils and Geology	Soil permeability? - See appendix B for results	No
Space constraints	Space for SuDS components?	Yes
Topography	Sited on a flat site?	Yes
	Sited on a steep slope (5-15%)	No
	Sited on a very steep slope (>15%)	No
Groundwater	Is the site at groundwater flood risk?	No
Contaminated land	Are there contaminated soils on site?	Unknown
Source Protection Zone	Is the site within a SPZ 3?	No
Runoff characteristics	Is the development in a high risk flooding area?	No

Existing and Proposed Site

- 2.2 The distribution of catchment areas for existing and proposed site is as per table 2 below. See appendix A for details

Table 2 : Existing and Proposed catchment areas in hectares

Description	Existing Site	Proposed Site
Impermeable Areas	0.025	0.025
Permeable Areas	Connected to Drainage	0.000
	Self Draining Areas	0.000
Areas Draining Away from drainage System	0.000	0.000
Total Development Area	0.025	0.025

- 2.3 It has been assumed that the positively drained areas will have different runoff coefficients depending on the type of surface as follow:

Impermeable Surface	1.0
Permeable Surfaces	0.5
Grass Areas	0.3

Evaluation of Discharge Point

- 3.1 The SuDS design takes into account Building Regulations Section H3 and the National Planning Practice Guidance. The aim is to discharge surface water run-off as high up the drainage hierarchy, as reasonably practicable:

1. into the ground (infiltration);
2. to a surface water body;
3. to a surface water sewer, highway drain, or another drainage system;
4. to a combined sewer.

- 3.2 The discharge point has been evaluated following the NPPG and Building regulations. The findings are in table 3 below.

Table 3: Drainage Hierarchy evaluation

Superficial geology classification	The British Geological Society records show that the superficial deposits are Raised Beach Deposits - Sand and Gravel .
Bedrock geology classification	The British Geological Society records of the site show that it is located within the Lewis Nodular Chalk formation.
Landis Top Soil Infiltration	The SOILSCAPE's records of the site show that it is located within an area of naturally wet soils.
Groundwater	The British Geological Survey's flood risk susceptibility maps show that the development has potential for groundwater flooding below ground level. Groundwater levels would tend to vary seasonally and are influenced by ground and meteorological conditions and proximity to water features.
Is infiltration feasible?	Infiltration is not possible on this site due to findings on groundwater and soils
Is a discharge to a watercourse feasible?	There is no watercourse near the site.
Is a discharge to a surface water sewer feasible?	There is a surface water sewer in the proximity to the site. It is possible to connect to the surface water sewer, and it is proposed to discharge into this surface water sewer.
Is a discharge to a combined sewer feasible?	There is no combined water sewer in the proximity to the site.

Existing and Proposed Peak Run-off Calculations

- 4.1 The current site is a Brownfield. The peak runoff rate for the existing site was calculated as per table 4 and discharge rates as per table 5.

Table 4: Peak run-off rate calculation method for existing site

Method Used	Calculation Method
☐	Report 124 Flood Estimation for Small Catchments method has been used to estimate the site peak flow rates
☒	This is a brownfield site, runoff rates are calculated in accordance with best practice simulation modelling and using the modified rational method
☐	This is a brownfield site where the pre-development drainage isn't known. The runoff rates are calculated using the Greenfield model with soil type 5

- 4.2 The runoff flow produced by the development will be controlled as per table 5.

Table 5: Runoff discharge rate control

Control Used	Description of runoff discharge
☐	Water will be discharged into the ground via a SuDS as described in table 6 below
☐	The peak discharge rate has been reduced to Greenfield Qbar flow
☒	The peak discharge rate has been taken as 0.7 l/s as it is not possible to reduce it to the Greenfield Qbar rate
☐	The peak discharge rate has been reduced to Brownfield pre-development 1 in 1 flow
☐	The peak discharge rate has been reduced by 60% from the existing Brownfield pre-development 1 in 2 flow rate

Run-off flows

- 4.3 The size of the SuDS has been calculated for all events up to the 1 in 100 including an allowance for climate change of 45%. As per tables above, it is proposed to discharge at a rate of 0.7 l/s. See table 6 for values and appendix C for calculations.

Table 6: Peak discharge rates for SuDS

Return Period Event	Discharge Rate (l/s)			Infiltration Rate (m/hr)
	Existing Greenfield	Existing Brownfield	Proposed	
Qbar	0.00	N/A	N/A	0.0000
1 in 1	0.00	N/A	0.7	0.0000
1 in 2	0.00	0.50	0.7	0.0000
1 in 30	0.10	1.20	0.7	0.0000
1 in 30 + CC	N/A	N/A	0.7	0.0000
1 in 100	0.10	1.50	0.7	0.0000
1 in 100 + CC	N/A	N/A	0.7	0.0000

Proposed Sustainable Drainage System

5.1 The following sustainable drainage systems have been used for this site. The drainage design uses these drainage system through out the site. See table 7 for details.

Table 7: Evaluation of SuDS and Proposed Drainage System

<i>Most Sustainable</i>	SuDS Technique	Feasible	Proposed	Flood Reduction	Pollution Reduction	Landscape & Wildlife Benefit
	Living Roofs					
	Green Roof	No	No	X	X	X
	Green Blue Roof	No	No	X	X	X
	Basins and Ponds			X	X	X
	Rainwater Gardens	No	No	X	X	X
	Rainwater Planters	Yes	Yes	X	X	X
	Constructed Wetlands	No	No	X	X	X
	Balancing Pond	No	No	X	X	X
	Detention Basins	No	No	X	X	X
	Retention Ponds	No	No	X	X	X
	Filters and Swales					
	Filter Strips	No	No	X	X	X
	Swales	No	No	X	X	X
	Infiltration Devices					
	Soakaways Crates	No	No	X	X	X
	Deep Boreholes	No	No	X	X	X
	Infiltration Trenches	No	No	X	X	X
	Infiltration Basin	No	No	X	X	X
	Permeable Surfaces			X	X	
	Permeable Surfaces	No	No	X	X	
	Filter Drains	No	No	X	X	
	Tanked System					
	Storage Crates	Yes	Yes	X		
	Oversized Tanks	No	No	X		
	Oversized Pipes	No	No	X		
	Blue Roof	No	No	X		
<i>Least Sustainable</i>	Water Harvesting	No	No	X		

- 5.2 The location and details of the SuDS can be seen drainage layouts in appendix D. Calculations are in appendix C.
- 5.3 The drainage calculations demonstrate:
 - No flooding occurs for the 1 in 30 storm events.
 - Any flooding for the 1 in 100 year + 45% climate change event can be safely contained on site
- 5.4 The proposed drainage strategy presents one possible solution to demonstrate that the development can be sustainably drained, to comply with the requirements of the NPPF. Other solutions may be feasible and may prove to be better suited to the site. These will become apparent during the detailed design stage. The strategy above should not therefore be interpreted as the definitive scheme solution.

Management of Exceedance Flows

- 5.5 The drainage network has been designed to attenuate surface runoff for all events up to and including the 1% AEP + CC(1 in 100 years). However consideration has been given to what may happen when the design capacity of the surface water drainage network is exceeded. Surface water will flow to the lowest points within the site. The flood risk to the buildings would therefore remain low. See appendix D.

Maintenance and Management plan responsibility

6.1 The SuDS will be maintained by The Owner the property

Maintenance and Management plan for proposed SuDS

6.2 The maintenance and Management Plan Guidance from the SuDS Manual, CIRIA C753 (CIRIA, 2015) is to be followed for the effective maintenance of the proposed SuDS techniques outlined above. The maintenance for SuDS structures are as follow:

INLETS, OUTLETS, CONTROLS AND INSPECTION CHAMBERS	
Regular Maintenance	Frequency
Inlets, outlets and surface control structures	
Inspect surface structures removing obstructions and silt as necessary. Check there is no physical damage.	Monthly
Strim vegetation 1m min. surround to structures and keep hard aprons free from silt and debris	Monthly
Inspection chambers and below ground control chambers	
Remove cover and inspect ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt.	Annually
Undertake inspection after leaf fall in autumn	
Occasional Maintenance	
Check topsoil levels are 20mm above edges of baskets and chambers to avoid mower damage	As necessary
Remedial work	Frequency
Unpack stone in basket features and unblock or repair and repack stone as design detail as necessary.	As required
Repair physical damage if necessary.	As required

Operation and maintenance requirements for attenuation storage tanks

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

Appendix A



**EXISTING
SITE
1:250**



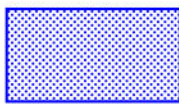
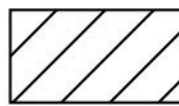
**PROPOSED
SITE
1:250**

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Drawing Scale Bar		Drawing Scale Bar	
Drawing scale	Line length	Drawing scale	Line length
1:5	= 0.25 metres	1:200	= 10.0 metres
1:10	= 0.5 metres	1:250	= 12.5 metres
1:20	= 1.0 metres	1:500	= 25.0 metres
1:25	= 1.25 metres	1:1000	= 50.0 metres
1:50	= 2.5 metres	1:1250	= 62.5 metres
1:100	= 5.0 metres	1:2500	= 125 metres
Measure length of line above for checking of scale			

GENERAL NOTES

KEY

-  PERMEABLE AREAS
-  IMPERMEABLE AREAS
-  STUDY AREA

Rev	Details	Date	By	Chd

Drawing Status: **PRELIMINARY**



4 Bean Acre Road, Hook Norton, Banbury, Oxfordshire
e: info@rida-reports.co.uk
t: 01608 510 121
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Project: **Lineside Way, Wick, Littlehampton, BN17 7EH**

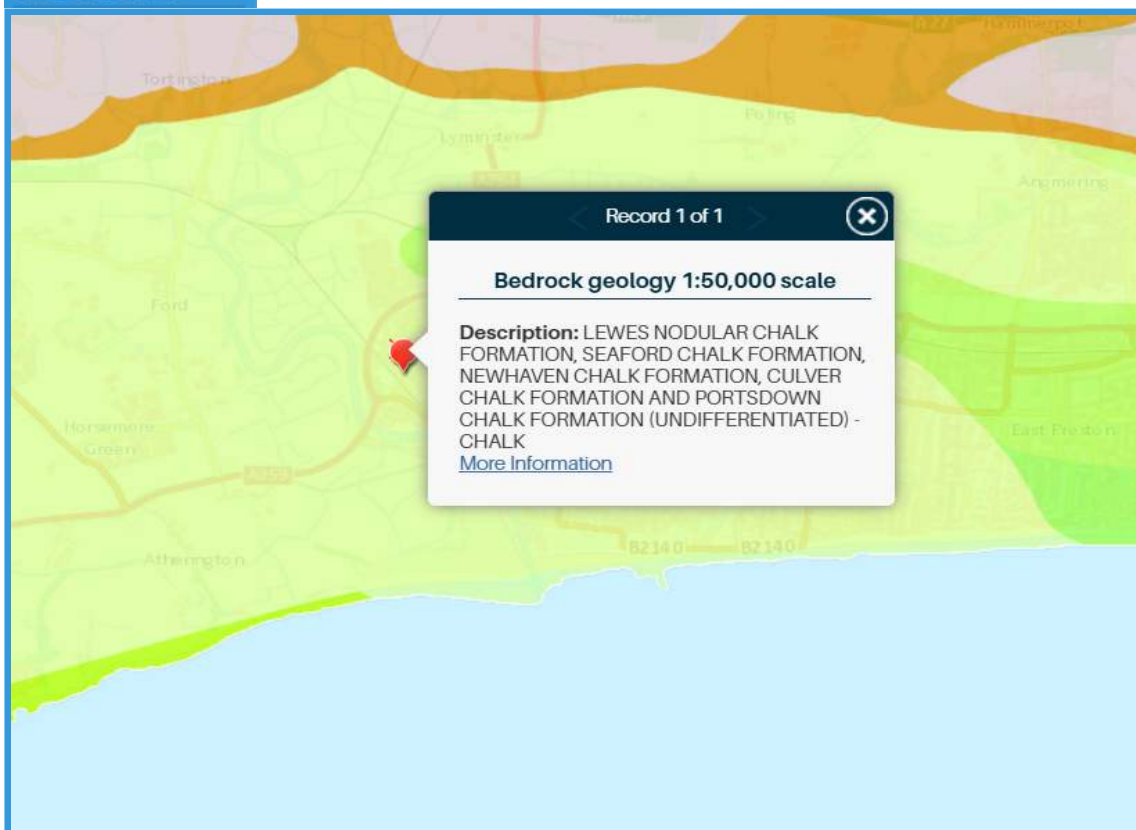
Drawing: **Existing and Proposed Areas
Permeable and Impermeable**

Print Size:	Project No:	Drawing No:	Revision:
A1	[R0828]	002	P1

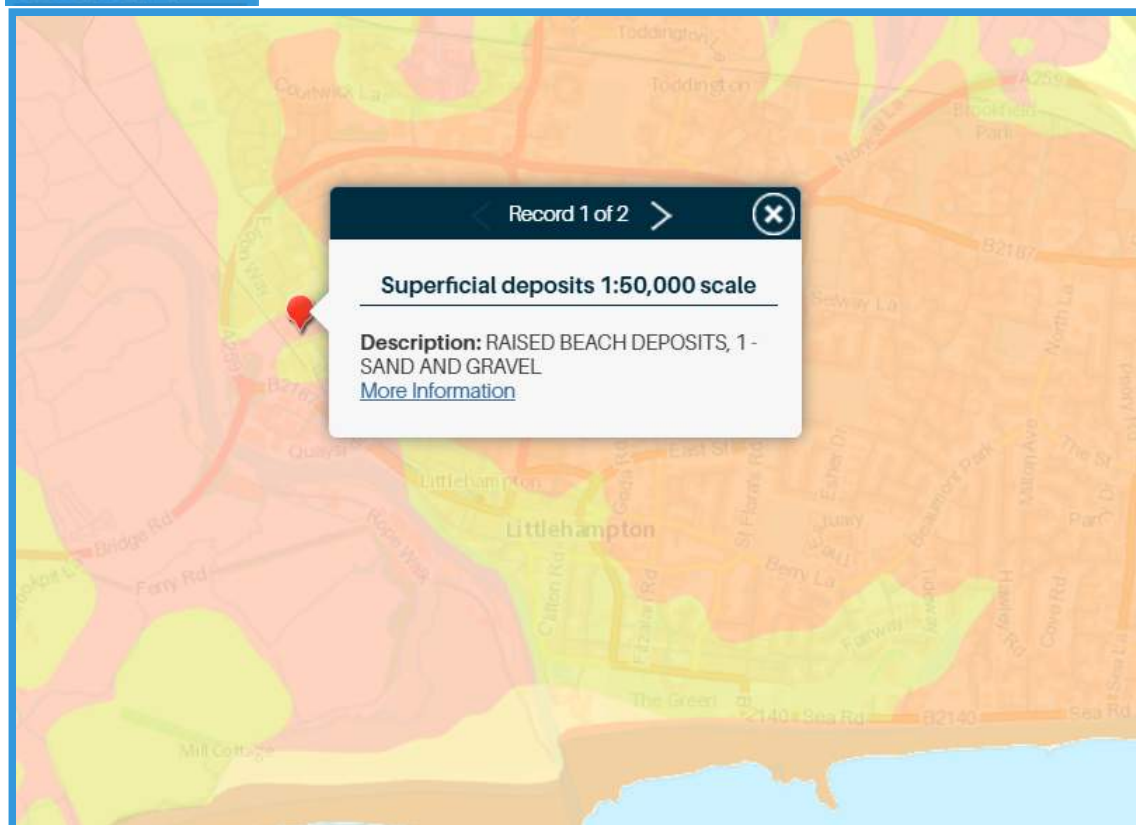
Appendix B



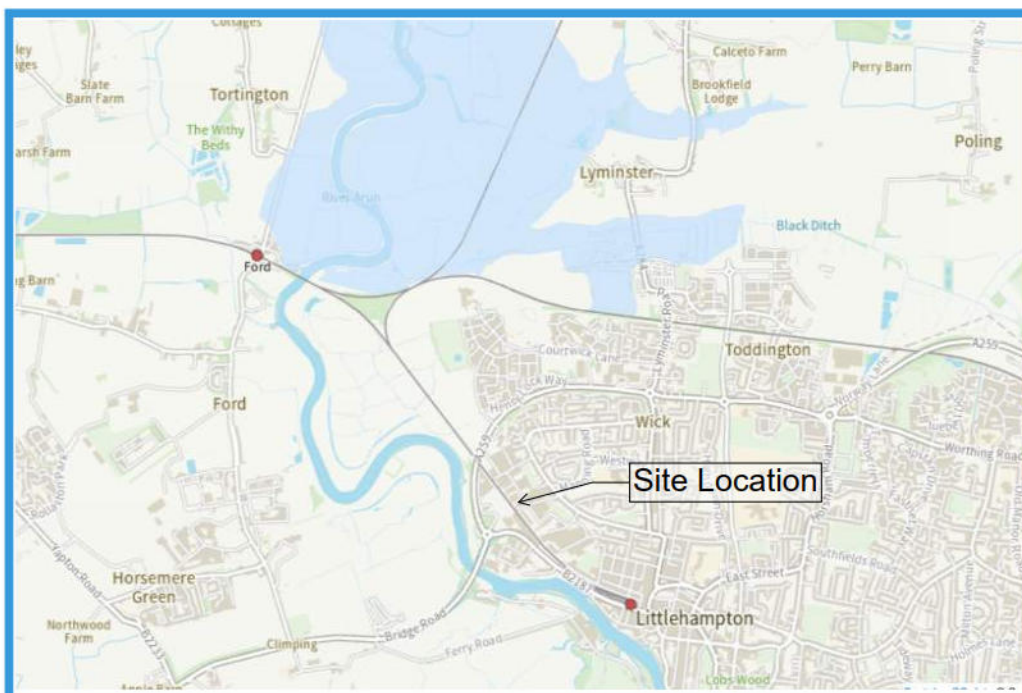
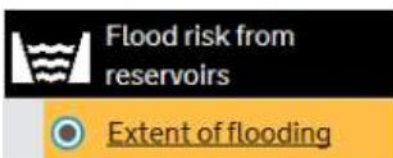
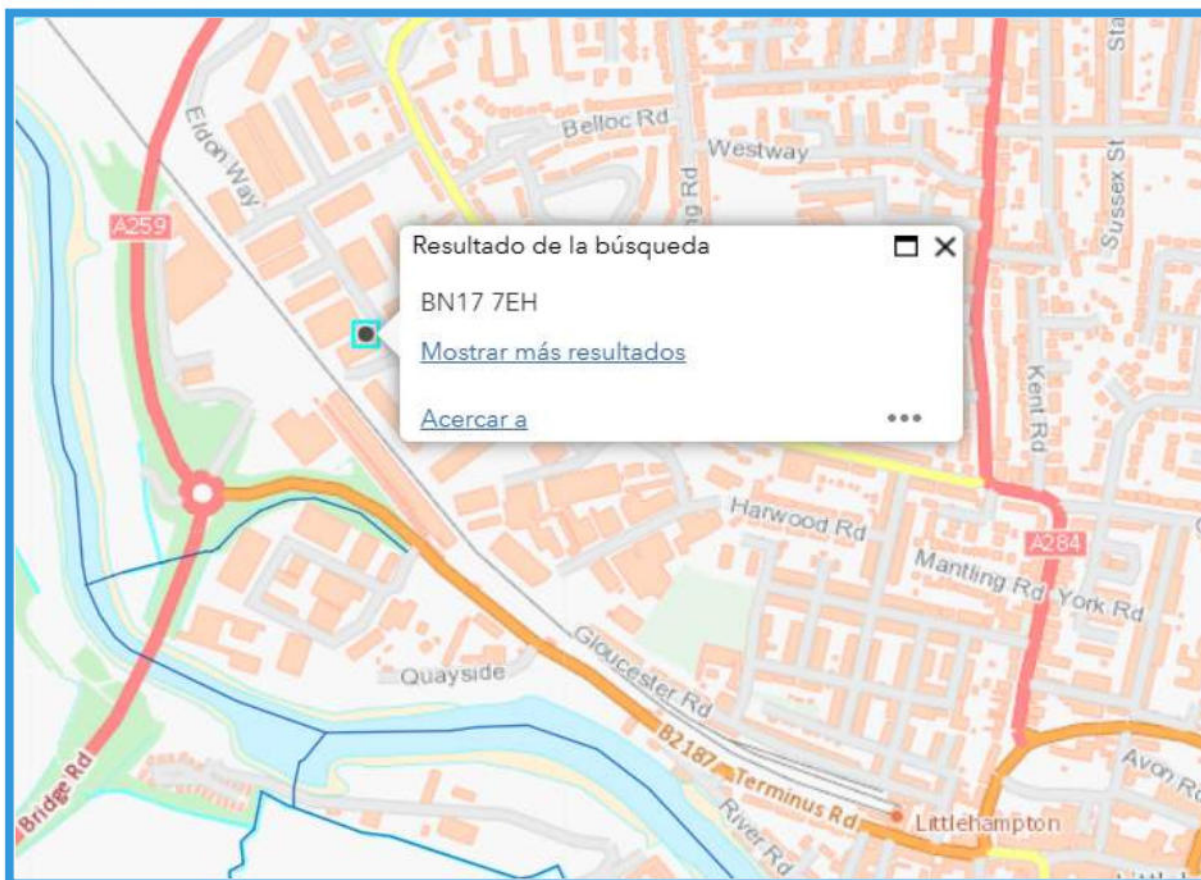
GEOLOGY - BEDROCK - LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION



GEOLOGY - SUPERFICIAL DEPOSITS - Raised Beach Deposits - Sand and Gravel



Main River Map



- When river levels are normal
- When there is also flooding from rivers

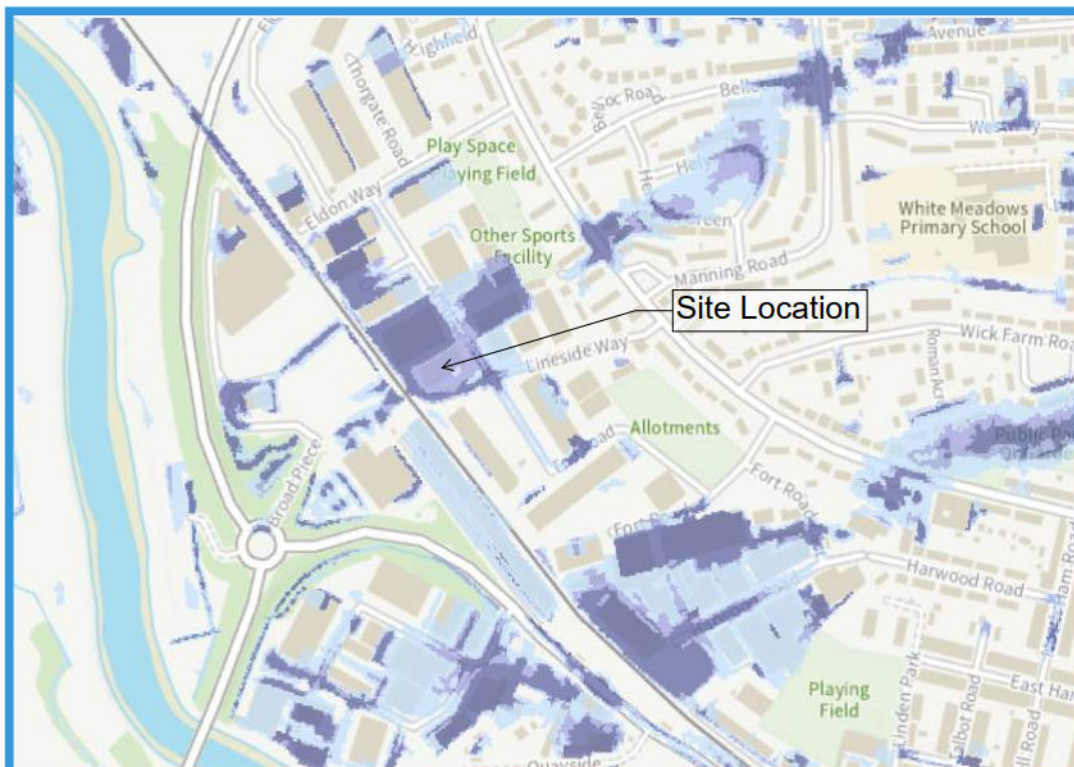
SITE SURFACE WATER FLOOD RISK

High risk means a chance of flooding greater than 3.3% (1:30)

Medium risk means a chance of flooding of btw 1% (1:100) and 3.3%

Low risk means a chance of flooding of btw 0.1% (1:1000) and 1%

Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding



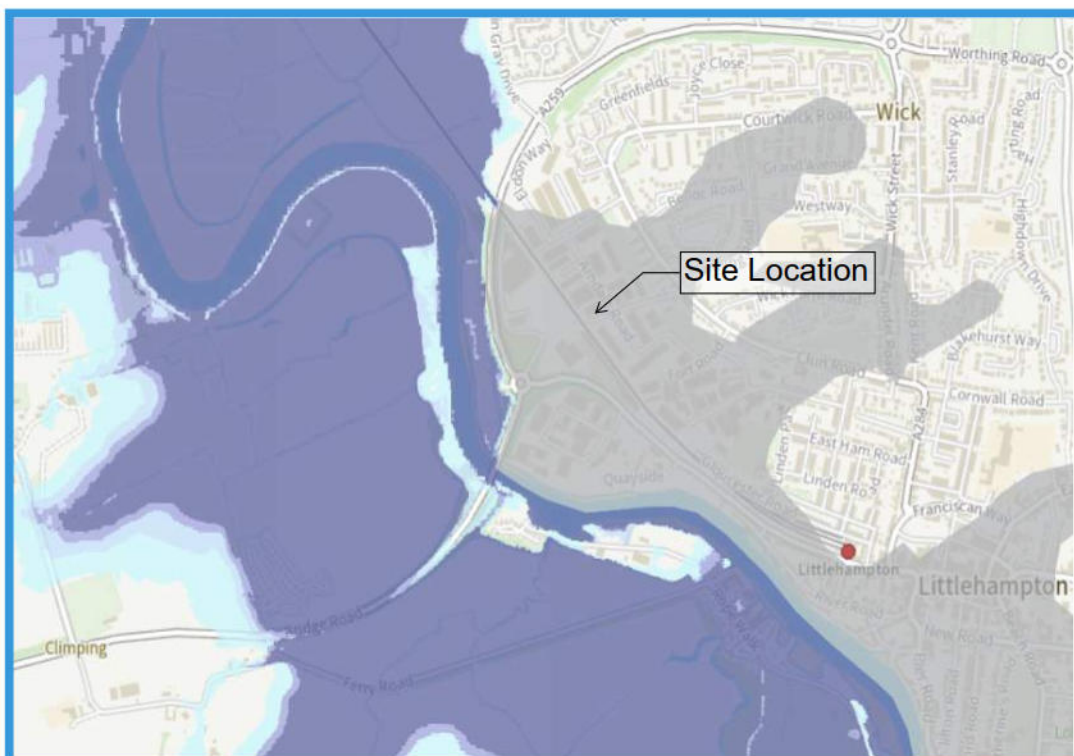
- High - greater than or equal to 1 in 30 (3.3%) chance of flooding in any year
- Medium - Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year
- Low - Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year
- Very low - less than 1 in 1000 (0.1%) chance of flooding in any given year



Yearly chance of flooding

● Flood area (extent)

- High chance
- Medium chance
- Low chance
- Very low chance



Yearly chance of flooding between 2036 and 2069

● Flood area (extent)

- High chance
- Medium chance
- Low chance
- Very low chance
- No data available

MAGIC RESULTS



Site Check Results

Site Check Report generated on Thu Apr 03 2025

The following features have been found in your search area:

You selected the location: Centroid Grid Ref: TQ01830277

Aquifer Designation Map (Superficial Drift) (England)

TPOLOGY Secondary A

Aquifer Designation Map (Bedrock) (England)

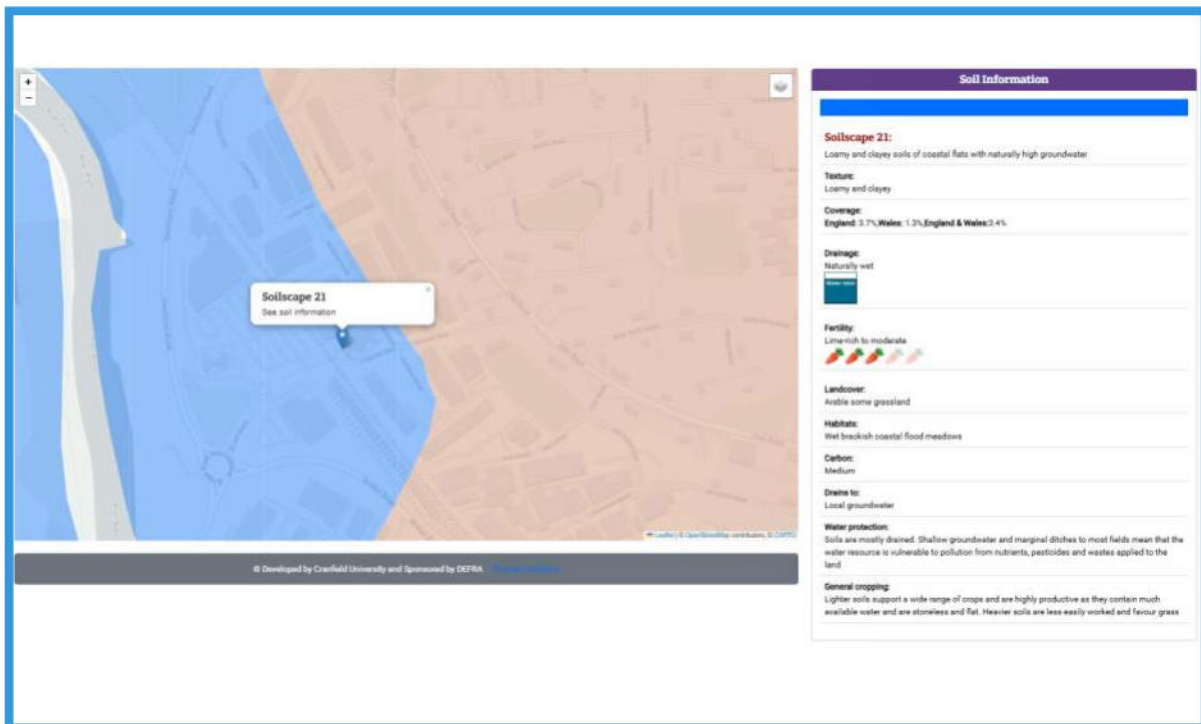
TPOLOGY Principal

Source Protection Zones merged (England)

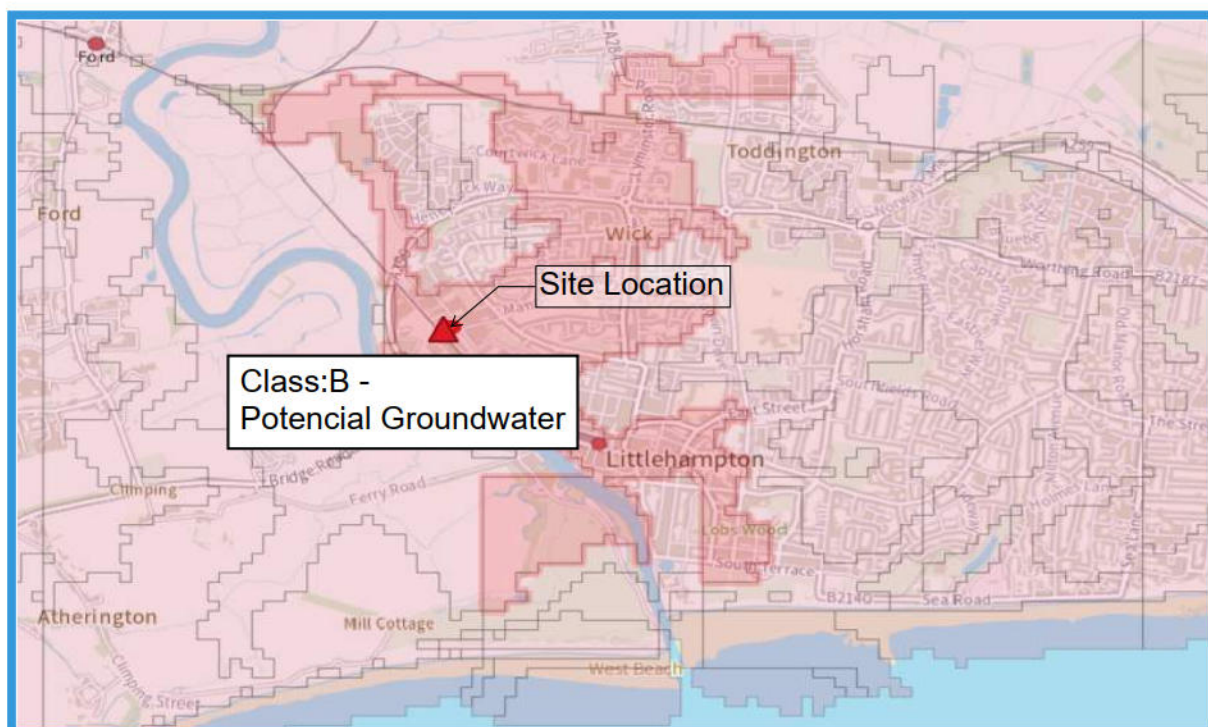
No Features found

[Export to CSV](#)

[Print](#)



GROUND WATER FLOOD RISK



Site Check Report generated on Thu Apr 03 2025

You selected the location: Centroid Grid Ref: TQ01830277

Aquifer Designation Map (Superficial Drift) (England)

TPOLOGY

Secondary A

Aquifer Designation Map (Bedrock) (England)

TPOLOGY

Principal

Source Protection Zones merged (England)

No Features found

Nutrient Neutrality Catchments

No Features found

Wild Bird General Licence Protected Sites Condition Zone (England)

No Features found

Nitrate Vulnerable Zones 2017 Designations (England)

No Features found

Less Favoured Areas (England)

No Features found

Biosphere Reserves (England)

No Features found

Biosphere Reserves (England) - points

No Features found

Potential Special Protection Areas (England)

No Features found

Potential Special Protection Areas (England) - points

No Features found

Special Protection Areas (England)

No Features found

Special Protection Areas (England) - points

No Features found

Possible Special Areas of Conservation (England)

No Features found

Possible Special Areas of Conservation (England) - points

No Features found

Special Areas of Conservation (England)

No Features found

Special Areas of Conservation (England) - points

No Features found

SSSI Impact Risk Zones - for LPAs to determine likely impacts on terrestrial SSSIs and when to consult Natural England

No Features found

Sites of Special Scientific Interest (England)

No Features found

Sites of Special Scientific Interest (England) - points

No Features found

Sites of Special Scientific Interest Units (England)

No Features found

Sites of Special Scientific Interest Units (England) - points

No Features found

Proposed Ramsar Sites (England)

No Features found

Proposed Ramsar Sites (England) - points

No Features found

Ramsar Sites (England)

No Features found
Ramsar Sites (England) - points
No Features found
National Parks (England)
No Features found
National Nature Reserves (England)
No Features found
National Nature Reserves (England) - points
No Features found
Moorland Line (England)
No Features found
Local Nature Reserves (England)
No Features found
Local Nature Reserves (England) - points
No Features found
Limestone Pavement Orders (England)
No Features found
Areas of Outstanding Natural Beauty (England)
No Features found

Flood map for planning

Your reference
R0828

Location (easting/northing)
501848/102780

Created
7 April 2025 17:13

Your selected location is in flood zone 3, an area with a high probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see <https://www.gov.uk/guidance/flood-risk-assessment-standing-advice>)

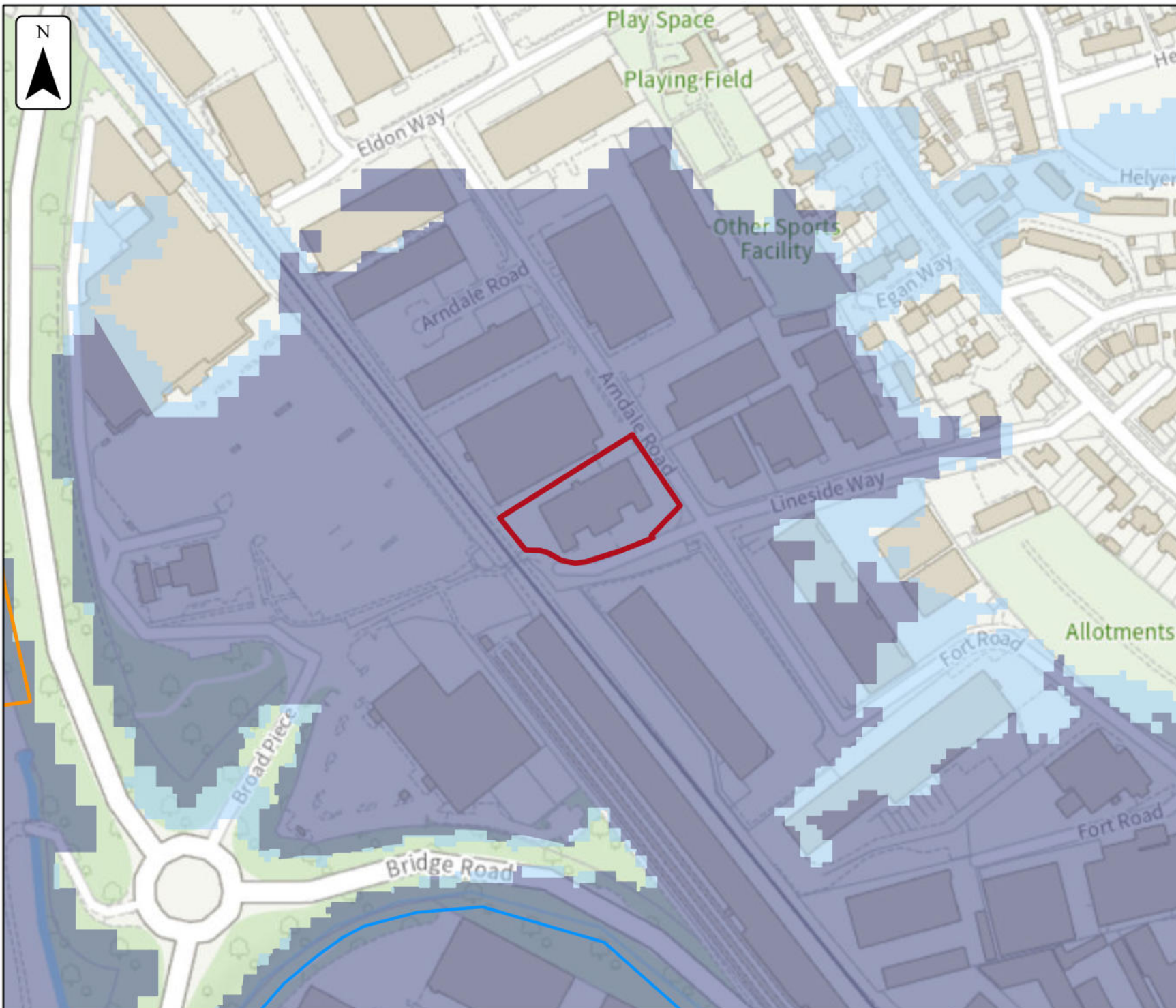
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

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Flood map for planning

Your reference
R0828

Location (easting/northing)
501848/102780

Scale
1:2,500

Created
7 Apr 2025 17:13

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area


0 20 40 60m

Appendix C

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	6.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Simulation Settings

Rainfall Methodology	FEH-22	Skip Steady State	x	1 year (l/s)	0.0
Rainfall Events	Singular	Drain Down Time (mins)	240	2 year (l/s)	0.0
Summer CV	1.000	Additional Storage (m³/ha)	0.0	30 year (l/s)	0.1
Winter CV	1.000	Starting Level (m)		100 year (l/s)	0.1
Analysis Speed	Normal	Check Discharge Rate(s)	✓	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
2	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.75
Greenfield Method	FEH	Growth Factor 100 year	2.08
Positively Drained Area (ha)	0.025	Betterment (%)	0
SAAR (mm)	727	QMed	0.0
Host	1	QBar	0.0
BFIHost	0.660	Q 1 year (l/s)	0.0
Region	3	Q 2 year (l/s)	0.0
QBar/QMed conversion factor	1.064	Q 30 year (l/s)	0.1
Growth Factor 1 year	0.86	Q 100 year (l/s)	0.1
Growth Factor 2 year	0.94		

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	6.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Simulation Settings

Rainfall Methodology	FEH-22	Skip Steady State	x	1 year (l/s)	0.0
Rainfall Events	Singular	Drain Down Time (mins)	240	2 year (l/s)	0.0
Summer CV	1.000	Additional Storage (m³/ha)	0.0	30 year (l/s)	0.1
Winter CV	1.000	Starting Level (m)		100 year (l/s)	0.1
Analysis Speed	Normal	Check Discharge Rate(s)	✓	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
2	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Pre-development Discharge Rate

Site Makeup	Brownfield	Betterment (%)	0
Brownfield Method	MRM	Q 1 year (l/s)	
Contributing Area (ha)	0.025	Q 2 year (l/s)	0.5
PIMP (%)	100	Q 30 year (l/s)	1.2
CV	1.000	Q 100 year (l/s)	1.5
Time of Concentration (mins)	6.00		

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	6.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
Development	0.030	6.00	1.900	450	-20.153	52.604	0.500
Tank			1.900		56.999	51.575	1.100
Outfall			1.810	450	149.997	51.392	1.130

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	Development	Tank	77.159	0.600	1.400	0.800	0.600	128.6	225	7.12	49.2
1.001	Tank	Outfall	92.998	0.600	0.800	0.680	0.120	775.0	225	10.47	40.1

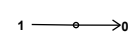
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.151	45.8	5.3	0.275	0.875	0.030	0.0	51	0.772
1.001	0.462	18.4	4.3	0.875	0.905	0.030	0.0	74	0.378

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	77.159	128.6	225	Circular	1.900	1.400	0.275	1.900	0.800	0.875
1.001	92.998	775.0	225	Circular	1.900	0.800	0.875	1.810	0.680	0.905

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	Development	450	Manhole	Adoptable	Tank		Junction	
1.001	Tank		Junction		Outfall	450	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Development	-20.153	52.604	1.900	0.500	450				
						0	1.000	1.400	225
Tank	56.999	51.575	1.900	1.100			1	1.000	0.800
						0	1.001	0.800	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Outfall	149.997	51.392	1.810	1.130	450	1 	1.001	0.680	225

Node Tank Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	1.001	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0041-7000-0800-7000
Invert Level (m)	0.800	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.800	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.7		

Node Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	0.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	20.0	20.0	0.801	0.0	32.7	1.100	0.0	32.7
0.800	20.0	32.7	0.810	0.0	32.7			

Approval Settings

Node Size	x	Coordinates	x	Full Bore Velocity	x	Time to Half Empty	✓
Node Losses	x	Crossings	x	Proportional Velocity	x	Return Period (years)	10
Link Size	x	Cover Depth	x	Surcharged Depth	x	Discharge Rates	x
Link Length	x	Backdrops	x	Flooding	x	Discharge Volume	x

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 15 minute summer	75.326	21.315	1 year 600 minute winter	5.777	2.313
1 year 15 minute winter	52.860	21.315	1 year 720 minute summer	7.535	2.019
1 year 30 minute summer	48.972	13.857	1 year 720 minute winter	5.064	2.019
1 year 30 minute winter	34.366	13.857	1 year 960 minute summer	6.180	1.627
1 year 60 minute summer	33.029	8.729	1 year 960 minute winter	4.093	1.627
1 year 60 minute winter	21.944	8.729	1 year 1440 minute summer	4.501	1.206
1 year 120 minute summer	24.593	6.499	1 year 1440 minute winter	3.025	1.206
1 year 120 minute winter	16.339	6.499	2 year 15 minute summer	114.907	32.515
1 year 180 minute summer	20.243	5.209	2 year 15 minute winter	80.636	32.515
1 year 180 minute winter	13.158	5.209	2 year 30 minute summer	74.417	21.057
1 year 240 minute summer	16.553	4.375	2 year 30 minute winter	52.222	21.057
1 year 240 minute winter	10.998	4.375	2 year 60 minute summer	50.436	13.329
1 year 360 minute summer	12.986	3.342	2 year 60 minute winter	33.508	13.329
1 year 360 minute winter	8.441	3.342	2 year 120 minute summer	34.945	9.235
1 year 480 minute summer	10.304	2.723	2 year 120 minute winter	23.216	9.235
1 year 480 minute winter	6.846	2.723	2 year 180 minute summer	27.875	7.173
1 year 600 minute summer	8.455	2.313	2 year 180 minute winter	18.119	7.173

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 240 minute summer	22.375	5.913	30 year +40% CC 480 minute summer	38.111	10.072
2 year 240 minute winter	14.865	5.913	30 year +40% CC 480 minute winter	25.320	10.072
2 year 360 minute summer	17.185	4.422	30 year +40% CC 600 minute summer	30.631	8.378
2 year 360 minute winter	11.171	4.422	30 year +40% CC 600 minute winter	20.929	8.378
2 year 480 minute summer	13.478	3.562	30 year +40% CC 720 minute summer	26.866	7.200
2 year 480 minute winter	8.954	3.562	30 year +40% CC 720 minute winter	18.056	7.200
2 year 600 minute summer	10.971	3.001	30 year +40% CC 960 minute summer	21.498	5.661
2 year 600 minute winter	7.496	3.001	30 year +40% CC 960 minute winter	14.241	5.661
2 year 720 minute summer	9.717	2.604	30 year +40% CC 1440 minute summer	15.094	4.045
2 year 720 minute winter	6.530	2.604	30 year +40% CC 1440 minute winter	10.144	4.045
2 year 960 minute summer	7.892	2.078	100 year 15 minute summer	369.203	104.472
2 year 960 minute winter	5.228	2.078	100 year 15 minute winter	259.090	104.472
2 year 1440 minute summer	5.678	1.522	100 year 30 minute summer	247.304	69.979
2 year 1440 minute winter	3.816	1.522	100 year 30 minute winter	173.547	69.979
30 year 15 minute summer	293.704	83.108	100 year 60 minute summer	169.104	44.689
30 year 15 minute winter	206.108	83.108	100 year 60 minute winter	112.349	44.689
30 year 30 minute summer	195.085	55.202	100 year 120 minute summer	100.755	26.627
30 year 30 minute winter	136.902	55.202	100 year 120 minute winter	66.939	26.627
30 year 60 minute summer	132.294	34.961	100 year 180 minute summer	75.920	19.537
30 year 60 minute winter	87.893	34.961	100 year 180 minute winter	49.350	19.537
30 year 120 minute summer	80.380	21.242	100 year 240 minute summer	59.130	15.626
30 year 120 minute winter	53.403	21.242	100 year 240 minute winter	39.284	15.626
30 year 180 minute summer	60.877	15.666	100 year 360 minute summer	44.044	11.334
30 year 180 minute winter	39.571	15.666	100 year 360 minute winter	28.629	11.334
30 year 240 minute summer	47.477	12.547	100 year 480 minute summer	34.004	8.986
30 year 240 minute winter	31.543	12.547	100 year 480 minute winter	22.591	8.986
30 year 360 minute summer	35.340	9.094	100 year 600 minute summer	27.383	7.490
30 year 360 minute winter	22.972	9.094	100 year 600 minute winter	18.710	7.490
30 year 480 minute summer	27.222	7.194	100 year 720 minute summer	24.053	6.446
30 year 480 minute winter	18.086	7.194	100 year 720 minute winter	16.165	6.446
30 year 600 minute summer	21.880	5.985	100 year 960 minute summer	19.275	5.076
30 year 600 minute winter	14.949	5.985	100 year 960 minute winter	12.768	5.076
30 year 720 minute summer	19.190	5.143	100 year 1440 minute summer	13.532	3.627
30 year 720 minute winter	12.897	5.143	100 year 1440 minute winter	9.095	3.627
30 year 960 minute summer	15.356	4.044	100 year +45% CC 15 minute summer	535.345	151.484
30 year 960 minute winter	10.172	4.044	100 year +45% CC 15 minute winter	375.681	151.484
30 year 1440 minute summer	10.781	2.890	100 year +45% CC 30 minute summer	358.591	101.469
30 year 1440 minute winter	7.246	2.890	100 year +45% CC 30 minute winter	251.643	101.469
30 year +40% CC 15 minute summer	411.186	116.351	100 year +45% CC 60 minute summer	245.201	64.799
30 year +40% CC 15 minute winter	288.552	116.351	100 year +45% CC 60 minute winter	162.906	64.799
30 year +40% CC 30 minute summer	273.119	77.283	100 year +45% CC 120 minute summer	146.095	38.609
30 year +40% CC 30 minute winter	191.663	77.283	100 year +45% CC 120 minute winter	97.062	38.609
30 year +40% CC 60 minute summer	185.211	48.946	100 year +45% CC 180 minute summer	110.084	28.328
30 year +40% CC 60 minute winter	123.050	48.946	100 year +45% CC 180 minute winter	71.558	28.328
30 year +40% CC 120 minute summer	112.532	29.739	100 year +45% CC 240 minute summer	85.738	22.658
30 year +40% CC 120 minute winter	74.764	29.739	100 year +45% CC 240 minute winter	56.962	22.658
30 year +40% CC 180 minute summer	85.227	21.932	100 year +45% CC 360 minute summer	63.863	16.434
30 year +40% CC 180 minute winter	55.400	21.932	100 year +45% CC 360 minute winter	41.513	16.434
30 year +40% CC 240 minute summer	66.468	17.566	100 year +45% CC 480 minute summer	49.305	13.030
30 year +40% CC 240 minute winter	44.160	17.566	100 year +45% CC 480 minute winter	32.757	13.030
30 year +40% CC 360 minute summer	49.476	12.732	100 year +45% CC 600 minute summer	39.705	10.860
30 year +40% CC 360 minute winter	32.161	12.732	100 year +45% CC 600 minute winter	27.129	10.860

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +45% CC 720 minute summer	34.877	9.347	100 year +45% CC 960 minute winter	18.514	7.360
100 year +45% CC 720 minute winter	23.439	9.347	100 year +45% CC 1440 minute summer	19.622	5.259
100 year +45% CC 960 minute summer	27.949	7.360	100 year +45% CC 1440 minute winter	13.187	5.259

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	Development	10	1.444	0.044	3.3	0.0070	0.0000	OK
240 minute summer	Tank	152	0.906	0.106	1.4	2.0064	0.0000	OK
240 minute summer	Outfall	156	0.698	0.018	0.5	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute summer	Development	1.000	Tank	3.4	0.917	0.075	0.3881	
240 minute summer	Tank	1.001	Outfall	0.5	0.218	0.029	0.2309	4.8

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	Development	10	1.453	0.053	5.0	0.0085	0.0000	OK
180 minute summer	Tank	124	0.946	0.146	2.2	2.7724	0.0000	OK
180 minute summer	Outfall	124	0.699	0.019	0.6	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute summer	Development	1.000	Tank	5.2	0.984	0.114	0.6187	
180 minute summer	Tank	1.001	Outfall	0.6	0.224	0.031	0.2445	6.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	Development	10	1.481	0.081	12.8	0.0129	0.0000	OK
180 minute winter	Tank	172	1.199	0.399	3.3	7.5834	0.0000	SURCHARGED
600 minute summer	Outfall	525	0.699	0.019	0.6	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute summer	Development	1.000	Tank	12.8	1.081	0.280	1.6845	
600 minute summer	Tank	1.001	Outfall	0.6	0.227	0.033	0.2503	17.6

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 97.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	Development	11	1.497	0.097	17.9	0.0154	0.0000	OK
180 minute winter	Tank	176	1.412	0.612	4.6	11.6299	0.0000	SURCHARGED
180 minute winter	Outfall	180	0.700	0.020	0.6	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute summer	Development	1.000	Tank	17.9	1.120	0.391	2.0918	
180 minute winter	Tank	1.001	Outfall	0.6	0.228	0.033	0.2538	12.6

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.15%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Development	11	1.491	0.091	16.0	0.0145	0.0000	OK
180 minute summer	Tank	180	1.333	0.533	5.9	10.1197	0.0000	SURCHARGED
960 minute winter	Outfall	750	0.699	0.019	0.6	0.0000	0.0000	OK
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	Development	1.000	Tank	16.0	1.108	0.349	1.9735	
1440 minute summer	Tank	1.001	Outfall	0.6	0.227	0.033	0.2503	24.8

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 96.66%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	Development	176	1.591	0.191	5.9	0.0303	0.0000	OK
180 minute winter	Tank	176	1.591	0.791	5.9	15.0266	0.0000	SURCHARGED
180 minute winter	Outfall	180	0.701	0.021	0.7	0.0000	0.0000	OK
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	Development	1.000	Tank	23.3	1.138	0.508	2.2798	
180 minute winter	Tank	1.001	Outfall	0.7	0.238	0.037	0.2740	14.0

Appendix D

Drawing Scale Bar			
Drawing scale	Line length	Drawing scale	Line length
1:5	= 0.25 metres	1:200	= 10.0 metres
1:10	= 0.5 metres	1:250	= 12.5 metres
1:20	= 1.0 metres	1:500	= 25.0 metres
1:25	= 1.25 metres	1:1000	= 50.0 metres
1:50	= 2.5 metres	1:1250	= 62.5 metres
1:100	= 5.0 metres	1:2500	= 125 metres
Measure length of line above for checking of scale			

GENERAL NOTES

1. All dimensions are in millimetres and levels in m AOD unless stated otherwise.
2. Do not scale. If in any doubt, consult Engineer.
3. Read in conjunction with the architects and engineers schedule drawings.
4. Check inverts and sizes of existing pipes prior to the commencement of any work. Report any discrepancies to the engineer and await instructions.
5. The location of services is shown as indicative. This drawing should be read in conjunction with the utilities drawings. No warranty to their accuracy can be given. The contractor shall take all necessary measures to satisfy himself as to the location of the existing services and connection points. Excavation should be undertaken in compliance with HSG47.

KEY

- Proposed Surface Water Sewer Pipe
- Exceedance Flows
- Permeable Surface as per architect's details
Sub-base 350mm Type 3
- Linear Drainage Channel
- Silt Trap
- Existing Surface Water Sewer Pipe

P2	Update Design	01/12/2025	AG	AR
Rev	Details	Date	By	Chd

Drawing Status: PRELIMINARY



4 Bean Acre Road, Hook Norton, Banbury, Oxfordshire
e: info@rida-reports.co.uk
t: 01608 510 121
www.rida-reports.co.uk

Client:

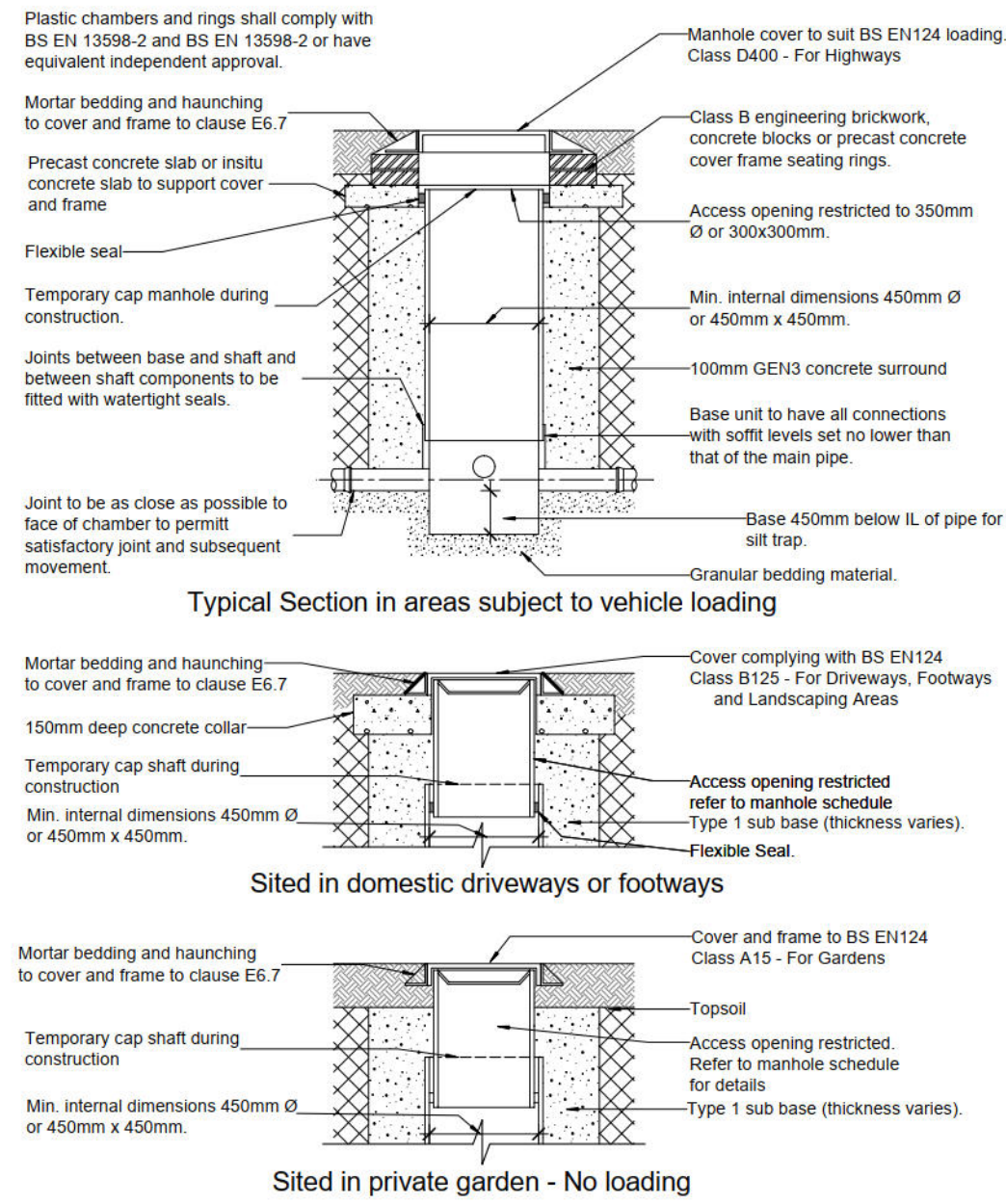
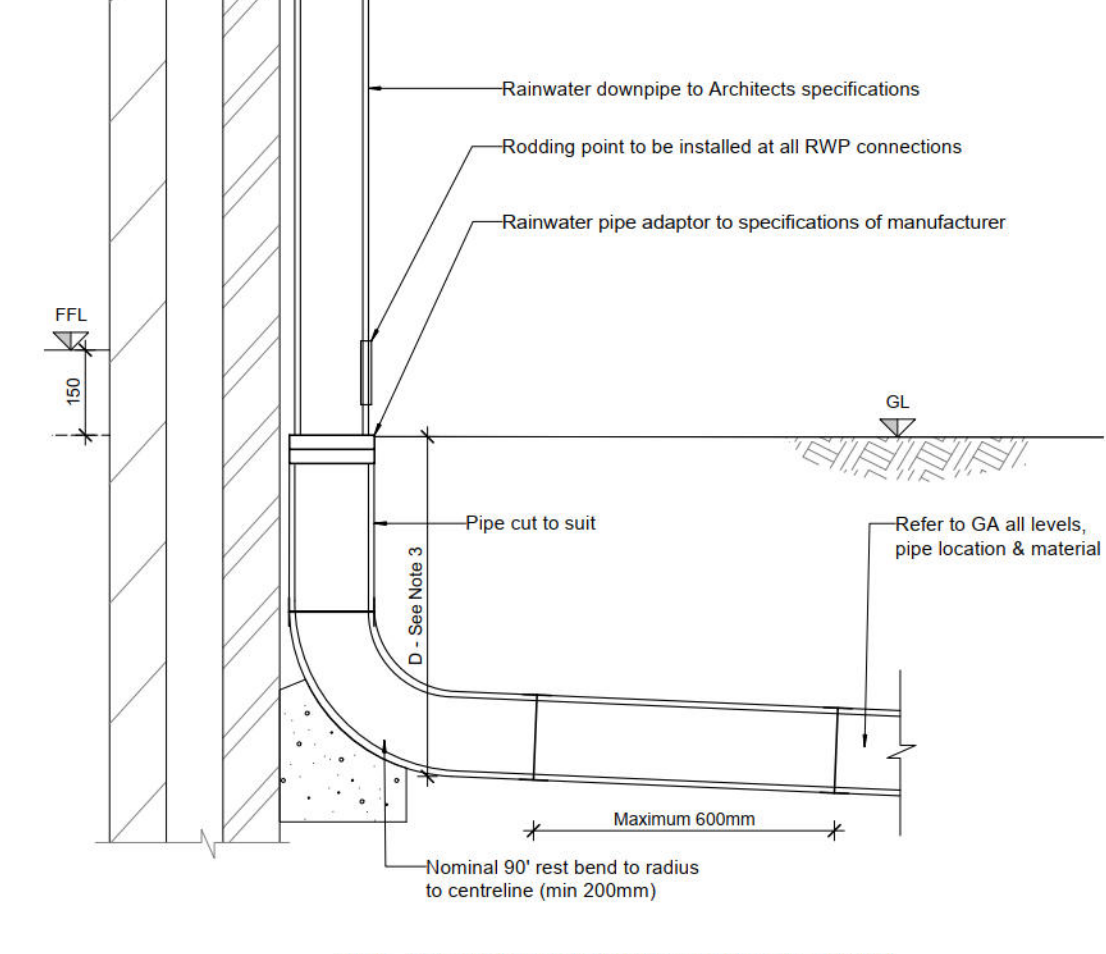
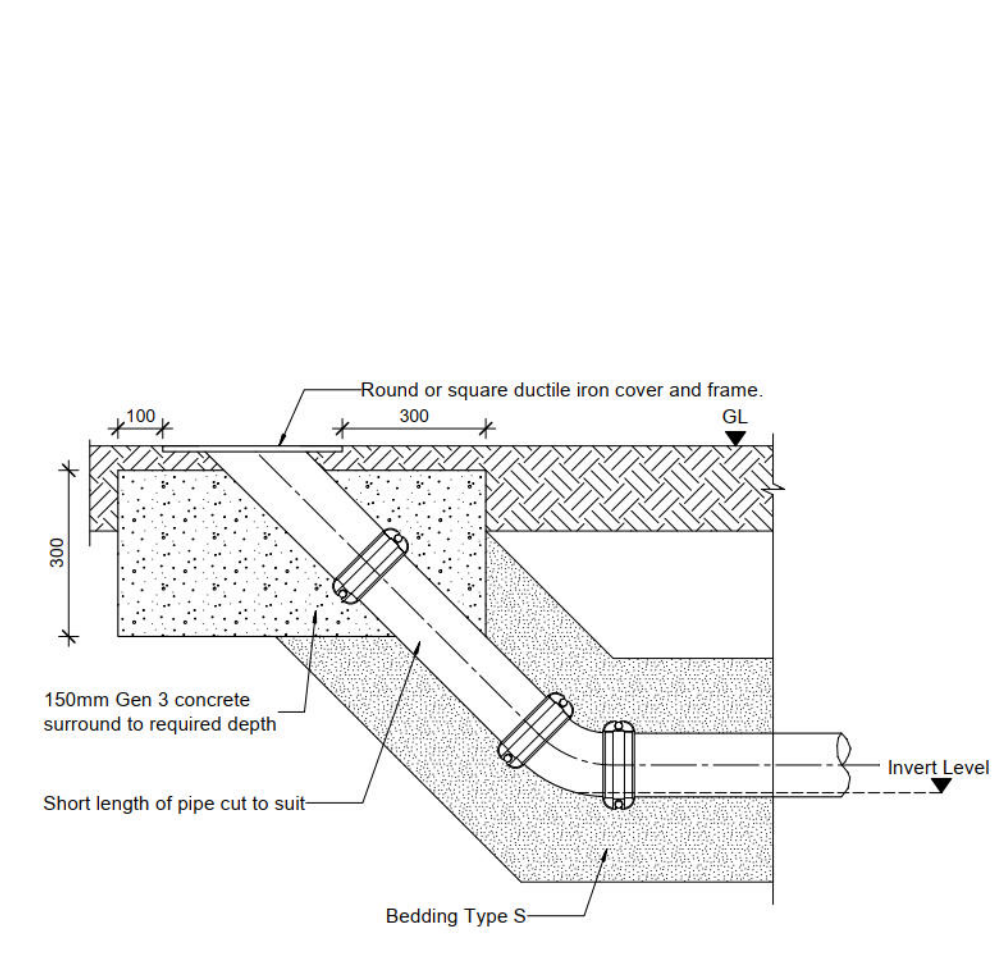
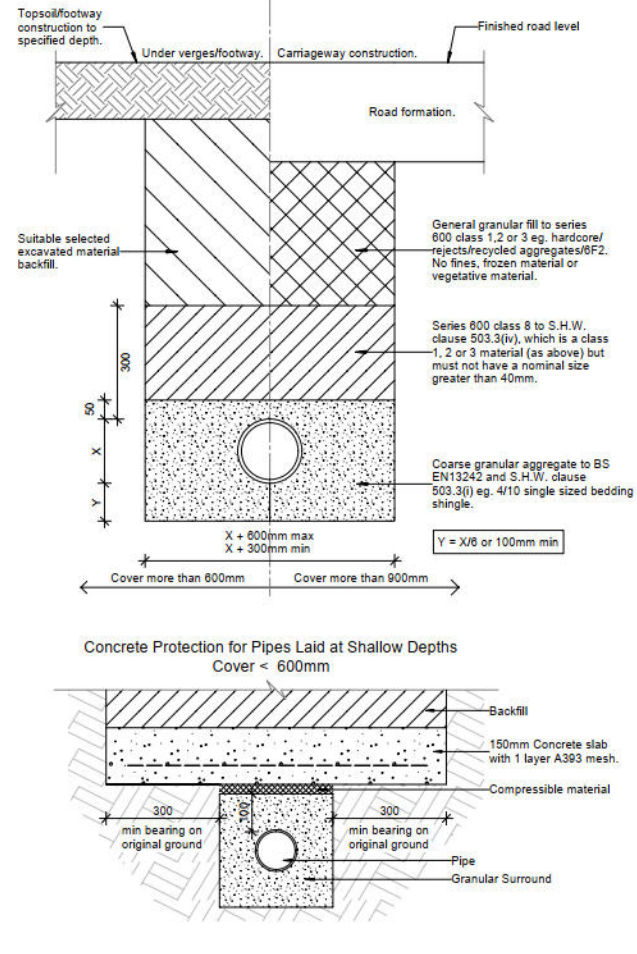
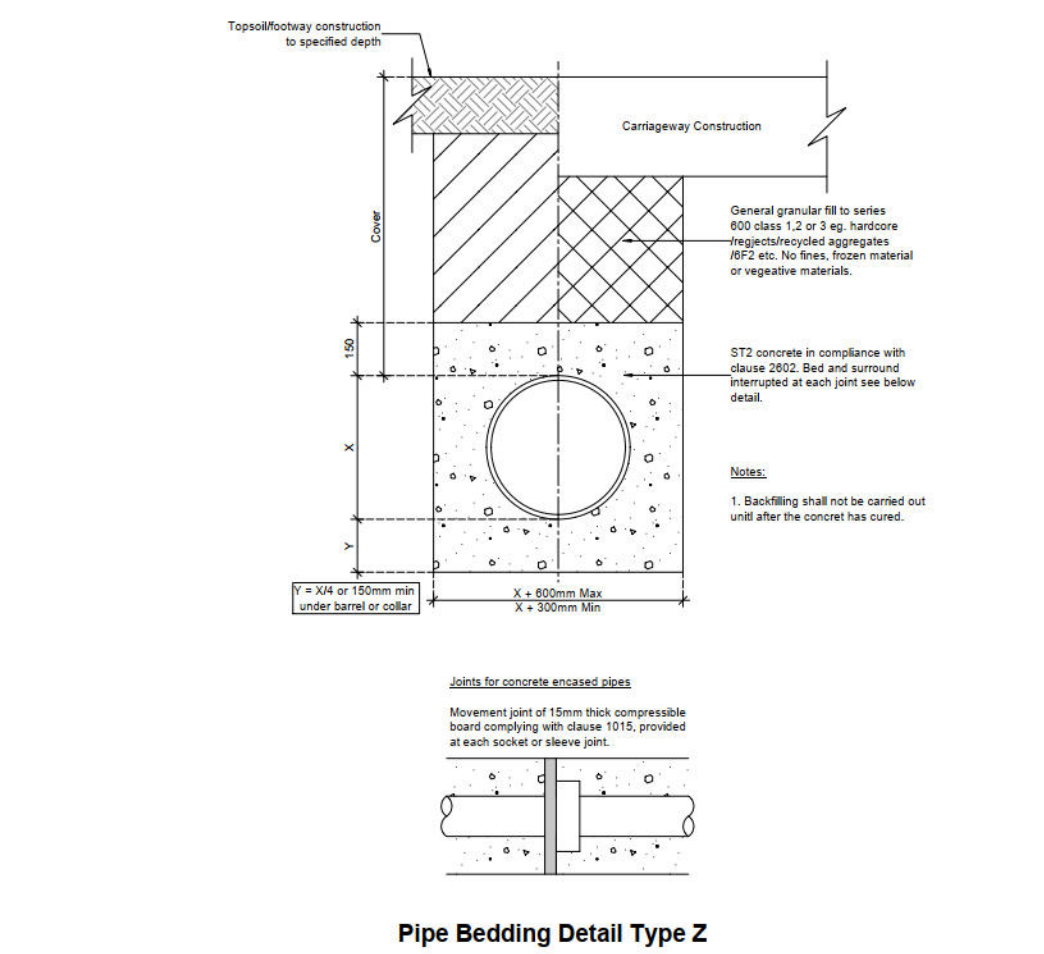
Project:

Lineside Way, Wick, Littlehampton, BN17 7EH

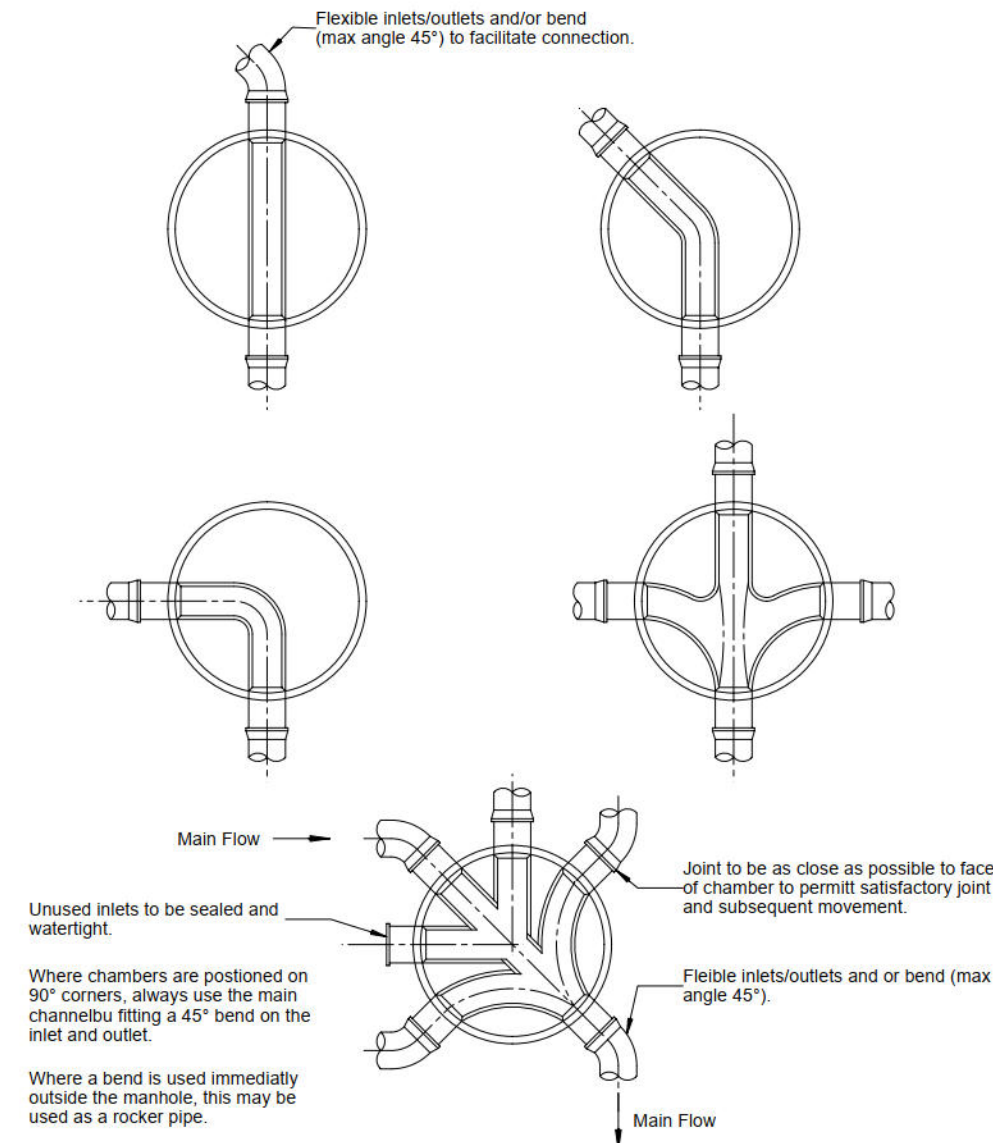
Drawing:
Proposed Drainage Strategy

Drawing Scale Bar			
Drawing scale	Line length	Drawing scale	Line length
1:5	= 0.25 metres	1:200	= 10.0 metres
1:10	= 0.5 metres	1:250	= 12.5 metres
1:20	= 1.0 metres	1:500	= 25.0 metres
1:25	= 1.25 metres	1:1000	= 50.0 metres
1:50	= 2.5 metres	1:1250	= 62.5 metres
1:100	= 5.0 metres	1:2500	= 125 metres
Measure length of line above for checking of scale			

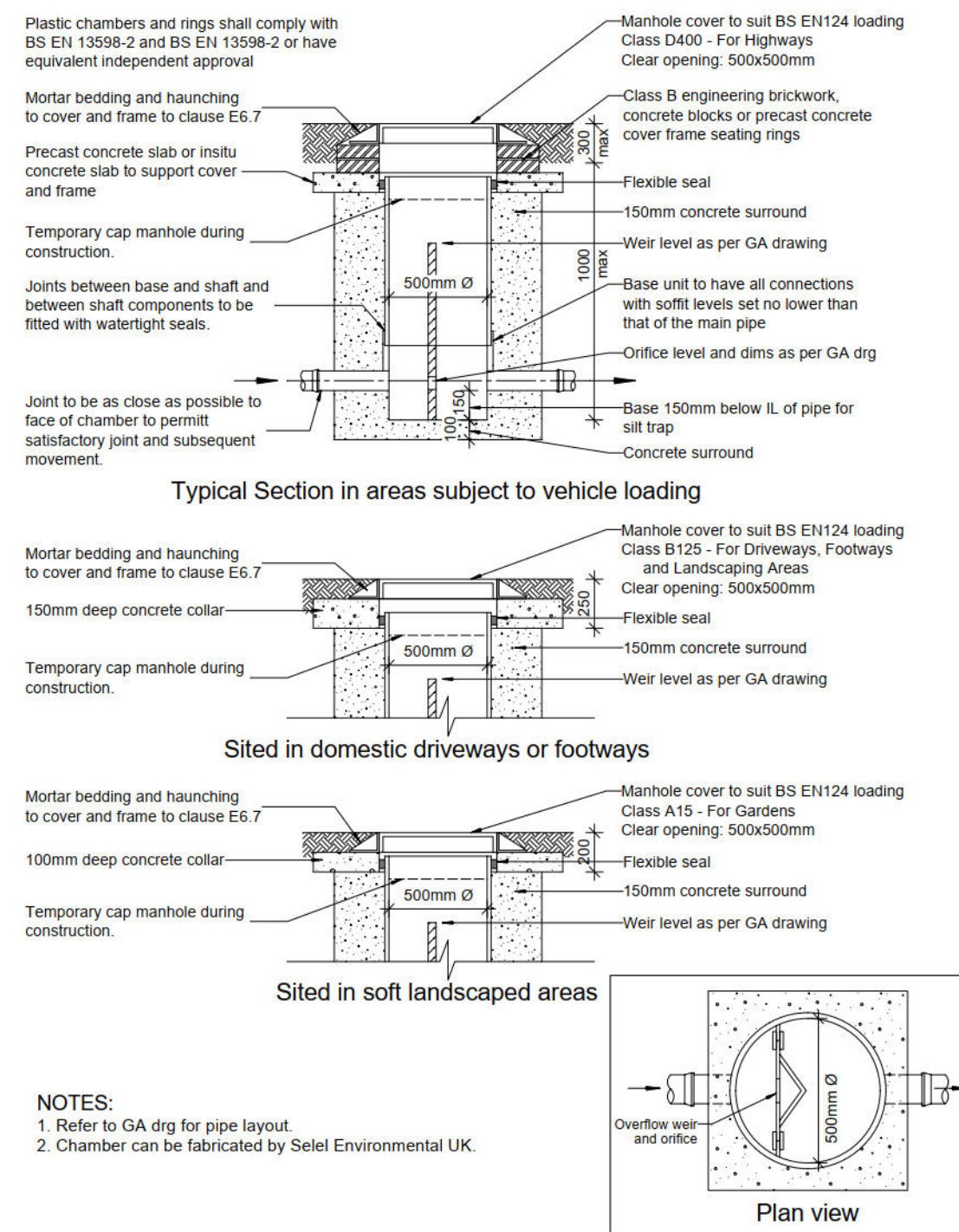
GENERAL NOTES



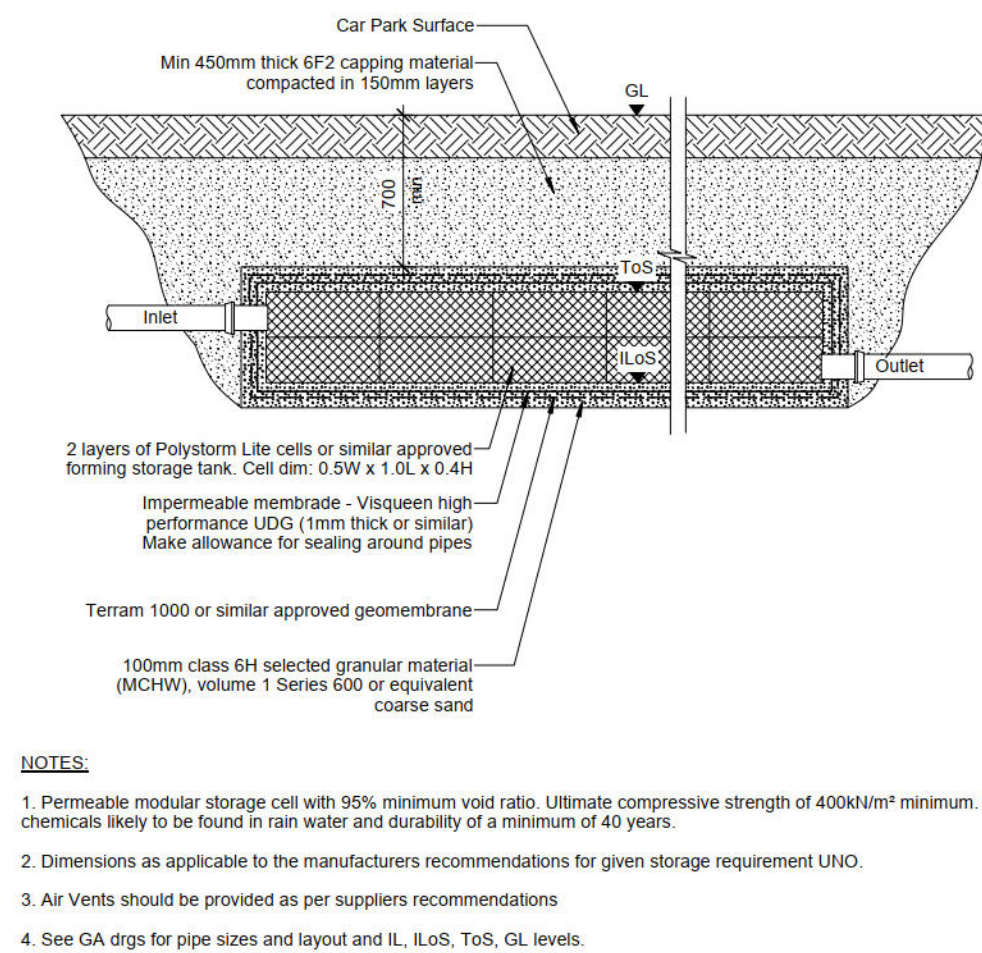
Silt Trap Plastic



Chamber Type 3 Base Layouts



Flow Control -Orifice Plate - Plastic - Type 3



Cellular Attenuation System - Landscape Area