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AN EMPLOYEE OWNED COMPANY

Bellway Homes Ltd (Southern Counties)

Durrington Gasworks (Elizabeth Square Phase 2)

Martlets Way, Goring-by-Sea, Worthing, West Sussex, BN12 4UB

Flood Risk Assessment and Drainage Strategy

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Contents

Page

1. Introduction 1
2. Site Characteristics 2
3. Policy Context 7
4. Sources of Flooding 14
5. Sequential and Exception Test 23
6. Flood Risk Mitigation Measures 25
7. Surface Water Drainage Strategy 27
8. Foul Water Drainage Strategy 38
9. Conclusions 39

Figures

Figure 2-1 Site Location and Surrounding Area
Figure 2-2 Site Layout Plan
Figure 2-3 Intrusive Site Investigations Map
Figure 2-4 Extract of Southern Water Sewer Assets
Figure 4-1 Flood Zone 2 and 3 Extent with Climate Change
Figure 4-2 Yearly Chance of Surface Water Flooding between 2040 & 2060
Figure 4-3 Extract of Risk of Flooding from Surface Water Map
Figure 4-4 Extract of Groundwater Mapping
Figure 4-5 Site Investigations Exploratory Hole Locations
Figure 4-6 Extract of Historic Flooding Mapping
Figure 6-1 Surface Water Flow Route Through the Development

Tables

Table 3-1 Arun & Western Streams Management Catchment Climate Change Allowance Factors
Table 5-1 Exception Test Requirements
Table 7-1 C753 SuDS Management Train Approach
Table 7-2 Interception Requirements for Site Basins
Table 7-3 SuDS Mitigation Indices
Table 7-4 Existing Greenfield Runoff Rates Summary

Appendices

Appendix A Topographical Survey
Appendix B Site Layout Plan
Appendix C Site Investigation Trial Pit Logs
Appendix D Sewer Asset Records
Appendix E Southern Water Capacity Check Correspondence
Appendix F LLFA Meeting Minutes
Appendix G SuDS Management and Maintenance Plan
Appendix H Proposed Drainage Strategy
Appendix I Existing Greenfield Runoff Calculations
Appendix J Causeway Flow Modelling Calculations

Document Control Sheet

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Distribution

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1. Introduction

1.1. Ardent Consulting Engineers, hereafter referred to as 'Ardent', has been appointed by Bellway Homes Ltd (Southern Counties) to provide a Flood Risk Assessment (FRA) and Drainage Strategy in support of a full planning application for mixed-use development comprising 123 dwellings and commercial units with associated landscaping, open space and drainage.

1.2. This FRA and Drainage Strategy has been prepared with specific reference to the requirements of the National Planning Policy Framework (NPPF – December 2024, amended February 2025) and the Planning Practice Guidance (PPG) (March 2024 – Flood Risk sections updated in August 2022). This report demonstrated that the site can be suitably developed whilst complying with the requirements of the NPPF in terms of flood risk.

2. Site Characteristics

Existing Site

2.1. The site is situated within Durrington, Worthing in proximity to Durrington-on-Sea railway station and Goring Business Park. The site's postcode is BN12 4UB and has grid coordinates of 511524mE 103090mN for the approximate centre of the site.

2.2. The site is bound by a railway line to the north; a consented residential development owned by the same client (referred to as Phase 1) to the east; residential properties and Barrington Road to the south; and commercial land / the Goring Business Park to the west.

2.3. The site is currently brownfield, with the previous use varies across the site; a section was owned by Scotia Gas Network (SGN) where a gasholder tank was housed (blue outline in **Figure 2-1**); a section of the site is currently used as adjacent construction land for the consented residential development to the east (orange outline in **Figure 2-1**); and land east of Martlets Way is mostly covered in vegetation and currently houses various storage containers (black outline in **Figure 2-1**).

2.4. The site and the surrounding area are shown in **Figure 2-1** below:



Figure 2-1 : Site Location and Surrounding Area (Source : Google Maps)

2.5. The full planning application is to be submitted to Adur and Worthing Councils (AWC), who are operating jointly as the Local Planning Authority (LPA), albeit the site sits

within Worthing Borough Council (WBC). West Sussex County Council (WSCC) is the Lead Local Planning Authority (LLFA).

2.6. The topographical survey for the site, undertaken by MK Surveys in December 2021 (ref: 30510), is included in **Appendix A**. The site generally slopes from the south to the north, towards the rail tracks, with levels higher in the west compared to the east. However, the various engineered areas within the site boundary have altered the natural topography. The highest point on-site is found along the centre of the site at 12.00mAOD. The land falls away in various directions, with levels between 10.50mAOD to 11.47mAOD found along the southern boundary and levels between 10.00mAOD and 10.78mAOD found along the northern boundary. To the east/southeast of the site, there are various mounds of rubble ranging from 1.3m to 3.5m high. There is a large area of the site that has been excavated, located to the west of the site, with levels at the bottom of the excavation at approximately 8.00mAOD and ground levels at the top at approximately 10.60mAOD.

Development Proposals

2.7. The development proposals consist of mixed-use development comprising 123 dwellings and commercial units with associated landscaping, open space and drainage. **Figure 2-2** shows an extract of the site layout plan, with the full plan included within **Appendix B**.



Figure 2-2 : Site Layout Plan (Source : MDD Architecture)

2.8. The total planning application area for the site is approximately 4.18ha.

Hydrology

2.9. There are no main rivers or watercourses located within the site. The closest main river is the Ferring Rife, which is located approximately 1.35km northwest of the site.

2.10. According to the DEFRA MAGIC Maps online tool, the site is not located within a Groundwater Source Protection Zone (SPZ).

Geology

2.11. According to the British Geological Society (BGS) Geology Viewer online tool, the entire site is situated on a bedrock geology of Lewes Nodular Chalk Formation consisting of chalk. This is overlain by superficial deposits of River Terrace Deposits which consists of sand, silt and clay.

2.12. There have been various planning applications for different areas within the current redline boundary, see **Figure 2-3** below. As part of those applications, intrusive site investigations were carried out by Enzygo Ltd.



Figure 2-3 : Intrusive Site Investigations Map

2.13. For the Northeastern parcel, a Geo-Environmental report was produced by Enzygo Ltd (ref: CRM.1154.026.GE.R.001.A), dated December 2021. The report found the ground conditions consisted of Made Ground over soft becoming firm and stiff with depth silty clay varying to loose clayey sand. Made Ground was encountered at depths between 0.2m and 0.7m mostly but found at depths between 2.2m and 2.4m bgl within the area of the former gasholder. Chalk was encountered at depths between 6.0m and 7.2m bgl. The trial pit records are provided in **Appendix C**.

2.14. For the Western parcel, a Geo-Environmental report was produced by Enzygo Ltd (ref: CRM.1154.039.GE.R.001.A) dated June 2025. The report found the ground conditions consisted of Made Ground over firm and stiff with depth silty clay varying to medium dense clayey sand. Made Ground was encountered at depths between 0.3m and 1.5m mostly but found at depths between 2.8m and 3.2m bgl within the central area of the site associated to the sewage treatment works. Chalk was encountered at depths between 4.2m and 7.2m bgl. The trial pit records are provided in **Appendix C**.

Existing Sewer Infrastructure

2.15. Southern Water sewer asset records have been obtained for the area surrounding the site and are included within **Appendix D**.

2.16. An extract of the sewer records is shown below in **Figure 2-4**, which shows that there are existing surface water and foul water sewers surrounding the site. The closest surface water asset is a 300mm sewer located within Martlets Way, west of the site. The closest foul water asset is a 600mm foul water sewer located within the site boundary, towards the western boundary. The exact location and depth of the sewers is to be confirmed by utility/CCTV survey.

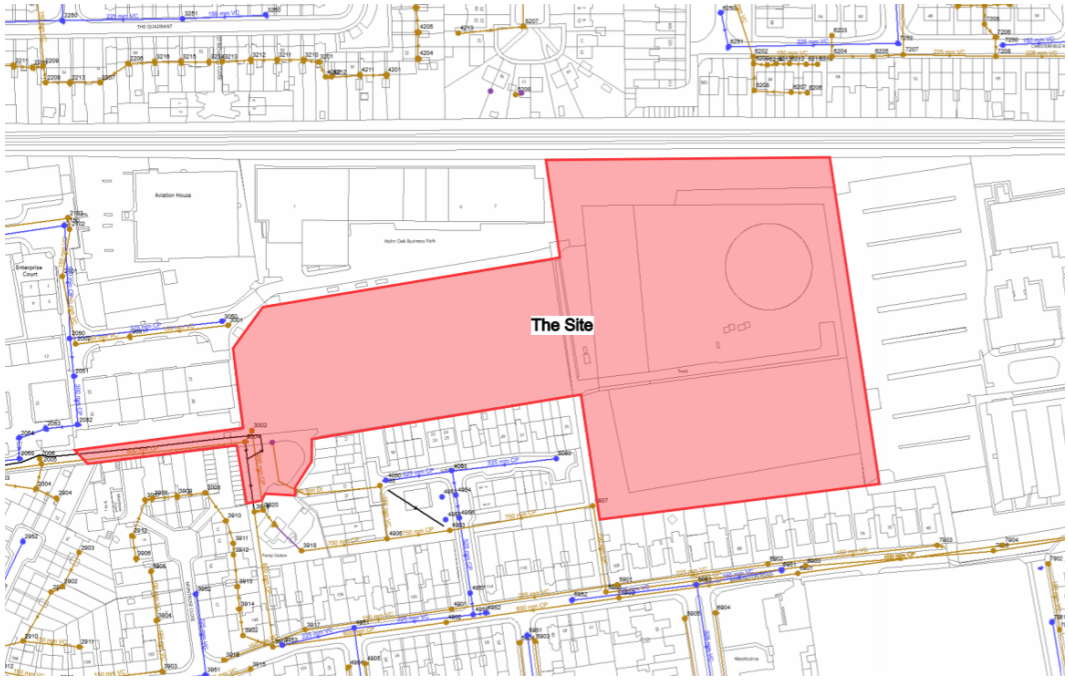

Figure 2-4 : Extract of Southern Water Sewer Assets (Source : Southern Water)

2.17. The topographical survey does not indicate any existing private drainage systems within the site boundary. Utility/CCTV surveys will be required to confirm if any private drainage systems existing within the site.

2.18. Within the adjacent development to the east, lies an existing private drainage network which is owned by the same applicant as this proposed development.

3. Policy Context

National Planning Policy Framework (December 2024)

3.1. The NPPF was introduced on 27 March 2012 and revised most recently in December 2024 (and further amended in February 2025); where paragraphs 161 to 182 inclusive establish the planning policy relating to flood risk management and climate change.

3.2. It states all plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk, and the current and future impacts of climate change to avoid, where possible, flood risk to people and property. Proposals should do this and manage residual risk by:

- applying the sequential test, and if necessary, the exception test;
- safeguarding land from development that is required for current and future flood management;
- using opportunities provided by new development and improvements in green, and other, infrastructure to reduce the causes and impacts of flooding (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and
- where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocated development including housing, to more sustainable locations

3.3. The NPPF states at footnote 63 that "*A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in the future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use*".

3.4. The Planning Practice Guidance (PPG) was last updated in February 2024 and provides the methodology required to undertake the sequential and exception tests. The sequential test should be used in areas that are known to be at risk now or in

the future to any form of flooding. As detailed in this report, due to all sources of flood risk being deemed as low or very low risk in the areas of development, it is not anticipated that the sequential test is required.

Flood and Water Management Act (2010)

3.5. The Flood and Water Management Act places a duty on all flood risk management authorities to co-operate with each other. The Act also provides LLFAs and the Environment Agency (EA) with a power to request information required in connection with their flood risk management functions.

3.6. The LLFAs are responsible for developing, maintaining and applying a strategy for local flood risk management in their areas, and for maintaining a register of flood risk assets. They also have lead responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses. As part of this, LLFAs are responsible for maintaining a register of assets that are a significant impact on flooding within their area.

Sustainable Drainage Systems – National Standards for Sustainable Drainage Systems (SuDS) (June 2025)

3.7. An update to the National Standards for Sustainable Drainage Systems (SuDS) were published in June 2025 which supersedes the Non-Statutory Technical Standards for SuDS published in March 2015. This document sets out 7 standards that are complementary, and the delivery of each standard should support the delivery of the other standards.

3.8. There may be specific circumstances or constraints, such as type or size of a development, that mean it is not possible to deliver one or more of the standards. In these circumstances, the opportunity to meet the standard shall be maximised and justification be developed in consultation with the approving body, who may agree to a departure.

3.9. The standards should be used in conjunction with the PPG.

3.10. In addition, SuDS should be designed in accordance with CIRIA C753 SuDS Manual, which represents current best practice.

Planning Practice Guidance (PPG) on Climate Change

3.11. The PPG states that to allow for the predicted impacts of climate change on peak rainfall allowance, consideration should be given to the catchment within which the site is located, which is the Arun and Western Streams Management Catchment.

3.12. The PPG states that to allow for the predicted impact of climate change on surface water runoff within the catchment, the following percentage increases should be applied to the site rainfall intensities, detailed in **Table 3-1** below. For developments up to or beyond 2100, the upper end allowances should be used. However, within the EA's guidance an exception is included that states "*In some locations the allowance for the 2050s epoch is higher than that for the 2070s epoch. If so, and development has a lifetime beyond 2061, use the higher of the two allowances*".

Arun and Western Streams Management Catchment	Central Allowance	Upper End Allowance
3.3% Annual Exceedance Rainfall Event		
Total Potential Change 2050s	20%	35%
Total Potential Change 2070s	25%	**40%**
1% Annual Exceedance Rainfall Event		
Total Potential Change 2050s	20%	45%
Total Potential Change 2070s	25%	**45%**

Table 3-1 : Arun and Western Streams Management Catchment Climate Change Allowance Factors

3.13. Therefore, applying an allowance of 40% and 45% for the effects of climate change to the 3.3% and 1% annual exceedance rainfall events would achieve the policy requirements when designing the proposed surface water drainage system.

West Sussex Local Flood Risk Management Strategy

3.14. A Local Flood Risk Management Strategy (LFRMS) was prepared by WSCC in July 2025. The strategy sets out the direction of travel for managing flood risk long term, with objectives, measures and actions for the first five years. The objectives are:

- Use a catchment-based approach to understand and manage flood risk;
- Create a common, informed framework for sustainable development that improves safety and resilience for people, property, infrastructure and the environment through long-term thinking;
- Adopt collaborative approaches to understanding and managing flood risk assets and systems, prioritising the implementation of nature-based solutions
- Empower our communities to increase their resilience and ability to adapt to flood risk now, and in the future

3.15. The LFRMS sets out the understanding of flood risk in the county, what the county is trying to achieve, and how this will be monitored and reviewed. The document also highlights the impact of climate change on flooding and how they have taken consideration of climate change in order to assess the flood risk in the future. Several cases studies have been included to provide an understanding of the issues the county is experiencing and way to address the issues.

Adur and Worthing Level 1 Strategic Flood Risk Assessment

3.16. The Level 1 Strategic Flood Risk Assessment (SFRA) was prepared by JBA Consulting on behalf of Adur and Worthing Councils in July 2024 (ref: KNO-JBAU-XX-XX-RP-Z-0004-S3-P03-Adur_and Worthing_Level1_SFRA). The purpose of the SFRA is to inform selection of options for Local Plan allocations and to support determination of planning applications.

3.17. The key objectives of the SFRA are:

- To provide up to date information and guidance on flood risk in Adur and Worthing, taking into account the latest flood risk information (including the probable impacts of climate change), the current state of national planning policy and legislation and relevant studies;
- To provide the basis for applying the flood risk Sequential Test, and if necessary, the Exception Test. Revised National Planning Policy Framework (updated in 2025) includes a requirement to assess all sources of flooding;

- To provide a comprehensive set of maps presenting flood risk from all sources that can be used as part of the evidence base for the Local Plan Review and to support the preparation of Neighbourhood Plans;
- To inform decisions on the location of future development and the preparation of sustainable policies for the long-term management of flood risk;
- To identify and provide recommendations on opportunities to reduce the causes and impacts of flooding to existing communities and developments.

Worthing Borough Council Local Plan

3.18. The Local Plan sets out the spatial vision strategic objectives and the overarching development strategy for the borough and establishes the planning policy framework necessary to deliver them. The Worthing Local Plan covers the period between 2020-2036.

3.19. The main function of the Local Plan, alongside other key plans, is to provide the legal basis for making decisions on planning applications for development and the use of land. Together, these plans are termed 'Development Management Policies'. Relevant policies are outlined below:

DM9 – Delivering Infrastructure

3.20. Ensure that layout is planned to allow future access to existing water and/or wastewater infrastructure for maintenance and upsizing purposes

3.21. Proposals by service providers for the delivery of utility infrastructure to meet the needs generated by new development and by existing communities will normally be permitted.

DM20 – Flood Risk and Sustainable Drainage

3.22. The Council will work with relevant bodies to ensure that flood risk in Worthing is managed and reduced. Development should be directed away from areas of highest risk of flooding from any source and opportunities should be taken to reduce flooding through sustainable drainage systems and natural flood management to deliver multi-functional benefits for people and wildlife

3.23. The surface water drainage scheme should use Sustainable Drainage Systems, unless there is clear evidence that this would be inappropriate, and be designed to:

- follow natural drainage flow paths and work with existing site topography;
- incorporate green infrastructure and maximise multi-functional benefits ensuring adequate treatment of surface water prior to discharge to ensure that the quality of local water is not adversely affected;
- be sensitively located and designed to promote an enhanced landscape/ townscape and good quality spaces that improve public amenity;
- Surface water connections to the public sewerage network should only be made with prior agreement of the relevant sewerage undertaker and where it can be demonstrated that there are no feasible alternatives (this applies to new developments and redevelopments) and where there is no detriment to existing users.

3.24. Clear management arrangements and funding for their ongoing maintenance over the lifetime of the development should be proposed. Planning conditions or obligations will be used to secure these arrangements.

DM21 – Water Quality and Sustainable Water Use

3.25. Development should protect and enhance groundwater, surface water features and control aquatic pollution. Development will be permitted provided that it does not have an unacceptable impact on the quality and potential yield of local water resources, the water environment and its ecology.

3.26. The Council will support proposals to replace existing traditional drainage systems with suitable Sustainable Drainage Systems to further reduce water pollution and improve water quality.

3.27. Potentially polluting development should be steered away from the most sensitive areas. As a minimum a preliminary risk assessment will be required for any development where there is potential risk of contamination of controlled waters. New development within Groundwater Source Protection Zones will only be permitted provided that it has no adverse impact on the quality of the groundwater source or a risk to its ability to maintain a public water supply.

3.28. Development must be phased to take into account the timing of any water and/or wastewater infrastructure required which must be in place prior to the occupation of development.

3.29. All new residential development must achieve as a minimum the optional requirement set through Building Regulations for water efficiency that requires an estimated water use of no more than 110 litres per person per day.

Worthing Borough Council Surface Water Management Plan (SWMP)

3.30. The purpose of a SWMP is to set out how surface water is managed within a defined area to reduce risks and maximise benefits and sets out a long-term action plan for dealing with types of flooding.

3.31. There is no specific SWMP for Worthing Borough Council to refer to in this location. The closest plan is for Lancing located approximately 7km east of Durrington, prepared by CH2M Hill on behalf of West Sussex County Council in October 2015. The output of the Lancing SWMP is available online.

4. Sources of Flooding

4.1. The NPPF requires flood risk from the following sources to be assessed, each of which are assessed separately below:

- Fluvial sources (river flooding);
- Tidal sources (flooding from the sea);
- Pluvial sources (flooding resulting from overland flows);
- Groundwater sources;
- Sewer flooding;
- Historic flooding; and
- Artificial sources, canals, reservoirs etc

Flood Zone Designation

4.2. Flood zones refer to the probability of river and sea flooding, ignoring the presence of defences. The NPPF PPG defines flood zones as follows:

Flood Zone 1: Low Probability. Land having a less than 0.1% annual probability of river or sea flooding

Flood Zone 2: Medium Probability. Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding

Flood Zone 3a: High Probability. Land having a 1% or greater annual probability of river flooding; or land having a 0.5% or greater annual probability of sea flooding

Flood Zone 3b: The Functional Floodplain. This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplains will normally comprise:

- having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or

- land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

Fluvial and Tidal Flooding (River and Sea)

4.3. Based on the EA Flood Map for Planning, the entire site is located within Flood Zone 1, which is considered to have less than 0.1% annual probability of river or sea flooding.

4.4. In addition to the flood zone mapping, flooding extents for rivers and the sea both with and without defences, are shown in the online EA Flood Map for Planning datasets. The extract in **Figure 4-1** below shows that no area within the site is at risk of flooding from rivers or the sea at present or including an allowance for climate change in the future.



Figure 4-1 : Flood Zone 2 and 3 Extent with Climate Change (2070 to 2125) (Source : EA Flood Map for Planning)

4.5. Therefore, the flood risk from rivers and the sea is considered to be low.

Pluvial Flooding (Surface Water)

4.6. The EA Flood Map for Planning outlines the surface water flood risk for areas in the UK. **Figure 4-2** below shows an extract of the mapping for the pluvial flood risk for the site between 2040 and 2060.

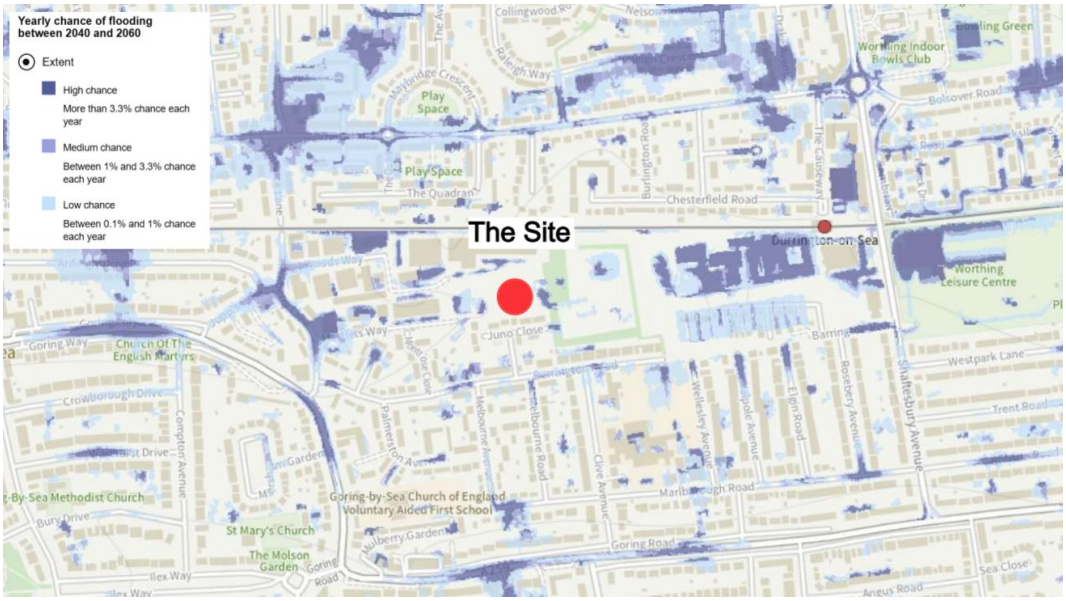

Figure 4-2 : Yearly Chance of Surface Water Flooding between 2040 and 2060 (Source : DEFRA Long Term Flood Risk Mapping)

4.7. **Figure 4-2** shows that the site would be subject to predominantly low-medium chance surface water flooding (between 0.1% and 3.3% chance each year) mainly where the previous gasholder tank was located, in the northeast corner for the site. There is some localised high chance surface water flooding (more than 3.3% chance each year) at the centre of the site and adjacent to Martlets Way. These are most likely associated with low points within the current topography and can be resolved by the proposed development and surface water drainage network.

4.8. The Adur and Worthing Councils SFRA states that surface water flooding poses the greatest risk to properties within Worthing and other surrounding areas due to the high level of urbanisation and the prevention of drainage by high tides or groundwater. As a result, surface water flood events are frequent, with recent flooding of roads or properties in Worthing reports in June 2012, July 2014, May 2018 and July 2018.

4.9. Appendix F of the Adur and Worthing Councils SFRA provides mapping to show the risk of flooding from surface water throughout the area covered by the Local Plan, an extract is shown below in **Figure 4-3**:

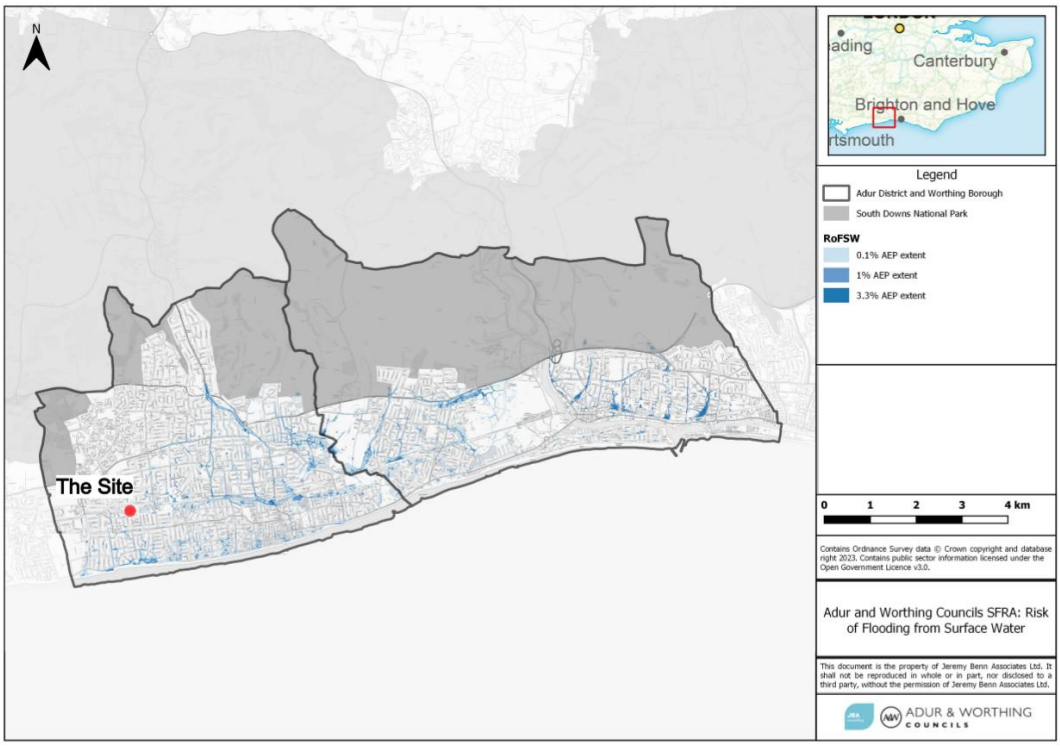

Figure 4-3 : Extract of Risk of Flooding from Surface Water Map (Source: Adur and Worthing Councils Level 1 SFRA)

4.10. **Figure 4-3** shows that the surface water flood risk largely follows roads; that there is a relatively wide surface water flow path through the residential areas in Durrington; and that the site is located in an area of low risk.

4.11. Therefore, the flood risk from surface water is considered to be low.

Groundwater Flooding

4.12. Groundwater flooding occurs as a result of water rising up from an underlying aquifer or water flowing from abnormal springs. It may occur after prolonged periods of heavy rainfall, and the areas at most risk are often low-lying where the water table is likely to be at a shallow depth. Groundwater flooding tends to last longer than fluvial, pluvial, or sewer flooding and may interact with other sources of flooding.

4.13. The DEFRA Magic Map online tool indicated that the site does not lie within a Source Protection Zone (SPZ).

4.14. There is 1 borehole record within the site boundary available on the BGS website, however, as it was recorded in 1917, it is deemed unsuitable.

4.15. Appendix J of the Adur and Worthing Councils SFRA provides mapping to show the assessment of groundwater emergence rather than the actual flood risk from groundwater flooding throughout the area covered by the Local Plan, an extract is shown below in **Figure 4-4**:

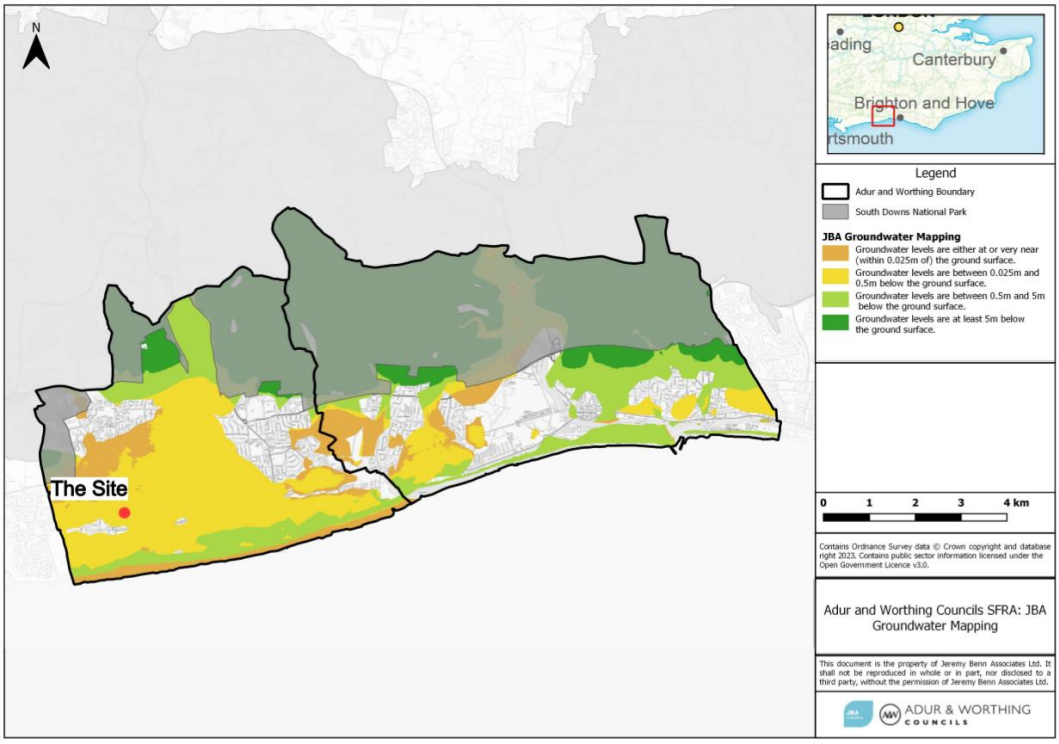

Figure 4-4 : Extract of Groundwater Mapping (Source: Adur and Worthing Councils Level 1 SFRA)

4.16. **Figure 4-4** shows that based on the mapping, the site is located where groundwater levels are between 0.025m and 0.5m below the ground surface.

4.17. As part of the previous planning applications within the current redline boundary, intrusive ground investigations were undertaken by Enzygo Ltd, **Figure 4-5** below shows the exploratory hole locations across the site.

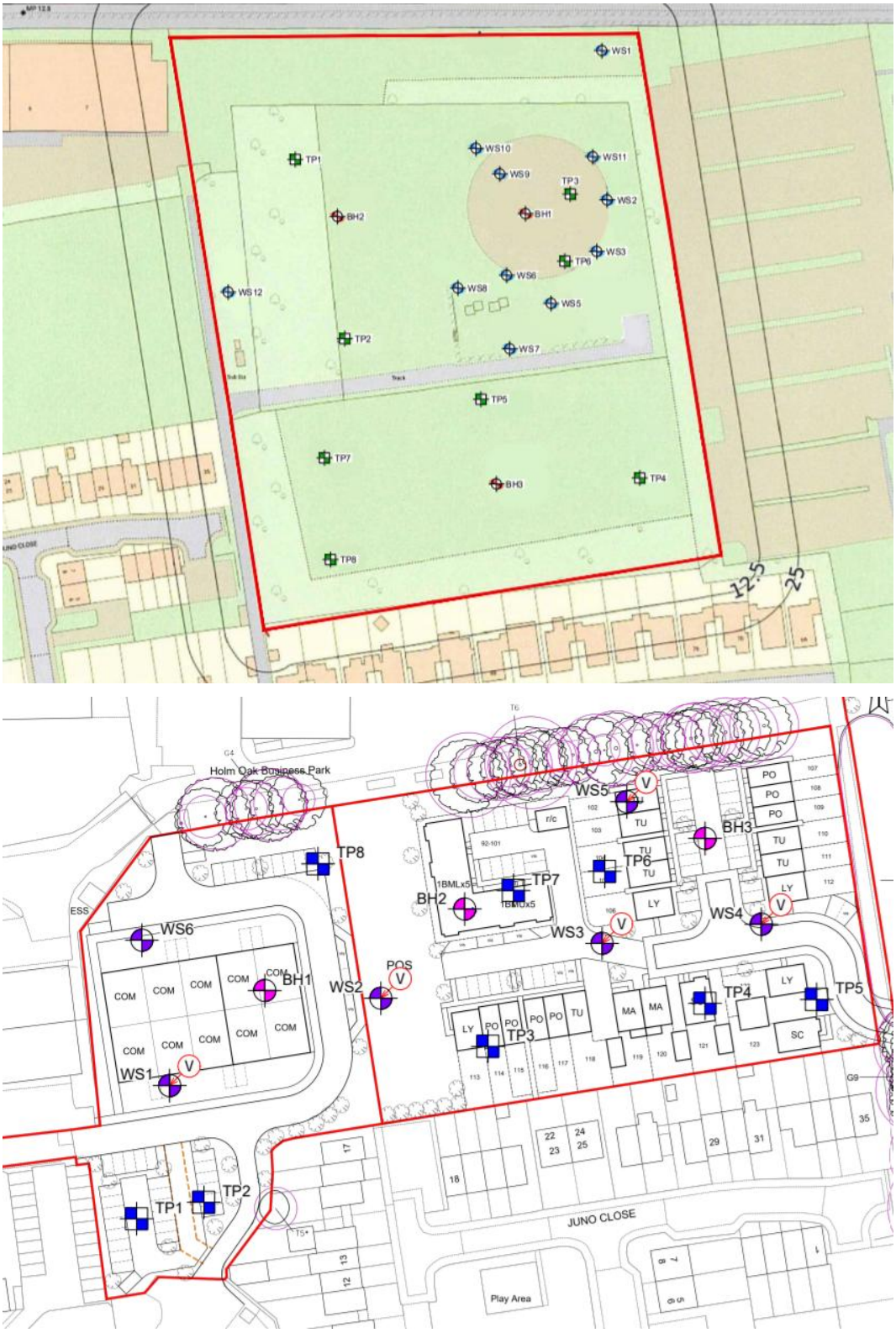

Figure 4-5 : Site Investigations Exploratory Hole Locations (Source : Enzygo Geo-Environmental Reports)

4.18. Groundwater conditions were assessed as part of the intrusive site investigation works:

- For the northeastern parcel (ref: CRM.1154.026.GE.R.001.A), during drilling of the boreholes BH1-BH3 in December, groundwater was encountered as seepages at depths between 0.3m and 3.5m bgl. On subsequent visits between 1st December to 22nd December, the shallowest standing groundwater level was 6.21m bgl.
- For the western parcel (ref: CRM.1154.039.GE.R.001.A), during the drilling of the boreholes BH2 in June, groundwater was encountered as seepages at depths greater than 6.0m bgl. On subsequent visits between 5th June to 26th June, the shallowest standing groundwater level was 6.79m bgl.

4.19. Therefore, the flood risk from groundwater is considered to be low.

Sewer Flooding

4.20. Sewer flooding is caused by the capacity of existing public sewers within an area being exceeded and overtopping onto the surface.

4.21. Historical incidents of flooding are detailed by Southern Water on a database relating to public foul, combined or surface water sewers and displays by postcode which properties suffered flooding within the Adur District and Worthing Borough area up to May 2023. The database indicated a total of 309 recorded flood events between January 2013 – May 2023 in the Local Plan areas, with all data included within the dataset being limited to events linked to capacity issues. The most frequently flooded postcode within the Worthing Borough is BN13 2 with 45 incidents. For the BN12 4 postcode, 13 incidents were recorded.

4.22. A pre-planning enquiry was submitted to Southern Water to confirm capacity exists within the foul water and surface water networks. Southern Water confirmed on 27th October 2025 that there is adequate capacity in the local network to accommodate the foul water and surface water flows from the proposed development. Correspondence is included within **Appendix E**. On this basis, it is considered that the existing drainage network in vicinity of the site has a low risk of sewer flooding.

4.23. Therefore, the flood risk from sewers is considered to be low.

Historic Flooding

4.24. Information collated from the EA, WSCC and Southern Water were assessed to understand the historic flooding in the Local Plan areas. The data shows that surface water flooding is the most frequent cause of flooding within the Adur District and Worthing Borough. The data shows that Durrington has experienced surface water, fluvial and groundwater flooding historically.

4.25. Key historical incidents of flooding occurring in

- October 1980 – Surface water flooding following intense rainfall led to flooding in Durrington and Worthing
- October 2000 – Surface water flooding of around 20 commercial properties in Worthing Town Centre due to surface water and highway drainage systems being overwhelmed by intense rainfall
- June 2007 – Widespread surface water flooding in Worthing following 4 inches of rain within one hour, impacting properties including Worthing Hospital
- June 2012 – An extreme rainfall event resulted in widespread surface water flooding across West Sussex, with Flood Alerts issued for the River Adur. Worthing was one of the worst affected areas, with two clusters of properties in West Worthing and Central Worthing affected by the flooding
- Winter 2013/14 – Flooding was reported across the Local Plan areas during a particularly wet winter. A small number of properties were impacted in Lancing, as well as the A27 and Shoreham Airport

4.26. Appendix A of the Adur and Worthing Councils SFRA provides mapping to show the recorded historic flood points and flood events, an extract is shown below in **Figure 4-6**:

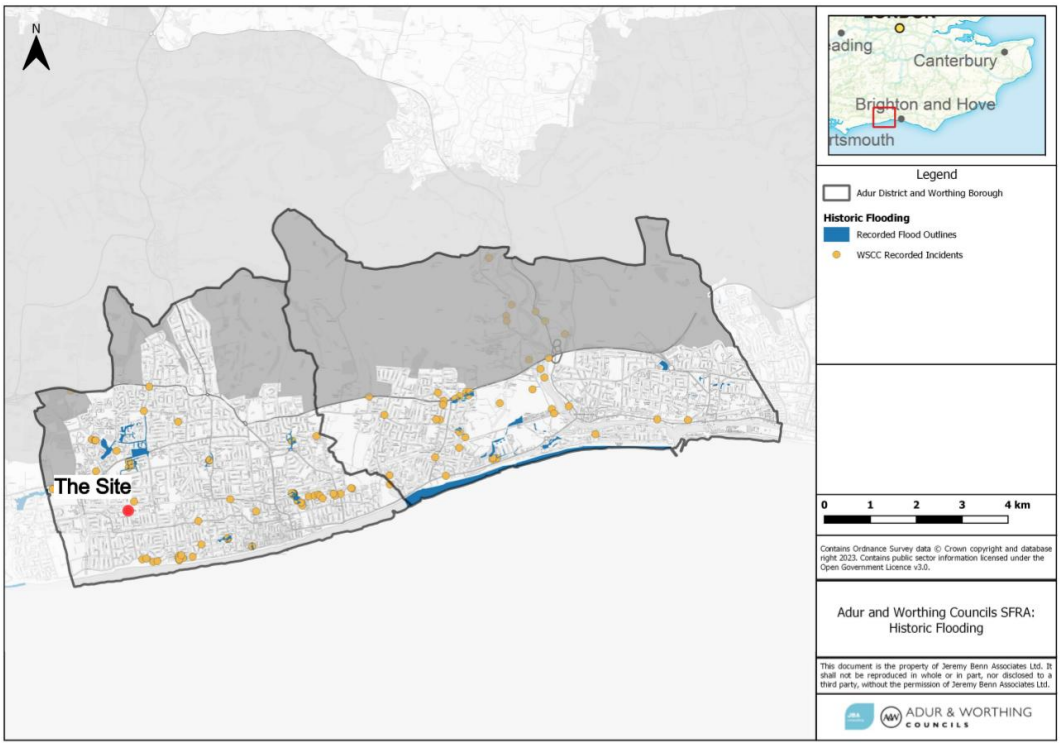

Figure 4-6 : Extract of Historic Flooding Mapping (Source: Adur and Worthing Councils Level 1 SFRA)

4.27. **Figure 4-6** shows that the site lies within an area with minimal history of flooding from the information provided by WSCC and the EA, with 1no. recorded incident within vicinity of the site, north of the railway line.

Artificial Sources

4.28. The EA's Flood Map for Planning shows the site is not located within any flood extents from reservoirs.

4.29. Therefore, the flood risk from artificial sources is considered to be low.

5. Sequential and Exception Test

Sequential Test

5.1. The objective of the sequential test is to steer new developments toward the areas with the lowest probability of flooding from any source. Where there are no reasonably available sites in lower flood risk areas, local planning authorities in their decision making should take into account the flood risk vulnerability of land uses and consider reasonably available sites in higher flood risk areas.

5.2. The site is located wholly within Flood Zone 1, indicating a low probability of river or sea flooding. Given that the risk of flooding from all sources is deemed to be very low/low across the site area, a sequential test is not likely to be required; in line with the national policy guidance (last updated September 2025) – subject to agreement of the local planning authority.

5.3. The proposed development incorporates suitable flood risk mitigation measures, including finished floor levels, exceedance flow routes and SuDS to further mitigate any flood risk.

Exception Test

5.4. The requirement for an exception test is dictated by the proposed development and the associated Flood Risk Vulnerability Classification, which is set out in Annex 3 of the NPPF. Based off the classifications set out in the NPPF, this development comprising residential dwellings and a commercial building, would be classified as 'more vulnerable'.

5.5. **Table 5-1** below, taken from the PPG on Flood Risk and Coastal Change, shows the Exception Test requirements for different flood risk vulnerability classification in different flood zones.

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	Flood Zone 1	✓	✓	✓	✓	✓
	Flood Zone 2	✓	Exception Test Required	✓	✓	✓
	Flood Zone 3a	Exception Test Required	×	Exception Test Required	✓	✓
	Flood Zone 3b	Exception Test Required	×	×	×	✓

Table 5-1 : Exception Test Requirements (PPG – Flood Risk and Coastal Change)

5.6. Given that the development is located wholly in Flood Zone 1 and is classed as a 'more vulnerable' development, the Exception Test will not be required.

6. Flood Risk Mitigation Measures

6.1. The site-specific flood risk assessment aims to demonstrate that the development will be safe for its lifetime, taking into account the vulnerability of its users, without increasing flood risk elsewhere. The development should achieve this while, where possible, reducing flood risk overall.

6.2. To achieve the above, the development incorporates the following measures to reduce flood risk and ensure adequate protection in the event of flooding.

Sustainable Drainage Proposals

6.3. The surface water network will be designed to accommodate up to and including the 100-year plus 45% allowance climate change storm events. It is recommended that the spine road levels are designed to create an exceedance flow route through the site towards the basins, as shown in **Figure 6-1**. This will safely manage potential overland flows from off-site and exceedance flows from on-site towards the proposed detention basins.



Figure 6-1 : Surface Water Flow Route Through the Development

Proposed Layout and Levels

6.4. The proposed detailed masterplan and levels will be designed to ensure that the flood routing plan simulates the pre-development site as much as possible. With areas of 'low' pluvial flood risk within the site, the site and masterplan levels will be designed

to convey exceedance flows, diverting them towards the proposed landscaping areas from neighbouring properties.

6.5. Levels will be designed such that surface water runoff will be directed away from buildings, towards the low points and non-habited areas of the site. Finished Floor Levels (FFLs) will generally be 150mm above surrounding levels for redundancy.

7. Surface Water Drainage Strategy

Sustainable Drainage Systems (SuDS)

7.1. DEFRA's National Standards for Sustainable Drainage Systems (SuDS) published in June 2025, and CIRIA Guidance C753 "The SuDS Manual" have been used to determine the appropriate SuDS Strategy, which considers the spatial and environmental constraints of the site.

7.2. **Table 7-1** below appraises the constraints and opportunities for the use of SuDS techniques within the site and adopts the management train approach outlined in CIRIA C753 'The SUDS Manual'.

Type:	**Infiltration Devices (Source Control)**
Constraints:	On-site intrusive site investigations found contamination with the upper strata for the site; therefore infiltration is not considered as a feasible means of disposal
Opportunities:	None
Type:	**Permeable Paving (Source Control)**
Constraints:	The treatment and conveyance benefits of permeable paving is dependent on regular maintenance. Permeable paving can't be proposed on any public roads due to adoption issues, which therefore limits the extent where it can be proposed. Permeable paving also shouldn't be proposed on any roads expecting heavy duty traffic i.e roads within the commercial area.
Opportunities:	Lined permeable paving can be used to provide a stage of treatment in private drives and parking courts around the site, should this be required as part of the treatment. It can also be provided within the parking bays provided within the commercial area of the site. To be considered further at the next design stage.
Type:	**Rainwater Harvesting (Source Control)**
Constraints:	The benefits of rainwater harvesting on a specific design storm event cannot be quantified due to the seasonal availability of storage within the structure and lack of data on regular daily demand for non-potable water from surface water runoff. Communal systems are not widely accepted due to adoption and maintenance issues and are therefore not relied upon to provide attenuation. When the system is full, it no longer has capacity for subsequent storms, which would introduce risk of flooding downstream.
Opportunities:	Water butts can be used for re-use in irrigation and for grey water. However, it is difficult to quantify contributions from these, therefore no considerations to the benefits offered are made within the attenuation calculations
Type:	**Swales etc (Permeable Conveyance)**
Constraints:	Swales require a minimum of 1 in 3 side slopes which have a significant land take. In places, there is no space for additional perimeter swales due to root protection areas
Opportunities:	Opportunity to propose roadside conveyance swales with 1 in 1 side slopes to convey and treat surface water runoff before discharging into final storage
Type:	**Tree Pits / Rain Gardens (Filtration)**

Constraints:	Tree pits and rain gardens have more rigorous up-keep and maintenance and are often poorly maintained. This leads to clogging over time. They are also subject to co-ordination and can be difficult to get adopted within the sewer network, because of this, they are subject to the Landscape Architect's design
Opportunities:	Opportunities to incorporate tree pits in verge and soft landscaped areas
Type:	**Green Roofs (Source Control)**
Constraints:	Limited feasibility for green roofs for houses and warehousing due to structural constraints and pitched roofs
Opportunities:	None
Type:	**Detention Basins / Ponds (End of Pipe Treatment)**
Constraints:	In order to provide suitable access for maintenance, 1:3 side slopes are needed for ponds/basins which tend to require significant land requirement. Existing constraints such as treelines/hedgelines that are likely to be retained for the development. Any ponds/basins and associated re-profiling of levels will need to be located outside of root protection areas
Opportunities:	There is space within the development to allow for detention basins to be used to provide storage and treatment.
Type:	**Attenuation Tanks (End of Pipe Treatment)**
Constraints:	None
Opportunities:	Can be used in parking areas or open spaces to supplement the SuDS with additional storage where feasible

Table 7-1 : C753 SuDS Management Train Approach

7.3. After consideration of the CIRIA C753 SuDS Management Train Approach, the most viable SuDS options for the site would be a combined solution of roadside tree pits, lined permeable paving, detention basins and attenuation tanks. This will provide the necessary storage and treatment for up to and including the 100-year plus 45% allowance climate change storm events. Surface water runoff from the site will then discharge into a nearby surface water sewer via a flow control device which will restrict flows.

Updated National Standards for Sustainable Drainage Systems (SuDS)

7.4. The National Standards for SuDS was published on 19th June 2025. The new standards aim to help design, maintain and operate SuDS utilised within new developments/infrastructure. In addition, they also aim to promote consistency and help to ensure the long-term performance and resilience of SuDS, whether on Greenfield or Brownfield sites.

7.5. The national standards have been separated into 2 types of standards:

- The Hierarchy Standard (Standard 1) – gives criteria for prioritising the choice of final runoff destination;
- Fixed Standards (Standards 2-7) – states the minimum design criteria that all surface water drainage systems should satisfy and how they should be built, maintained and operated.

Standard 1: Runoff Destination

7.6. This standard determines where the water will go after leaving the site; ensuring it is managed appropriately.

7.7. Priority 1 refers to collection for non-potable use. The use of runoff collection devices such as rainwater harvesting systems would be unfeasible for this site due to cost and practicality; having a rainwater harvesting system within communal areas would lead to an unadopted system by the future management company and it is difficult to quantify the storage provisions that a rainwater harvesting system would provide for the storage provisions of the site and the impact of that on other SuDS elements. The most viable option would be including systems such as water butts into all gardens within residential dwellings to assist with irrigation etc. With 89 residential dwellings proposed across the development, based on a 200L water butt being used across each dwelling, a total of 17.8m^3 of additional storage would be provided. As the type of industry proposed for the commercial area of the site is unknown, it is not possible to determine the water demand. Therefore, the possibility of implementing a rainwater harvesting system in the commercial unit will need to be determined at the next design stage.

7.8. Priority 2 refers to infiltrating to ground, which as discussed earlier in this report, the geo-environmental reports carried out by Enzygo Ltd found that even though the site is underlain by Lewes Nodular Formation consisting of chalk, the Made Ground across the site is likely to be contaminated which is considered unsuitable for infiltrating to ground.

7.9. Priority 3 refers to discharging to an above ground surface water body. With no watercourses or ditches located within the site and the closest main river located approximately 1.35km northwest of the site; the site is considered unsuitable for discharging to an above ground surface water body.

7.10. Priority 4 refers to discharging to a surface water sewer, or another piped surface water drainage system. According to the Southern Water sewer asset records, existing surface water sewers are located within the site, along Martlets Way. A pre-planning enquiry was sent to Southern Water to establish capacity within the existing network for the proposed development. Southern Water confirmed that capacity exists within the network for the development. Refer to **Appendix E** for the Southern Water correspondence.

7.11. The development is discharging to a surface water sewer, or another piped surface water drainage system and is considered the highest relevant standard for the site.

7.12. Therefore, the surface water drainage design is considered compliant with Standard 1.

Standard 2: Management of Everyday Rainfall (Interception)

7.13. This standard focuses on capturing and managing rainfall at source, reducing the volume of runoff from the site.

7.14. The overall surface water drainage strategy includes 2no. detention basins that provide the necessary storage to achieve the required restricted discharge rate for the site. It is within the detention basins that interception will be provided. The basins have been provisionally sized to assume 65% of the developable area is impermeable.

7.15. As the ground beneath is contaminated and remediation measures are needed, the detention basins will need to be lined. Lined basins should contain a layer of at least 500mm of suitable base material, which will ensure the basins are suitable for interception for impermeable surface areas up to 5 times the base of the vegetated surface area receiving the runoff.

7.16. The area of the basin that is assumed to contribute to interception of runoff shall be below the outlet level of the basins. Generally, outfall levels from basins are set 100mm to 150mm above the lowest point.

7.17. In line with the latest National Standards for SuDS Paragraph 2.5 "*Interception shall be delivered within the development for the first 5mm of rainfall for the majority of*

rainfall events". To comply, an 80% interception rate has been applied for summer events.

7.18. **Table 7-2** below sets out the interception requirement for each basin:

Basin	A	B	C	D	E	F	Min Level of Outfall Above Base of Basin (mm) (Fx5mm/D)
	Imp Area (ha)	Inter Rate 80%	Imp Area for Inter (ha) (AxB)	Base Area of Basin (ha)	5 Times Base Area (ha)	Remaining Imp Area to be Intercepted (ha) (C-E)	
East	1.378	0.8	1.102	0.025	0.125	0.977	195
West	0.827	0.8	0.662	0.022	0.11	0.552	125

Table 7-2 : Interception Requirements for Site Basins

*Inter = Interception at 80%

7.19. The above approach is very conservative and does not allow for SuDS elements used across the development site such as permeable paving, swales, tree pits etc. Conveyance swales/tree pits integrated within the landscaping will be able to capture and treat surface water runoff before it is ultimately discharged into the detention basins before outfalling into the existing surface water drainage network.

7.20. Therefore, the surface water drainage design is considered compliant with Standard 2.

Standard 3: Management of Extreme Rainfall and Flooding

7.21. This standard addresses how to handle larger rainfall events, to prevent flooding.

7.22. The surface water drainage rate has been set at a 'relaxation factor' of Greenfield runoff rates as the site is classed as 'previously developed' (Brownfield), which is in line with the National Standards for SuDS. Therefore, a rate of up to 5 times the 50% AEP Greenfield runoff rate (1 in 2-year Greenfield Runoff Rate) has been applied to all return periods which complies with National Standards requirements (in terms of discharge rate and volume respectively) and is in line with what was agreed with West Sussex County Council as Lead Local Flood Authority on 27th November 2025. Refer to **Appendix F** for the LLFA Meeting Minutes.

7.23. The proposed SuDS design has been modelled using Causeway Flow and provides adequate storage, with no significant flooding noted, and all runoff contained on site up to and including the 100-year plus 45% allowance climate change storm events.

Exceedance Routes

7.24. As a result of heavy or extreme storm events, it is sometimes unavoidable for the capacity of sewers and other drainage systems to be exceeded. Drainage exceedance will occur when the rate of surface water runoff exceeds the inlet capacity of the drainage system; when the receiving water or pipe system becomes overloaded/blocked; or when the outfall is restricted due to flood levels in the receiving water.

7.25. The proposed basin features will be located towards the lowest lying areas of the site, to ensure the internal access roads flow away from residential units. The routes will ultimately mimic the current flow routes associated with the existing site as a result of the topography.

7.26. In addition, with development area levels being set some 0.3 to 0.45m above existing ground levels, this ensures offsite exceedance flood rout concerns are addressed.

Runoff Volumes

7.27. There will be an increase in impermeable area resulting in an increase in runoff volume for the 1% AEP event. The proposals are to discharge 1% AEP runoff at the 50% AEP Greenfield runoff rates (1 in 2-year) with a 'relaxation factor' of up to 5 times this rate, in accordance with the National Standards for SuDS.

7.28. Therefore, the surface water drainage design is considered compliant with Standard 3.

Standard 4: Water Quality

7.29. This standard ensures that the water discharged from the SuDS system is clean and does not pollute the receiving water bodies.

7.30. The drainage design for the site utilises roadside tree pits, lined permeable paving, attenuation tanks and detention basins before discharging into an existing surface

water sewer at a restricted rate. All elements provide treatment prior to discharge. In addition, water quality will be significantly improved compared to existing runoff.

7.31. **Table 7-3** below sets out the mitigation indices for each SuDS component:

For Surface Water Discharge from All Roads Except Low Traffic Roads			
	Required Mitigation Indices		
Pollution Hazard Level	**TSS**	**Metals**	**Hydrocarbons**
Medium	0.7	0.6	0.7
Type of SuDS Component Provided			
Swale/Basin	0.5	0.6	0.6
Detention Basin	0.25	0.25	0.3
Total	0.75	0.85	0.9
Check	**+0.05**	**+0.25**	**+0.2**

Table 7-3 : SuDS Mitigation Indices

7.32. Therefore, the surface water drainage design is considered compliant with Standard 4.

Standard 5: Amenity

7.33. This standard considers the aesthetic and recreational value of the SuDS features, making them enjoyable and beneficial for the community.

7.34. The proposed SuDS strategy incorporates an above ground detention basin within the 2no. areas of open space that is proposed across the development. Both basins have been designed to incorporate them into the proposed landscaping and will be seeded with the same mix as the proposed surrounding landscaping, which will also reflect the local context of the area.

7.35. The landscape strategy for the development consists of open space and a play area which will be connected by pedestrian footways through the site to promote healthy

living and community cohesion. Further details can be found within the development's Landscape Strategy, produced by CSA Environmental (ref: CSA/77885/100).

7.36. Therefore, the surface water drainage design is considered compliant with Standard 5.

Standard 6: Biodiversity

7.37. This standard focuses on how SuDS can enhance the natural environment and support local eco-systems.

7.38. The proposed SuDS strategy has been considered as part of the wider landscaping of the proposed development, respecting the Root Protection Areas (RPAs) where possible, and has been developed with biodiversity in mind, in line with CIRIA guidance and LLFA requirements. Refer to the development' Landscape Strategy for further details (ref: CSA/77885/100).

7.39. The main SuDS feature on site will be the detention basins, which will utilise a selection of appropriate planting across the scheme.

7.40. Further details, including the biodiversity risk and opportunity assessment and the integration of the design with statutory Biodiversity Net Gain (BNG) requirements, can be found within the site's BNG Assessment.

7.41. Therefore, the surface water drainage design is considered compliant with Standard 6.

Standard 7: Design of Drainage for Construction, Operation, Maintenance, Decommissioning and Structural Integrity

7.42. This standard covers the entire lifecycle of the SuDS, from initial design to eventual decommissioning; ensuring long-term functionality and safety.

7.43. The drainage design has been produced with consideration to longer term construction methods, to ensure that the proposals are deliverable. This includes details on the levels of the associated drainage works, alongside appropriate specification of materials and design to ensure that the proposals remain operational for the lifetime of the development.

7.44. A Management and Maintenance Plan for the proposed drainage network will be included as part of this report, which will set out the mitigation works to ensure the on-going functionality of the design following construction. Refer to **Appendix G**.

Future Maintenance

7.45. It is anticipated that a management company will be appointed to maintain communal areas, landscaping and any shared SuDS throughout the development that are not otherwise adopted by public authorities.

7.46. All maintenance will be in accordance with the best practices, as well as with the CIRIA C753 "The SuDS Manual".

7.47. Therefore, the surface water drainage design is considered compliant with Standard 7.

Surface Water Drainage Network

7.48. Drawing 2505550_C-ACE-XX-XX-DR-C-0601 shows the provision of SuDS across the site, also included within **Appendix H**.

7.49. The overall drainage strategy is to treat and store surface water runoff within roadside tree pits, permeable paving, 2no. detention basins and attenuation tanks located across the site before discharging into the existing surface water network at a restricted discharge rate based on a 'relaxation factor' applied to the site's Greenfield runoff rates (up to 5 times the 1 in 2-year Greenfield Rate) in line with National Standards for SuDS.

7.50. To achieve the restricted discharge rate without undue flood risk to the development or surrounding areas, the detention basins have been provisionally sized to contain runoff from the impermeable areas on site. The impermeable area for the site is equivalent to 65% of the site's developable area which excludes tree root protection areas and other undevelopable areas within the site boundary but includes a 10% allowance for urban creep.

7.51. Existing Greenfield runoff rates for the site were determined using the FEH Statistical Method based on 1 hectare (per hectare rate) which is presented in **Table 7-4** below. A copy of the Greenfield runoff calculations is provided in **Appendix I**.

Return Period	Greenfield Runoff Rate (l/s/ha)	Greenfield Runoff Rate for Developable Area (l/s)
Q_{bar}	3.6	12.2
Q_1	3.0	10.2
Q_2	3.1	10.5
Q_{30}	8.2	27.8
Q_{100}	11.3	38.3

Table 7-4 : Existing Greenfield Runoff Rates Summary

7.52. Based on the total developable area (3.39ha) and the impermeable area (2.205ha), the overall discharge rate of 52.6 l/s for the site has been used to calculate the storage required for the site, which is 1,568m^3.

7.53. The residential development to the East (Phase 1) is owned by the same applicant as this proposed development (Phase 2). As part of the previous drainage design, an allowance of 10l/s was accommodated for within the piped network of Phase 1 for future flows from Phase 2. Drainage calculations were carried out to establish that an area of approximately 210m^3 would discharge at 10l/s (100yr+CC) without attenuation. Therefore, to utilise the available capacity, a proposed gully catchment will discharge into the existing drainage network before outfalling downstream into the Phase 1 basin. No changes to the downstream controls are proposed, therefore no additional flows would leave the Phase 1 site.

7.54. If the proposed site layout was adapted to accommodate attenuation near the Phase 1 outfall, a much larger catchment could utilise the 10l/s available, and this may be explored in future iterations of the strategy. The use of the Phase 1 network for a larger catchment is subject to confirming headroom available in the hydraulic model.

7.55. Causeway Flow has been used to size the surface water storage for storm events up to and including the 100-year plus 45% allowance climate change storm events. Refer to **Appendix J** for the modelling results.

7.56. The detention basins will be located at the low points of the site, with connection to these made through a traditional piped network, roadside tree pits and attenuation tanks.

7.57. The surface water drainage network will be designed to ensure appropriate conveyance and full containment of surface water runoff for storm events up to and including the 100-year plus 45% allowance climate change. Any exceedance flows will be directed away from buildings and towards open spaces and roads to minimise the risk to person and property, on and off site.

7.58. The surface water outfall is to a public Southern Water sewer, passing through an access road which appears to be privately owned 3rd party land. A Section 98 application will need to be made to Southern Water to requisition a new sewer, running parallel to the existing Southern Water foul sewer. An updated capacity check is to be submitted prior to connection.

8. Foul Water Drainage Strategy

8.1. The proposed development will consist of 123 dwellings and 1,500m^2 of commercial space, from which a peak foul demand of 9.55l/s would be allowed for, with 6.15l/s of the demand coming from the residential dwellings.

8.2. Southern Water sewer asset maps show that existing foul water sewers are located within the site boundary, to the west of the development within Martlets Way. The existing sewers have a diameter of 600mm and flow from east to west along Martlets Way and then south as they enter the site towards an existing foul water pumping station, located outside the site boundary.

8.3. Therefore, the proposed foul water drainage strategy is to discharge proposed flows via gravity into the existing Southern Water network, with a connection proposed into existing foul water manhole 3004, located within the site boundary, to the west of the development.

8.4. A Pre-Planning Enquiry has been submitted to Southern Water, who have confirmed that capacity exists within the local network for the proposed flows. Refer to **Appendix E** for the correspondence.

8.5. A new drainage connection would require a Section 106 agreement with Southern Water prior to construction.

9. Conclusions

9.1. Ardent Consulting Engineers, hereafter referred to as 'Ardent', has been appointed by Bellway Homes Ltd (Southern Counties) to provide a Flood Risk Assessment (FRA) and Drainage Strategy in support of a full planning application for mixed-use development comprising 123 dwellings and commercial units with associated landscaping, open space and drainage.

9.2. Based on the EA Flood Map for Planning, the entire site is located within Flood Zone 1, which is considered to have less than 0.1% annual probability of river or sea flooding. No area within the site is at risk of flooding from rivers or the sea at present or including an allowance for climate change in the future.

9.3. The site would be subject to predominantly low-medium chance surface water flooding (between 0.1% and 3.3% chance each year) mainly where the previous gasholder tank was located, in the northeast corner for the site. There is some localised high chance surface water flooding (more than 3.3% chance each year) at the centre of the site and adjacent to Martlets Way. These are most likely associated to low points within the current topography and can be resolved by the proposed development and surface water drainage network.

9.4. As part of the previous planning applications within the current redline boundary, intrusive ground investigations were undertaken by Enzygo Ltd, **Figure 4-5** shows the exploratory hole locations across the site. Groundwater conditions were assessed as part of the intrusive site investigation works:

- For the northeastern parcel (ref: CRM.1154.026.GE.R.001.A), during drilling of the boreholes BH1-BH3 in December, groundwater was encountered as seepages at depths between 0.3m and 3.5m bgl. On subsequent visits between 1st December to 22nd December, the shallowest standing groundwater level was 6.21m bgl.
- For the western parcel (ref: CRM.1154.039.GE.R.001.A), during the drilling of the boreholes BH2 in June, groundwater was encountered as seepages at depths greater than 6.0m bgl. On subsequent visits between 5th June to 26th June, the shallowest standing groundwater level was 6.79m bgl.

9.5. Flood risk from artificial sources and sewers is considered to be low.

9.6. Due to all sources of flood risk deemed to be very low/low, it is anticipated that a sequential test will not be required.

9.7. The flood risk mitigation measures will be incorporated within the proposed design to further mitigate the flood risk to the development and offsite.

9.8. The most viable SuDS options for the site would be a combined solution of roadside tree pits, detention basins and attenuation tanks. This will provide the necessary storage and treatment for up to and including the 100-year plus 45% allowance climate change storm events. Surface water runoff from the site will then discharge into a nearby surface water sewer via a flow control device which will restrict flows. As the site has been previously developed, according to the National Standards for SUDS, a 'relaxation factor' can be applied to the Greenfield Runoff rates, which allows for a discharge rate no greater than up to 5 times the 50% AEP Greenfield Runoff Rate. The use of the relaxation factor was raised with the LLFA who stated it was acceptable for this site, refer to **Appendix F** for the LLFA Meeting Minutes.

9.9. The surface water outfall is to a public Southern Water sewer, passing through an access road which appears to be privately owned 3rd party land. A Section 98 application will need to be made to Southern Water to requisition a new sewer, running parallel to the existing Southern Water foul sewer. An updated capacity check is to be submitted prior to connection.

9.10. The proposed foul water drainage strategy is to discharge proposed flows via gravity into the existing Southern Water network, with a connection proposed into existing foul water manhole 3004, located within the site boundary, to the west of the development. A new drainage connection would require a Section 106 agreement with Southern Water prior to construction.

9.11. This FRA demonstrates that the proposals are consistent with the aims of NPPF, PPG, the latest National Standards for SuDS and Local Plan and the other relevant local guidance. The proposed drainage strategy will not increase flood risk for the development site or the surrounding area.

Appendix A

511250 E | 511300 E | 511350 E | 511400 E

103100 N | 103050 N | 103000 N

UNITS 15 | RIDGE 15.04 | EAVES 13.94

UNITS 16 - 20 | RIDGE 15.58 | EAVES 14.33 | EAVES 14.10

MARTLETS WAY

TC1 | TC2

GARAGES | BRICK WALL HT 2.4m WITH BRICK BUTTRESSES | BRICK WALL HT 0.2m | C/B FENCE HT 1.9m | C/B FENCE HT 1.8m | C/B FENCE HT 1.7m

FOOTPATH (TARMAC) | BRICK PAVING | CONCRETE | GRASS | GRAVEL | EARTH | TARMAC | CONCRETE BLOCKS | CONCRETE SLAB

C/L + B/W FENCE HT 2.4m | C/L + B/W FENCE HT 2.2m | C/L + B/W FENCE HT 1.7m | PALISADE FENCE HT 2.4m | PALISADE FENCE HT 2.2m | PALISADE FENCE HT 1.9m | P/R FENCE HT 1.9m | C/B FENCE HT 2.0m | C/B FENCE HT 1.8m | C/B FENCE HT 1.7m | C/L + B/W FENCE HT 2.4m | C/L + B/W FENCE HT 2.2m

DRAINAGE CHANNEL | FC CL 9.66 | FC CL 9.61 | FC CL 9.61 | FC CL 9.61

MIXED VEGETATION Av. HT 1.0m | MIXED VEGETATION Av. HT 2.3m | MIXED VEGETATION Av. HT 1.5m | UNMADE/GRASS | UNMADE | BANKING FADES IN THIS AREA | NO DEFINED EDGE OF CONCRETE IN THIS AREA | NO DEFINED EDGE OF TARMAC IN THIS AREA | BRICK RETAINING WALL | TIMBER RETAINING WALL HT 0.9m

HOLM OAK G 2x1.2 HT 15m | HOLM OAK G 2x1.8 HT 18m | HOLM OAK G 2x1.3 HT 16m | HOLM OAK G 2x1.5 HT 17m | HOLM OAK G 2x1.6 HT 16m | HOLM OAK G 1.6 HT 8m | HOLM OAK G 1.0 HT 7m | HOLM OAK G 2x1.5 HT 18m | STUMP G 0.9 | CONIFER G 1.8 HT 16m | CONIFER G 1.8 HT 14m | SYCAMORE G 1.8 HT 15m | BEECH G 1.2 HT 9m | HOLM OAK G 0.5 HT 5m | ELDER MG 0.3 HT 6m

PALISADE FENCE HT 2.4m | GATE | PORTAKABIN | CONTAINER | CONTAINERS | SHED | STEEL PLATE | MH CL 10.21 | SKIP | BH 10.47 | BH 8.09

Nos 15 - 17 | RIDGE 20.07 | RIDGE 20.04 | RIDGE 20.05 | EAVES 14.47 | EAVES 13.96 | EAVES 14.36 | EAVES 14.6

WATER TREATMENT WORKS | RIDGE 17.11 | RIDGE 16.01

Notes:

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Coordinate Table

Station	Description	Easting	Northing	Level
S1	Road Nail	511562.336	103058.034	10.572
S2	Road Nail	511641.783	103076.676	11.858
S3	Peg	511636.836	103172.319	10.752
S4	Peg	511543.874	103167.706	11.006
S10	Road Nail	511533.330	103056.128	10.515
TC1	Road Nail	511311.088	103031.455	9.753
TC2	Road Nail	511369.002	103025.712	10.160
TC6	Road Nail	511593.141	103034.420	10.846
TC7	Road Nail	511654.449	103042.627	10.984
TC8	Peg	511652.813	103004.608	11.213
TC9	Peg	511603.503	103000.103	11.300
TC10	Peg	511554.973	102994.272	11.650
TC11	Road Nail	511572.331	103025.704	11.283

TOPOGRAPHICAL KEY

GENERAL ABBREVIATIONS

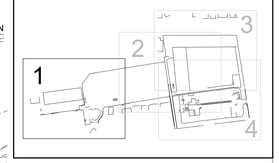
SURVEY STATION 5 | BANKING TOP / BOTTOM | HEDGE SPREADS | WOODLAND CANOPY | ARROW ON STEPS / RAMPS INDICATES DIRECTION UP/AWARDS | TREES SPREAD & GIRTH SHOWN TO SCALE | GATE | KERB CHANNEL | ROAD UNKERBED | FOOTPATH | CHANGE IN SURFACE | FENCE | WALL | OVERHEAD ELECTRIC | OVERHEAD TELEGOM | FOUL SEWER | SURFACE SEWER | P-TRAP | BACK DROP (EXTERNAL) | BACK DROP (INTERNAL) | BUILDING | OPEN SIDED BUILDING | OVERHANG / CANOPY | GLASSHOUSE | CONTOUR 25.50 | SPOT LEVEL + 127.13 | SONAR LEVEL ◇ 127.13 | BORE HOLE BH | TRIAL HOLE TH

AIR CONDITIONING UNIT	ACU	IRON RAILINGS	IR
AIR VALVE	AV	LARCH LAP FENCE	L/L
AVERAGE	Av.	POST AND RAIL FENCE	P/R
BACK DROP	BD	POST AND WIRE FENCE	P/W
BASE LEVEL	BL	WIRE MESH FENCE	WM
BELISHA BEACON	BB		
BOLLARD	BO		
BOLLARD LIGHT	BOL		
BRICK	BK		
BUS STOP	BS		
CABLE RISER	CR		
CABLE TV COVER	CATV		
CABLES TO GROUND	CTG		
CATCH PIT	CP		
CONTROL BOX	CB		
COVER LEVEL	CL		
CROSSING CONTROL BUTTON	CCB		
DECIDUOUS TREE	DCT		
DRAINAGE CHANNEL	DCH		
DROP KERB	DK		
ELECTRICITY POLE	EP		
EARTH ROD	ER		
FLOOD LIGHT	FL		
FLOOR LEVEL	FL		
FOOTPATH	FP		
FOUL WATER	FW		
GAS RISER	GR		
GAS VALVE	GV		
GULLY	GY		
GRASS BED	GB		
INSPECTION COVER	IC		
INVERT LEVEL	IL		
KERB OUTLET	KO		
LAMP POST	LP		
MANHOLE	MH		
MARKER POST	MP		
METER	MT		
NO PIPES VISIBLE	NPV		
ORDNANCE SURVEY BENCH MARK	OSBM		
P-TRAP	PT		
POST	PO		
POST BOX	PBOX		
RODDING EYE	RE		
ROAD SIGN	RS		
RAIN WATER PIPE	RWP		
RETAINING WALL	RW		
SOFT BED	SB		
STOP COCK	SC		
STOP COCK MARKER PLATE	SCMP		
STOP VALVE	SV		
SOIL PIPE	SP		
SOIL VENT PIPE	SVP		
SURFACE WATER	SW		
TACTILE PAVING	TAC		
TELECOM POLE	TP		
TELEPHONE INSPECTION COVER	TIC		
TELEPHONE CALL BOX	TCB		
TICKET MACHINE	TM		
TOP OF WALL	TOW		
TRAFFIC LIGHT	TL		
TRAFFIC LIGHT COVER	TLC		
THRESHOLD LEVEL	THL		
UNABLE TO LOCATE	UTL		
UNABLE TO RAISE	UTR		
UNABLE TO SURVEY	UTS		
VENT PIPE	VP		
WATER LEVEL	WL		
WATER METER	WM		
WASH-OUT	WO		
WATER RISER	WR		
WATER TAP	WT		

FENCE ABBREVIATIONS

BARBED WIRE FENCE	B/W	IRON RAILINGS	I/R
CLOSE BOARDED FENCE	C/B	LARCH LAP FENCE	L/L
CONCRETE PANEL FENCE	CPL	POST AND RAIL FENCE	P/R
CORRUGATED IRON FENCE	CI	POST AND WIRE FENCE	P/W
CHAIN LINK FENCE	CXL	WIRE MESH FENCE	WM
CHESTNUT PALING	CNP		

Sheet Layout: (Not to Scale)



Revision	Description	Surv. by	Check. by	Appr. by	Date
1	Land off Martlets Way and site compound to south surveyed	TC	AG	CP	August 2025

0m 2 4 6 8 10 12 14 16 18 20 22

Topographical Survey

Client: Bellway

Barrington Road
Durrington
West Sussex

Scale:	Sheet Size:	Sheet Number:	Date:
1:200	A0	1	December 2021

Project Number:	Rev:	Surveyed by:	Checked by:	Approved by:
30510	1	RG	AJ	CP

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Notes:

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TC9	Peg	511603.503	103000.103	11.300
TC10	Peg	511554.973	102994.272	11.650
TC11	Road Nail	511572.331	103025.704	11.283

TOPOGRAPHICAL KEY

SURVEY STATION, BANKING (TOP / BOTTOM), HEDGE SPREADS, WOODLAND CANOPY, ARROW ON STEPS / RAMPS INDICATES DIRECTION UP/AWDS, TREES (SPREAD & GIRTH SHOWN TO SCALE), GATE, KERB CHANNEL, ROAD UNKERBED, FOOTPATH, CHANGE IN SURFACE, FENCE, WALL, OVERHEAD ELECTRIC, OVERHEAD TELECOM, FOUL SEWER, SURFACE SEWER, BACK DROP (EXTERNAL), BACK DROP (INTERNAL), BUILDING, OPEN SIDED BUILDING, OVERHANG / CANOPY, GLASSHOUSE, CONTOUR, SPOT LEVEL, SONAR LEVEL, BORE HOLE, TRIAL HOLE

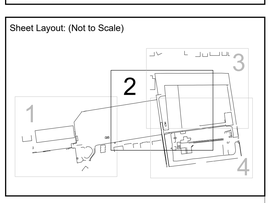
GENERAL ABBREVIATIONS

AIR CONDITIONING UNIT	ACU	CONTROL BOX	CB
AIR VALVE	AV	COVER LEVEL	CL
AVERAGE	Av.	CROSSING CONTROL BUTTON	CCB
BACK DROP	BD	CROSSING FURNITURE	CF
BABE LEVEL	BL	DRAINAGE CHANNEL	DCH
BEACON / BEACON	BE	DROP KERB	DK
BOLLARD	BO	ELECTRICITY POLE	EP
BOLLARD LIGHT	BOL	EARTH ROD	ER
BRICK	BK	FLOOD LIGHT	FL
BUS STOP	BS	FLOOR LEVEL	FF
CABLE RISER	CR	FOOTPATH	FP
CABLE TV COVER	CATV	FOUL WATER	FW
CABLES TO GROUND	CTG	GAS RISER	GR
CATCH PIT	CP	GAS VALVE	GV
		GULLY	GY
		INSPECTION BED	IB
		INSPECTION COVER	IC
		INVERT LEVEL	IL
		KERB OUTLET	KO
		LAMP POST	LP
		MANHOLE	MH
		MARKER POST	MP
		MAST	MT
		NO PIPES VISIBLE	NPV
		ORDNANCE SURVEY BENCH MARK	OSBM
		P-TRAP	PT
		POST	PO
		POST BOX	PBOX
		RODDING EYE	RE
		ROAD SIGN	RS
		RAIN WATER PIPE	RWP
		RETAINING WALL	RW
		SOFT BED	SB
		STOP COCK	SC
		STOP COCK FRAME PLATE	SCP
		STOP VALVE	SV
		SOIL PIPE	SP
		SOIL VENT PIPE	SVP
		SURFACE WATER	SW
		TACTILE PAVING	TAC
		TELECOM POLE	TP
		TELECOM PROTECTION COVER	TPC
		TELEPHONE CALL BOX	TCB
		TICKET MACHINE	TM
		TOP OF WALL	TOW
		TRAFFIC LIGHT	TL
		TRAFFIC LIGHT COVER	TLC
		THRESHOLD LEVEL	THL
		UNABLE TO LOCATE	UTL
		UNABLE TO RAISE	UTR
		UNABLE TO SURVEY	UTS
		VENT PIPE	VP
		WATER LEVEL	WL
		WATER METER	WM
		WASH OUT	WO
		WATER RISER	WR
		WATER TAP	WT

FENCE ABBREVIATIONS

BARBED WIRE FENCE	BWF	IRON RAILINGS	IR
CLOSE BOARDED FENCE	CBF	LARCH LAP FENCE	LFL
CONCRETE PANEL FENCE	CPL	POST AND RAIL FENCE	PRF
CORRUGATED IRON FENCE	CFI	POST AND WIRE FENCE	PWF
CHAIN LINK FENCE	CLF	WIRE MESH FENCE	WMF
CHESTNUT PALING	CNP		

Sheet Layout: (Not to Scale)



Revision	Description	Surv. by	Check. by	Appr. by	Date
1	Land off Marletts Way and site compound to south surveyed	TC	AG	CP	August 2025

0m 2 4 6 8 10 12 14 16 18 20 22

Topographical Survey

Client: Bellway

Barrington Road
Durrington
West Sussex

Scale:	Sheet Size:	Sheet Number:	Date:
1:200	A0	2	December 2021

Project Number:	Rev.	Surveyed by:	Checked by:	Approved by:
30510	1	RG	AJ	CP

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511550 E | 511600 E | 511650 E | 511700 E

103200 N | 103150 N | 103100 N

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TOPOGRAPHICAL KEY

SURVEY STATION 5 | BANKING (TOP / BOTTOM) | HEDGE SPREADS | WOODLAND CANOPY | ARROW ON STEPS / RAMPS INDICATES DIRECTION UP/AWARDS | TREES (SPREAD & GIRTH SHOWN TO SCALE) | GATE | KERB CHANNEL | ROAD UNKERBED | FOOTPATH | CHANGE IN SURFACE | FENCE | WALL | OVERHEAD ELECTRIC | OVERHEAD TELECOM | FOUL SEWER | SURFACE SEWER | P-TRAP | BACK DROP (EXTERNAL) | BACK DROP (INTERNAL) | BUILDING | OPEN SIDED BUILDING | OVERHANG / CANOPY | GLASSHOUSE | CONTOUR 25.00 | SPOT LEVEL + 127.13 | SONAR LEVEL ○ 127.13 | BORE HOLE BH | TRIAL HOLE TH

GENERAL ABBREVIATIONS

AIR CONDITIONING UNIT	ACU
AIR VALVE	AV
AVERAGE	Av.
BACK DROP	BD
BASE LEVEL	BL
BELISHA BEACON	BB
BOLLARD	BO
BOLLARD LIGHT	BOL
BRICK	BK
BUS STOP	BS
CABLE RISER	CR
CABLE TV COVER	CATV
CABLES TO GROUND	CTG
CATCH PIT	CP
CONTROL BOX	CB
COVER LEVEL	CL
CROSSING CONTROL BUTTON	CCB
DRAINAGE MANHOLE	DMH
DRAINAGE CHANNEL	DCH
DROP KERB	DK
ELECTRICITY POLE	EP
EARTH ROD	ER
ELECTRICITY METER	EM
FLOOR LEVEL	FL
FOOTPATH	FP
FOUL WATER	FW
GAS RISER	GR
GAS VALVE	GV
GULLY	GY
GRASS BED	GB
INSPECTION COVER	IC
INVERT LEVEL	IL
KERB OUTLET	KO
LAMP POST	LP
MANHOLE	MH
MARKER POST	MP
NO.	NO
NO PIPES VISIBLE	NPV
ORDNANCE SURVEY BENCH MARK	OSBM
P-TRAP	PT
POST	PO
POST BOX	PBOX
RODDING EYE	RE
ROAD SIGN	RS
RAIN WATER PIPE	RWP
RETAINING WALL	RW
SOFT BED	SB
STOP COCK	SC
STOP COCK FRAME PLATE	SCP
STOP VALVE	SV
SOIL PIPE	SP
SOIL VENT PIPE	SVP
SURFACE WATER	SW
TACTILE PAVING	TAC
TELECOM POLE	TP
TELECOM PROTECTION COVER	TPL
TELEPHONE CALL BOX	TCB
TICKET MACHINE	TM
TOP OF WALL	TOW
TRAFFIC LIGHT	TL
TRAFFIC LIGHT COVER	TLC
THRESHOLD LEVEL	THL
UNABLE TO LOCATE	UTL
UNABLE TO RAISE	UTR
UNABLE TO SURVEY	UTS
VENT PIPE	VP
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WASH-OUT	WO
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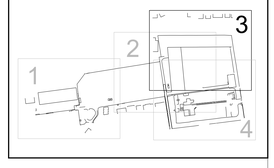

Revision	Description	Surv. by	Check. by	Appr. by	Date
1	Land off Marletts Way and site compound to south surveyed	TC	AG	CP	August 2025

0m 2 4 6 8 10 12 14 16 18 20 22

Topographical Survey

Client: Bellway

Barrington Road
Durrington
West Sussex

Scale:	Sheet Size:	Sheet Number:	Date:
1:200	A0	3	December 2021
Project Number:	Rev:	Surveyed by:	Checked by:	Approved by:
30510	1	RG	AJ	CP

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BANKING (TOP / BOTTOM)
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ROAD UNKERBED
FOOTPATH
CHANGE IN SURFACE
FENCE
WALL
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OVERHEAD TELECOM
FOUL SEWER
SURFACE SEWER
P-TRAP
BACK DROP (EXTERNAL)
BACK DROP (INTERNAL)
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GLASSHOUSE
CONTOUR
SPOT LEVEL + 127.13
SONAR LEVEL -0 127.13
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TRIAL HOLE TH

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AIR CONDITIONING UNIT	ACU	LAMP POST	LP
AIR VALVE	AV	MANHOLE	MH
AVERAGE	Av.	MARKER POST	MP
BACK DROP	BD	NAIL	N
BASE LEVEL	BL	NO PIPES VISIBLE	NPV
BEACON / BEACON	BO	ORDNANCE SURVEY BENCH MARK	OSBM
BOLLARD	BOL	P-TRAP	PT
BOLLARD LIGHT	BK	POST	PO
BRICK	BB	POST BOX	PBOX
BUS STOP	BS	ROODING EYE	RE
CABLE TV RISER	CATV	ROAD SIGN	RS
CABLE TV COVER	CTG	RAIN WATER PIPE	RWP
CABLES TO GROUND	CP	RETAINING WALL	RW
CATCH PIT	CB	SOFT BED	SB
CONTROL BOX	CL	STOP COCK	SC
COVER LEVEL	CCB	STOP COCK KEY PLATE	SCKP
CROSSING CONTROL BUTTON	CCE	STOP VALVE	SV
DRAINAGE CHAMBER	DCH	SOIL PIPE	SP
DRAINAGE CHANNEL	DK	SOIL VENT PIPE	SVP
DROP KERB	EP	SURFACE WATER	SW
ELECTRICITY POLE	ER	TACTILE PAVING	TAC
EARTH ROD	FL	TELECOM POLE	TPL
FLOOR LEVEL	FP	TELECOM PROTECTION COVER	TPC
FOOTPATH	FW	TELEPHONE CALL BOX	TCB
FOUL WATER	GR	TICKET MACHINE	TM
GAS RISER	GV	TOP OF WALL	TOW
GAS VALVE	GY	TRAFFIC LIGHT	TL
GULLY	HC	TRAFFIC LIGHT COVER	TLC
HEDGE BED	IC	THRESHOLD LEVEL	THL
INSPECTION COVER	IL	UNABLE TO LOCATE	UTL
INVERT LEVEL	KO	UNABLE TO RAISE	UTR
KERB OUTLET	LP	UNABLE TO SURVEY	UTS

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Sheet Layout: (Not to Scale)



Revision	Description	Surv. by	Check. by	Appr. by	Date
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West Sussex

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30510	1	RG	AJ	CP

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Appendix B

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MP 12.5

SP

Holm Oak Business Park

Mast / Telecommunications

Suds

Suds

LAP

Block A

Block B

Block C

ROAD 8

ROAD 9

ROAD 8

ROAD 10

JUNO CLOSE

BARRINGTON ROAD

Potential Link
To Juno Close

Potential Link
To Barrington Road

KEY

- Affordable Housing
- Proposed New Tree
- Existing Trees & Hedges
- Root Protection Zones
- Primary Entrance
- Gate Location
- Bin Collection Point
- Bike Storage
- Water Easement
- SGN Land

MDD ARCHITECTURE +URBAN DESIGN
MDD Architecture & Urban Design
18 Mulberry Walk - Bordon
Hampshire - GU35 0UL
Email: info@md-design.co.uk

1:500
0 10m 20m 30m 40m 50m

REV:	DESCRIPTION:	BY:	DATE:
A	Planning Issue	MD	15.04.26

CLIENT: Bellway Homes Southern Counties

SITE: Durrington Gasworks, Durrington

TITLE: Site Layout

SCALE AT A1:	DATE:	DRAWN:	CHECKED:
1:500	15.04.26	MD	MD

PROJECT NO:	DRAWING NO:	REVISION:
BSC-010	SL-01	A

Appendix C

enzygo
geo environmental



Geoenvironmental

Barrington Road, Goring on Sea, BN12 4XH

For Bellway Homes

CRM.1154.026.GE.R.001.A

'Experience and expertise working in union'

enzygo.com

Appendix 2 – Exploratory Hole Logs

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Barrington Road, Goring on Sea, BN12 4XH

BH01

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 22-11-21 Finish 22-11-21		

Client: Bellway Homes

Sheet: 1 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.50 - 1.40	B ES		0.50			MADE GROUND: Dark brown slightly sandy slightly gravelly CLAY with abundant rootlets. Gravel is medium to coarse subangular to subrounded flint and brick. Sand is fine to medium.
		1.20 - 1.38 1.20 - 1.70	SPT B	N 50	1.40			MADE GROUND: Yellowish brown silty SAND & GRAVEL with low cobble content. Gravel is fine to coarse subangular to subrounded chert/flint and cobbles of chert. Sand is medium to coarse. 1.20 - 1.38 Very dense. Refused at 1.38m begl.
		2.10	B ES		2.20			MADE GROUND: Reddish brown SAND & GRAVEL. Gravel is medium to coarse angular to subrounded brick and occasional flint. Sand is medium to coarse.
		2.50 - 3.00 2.50 - 2.95	B SPT	N 12				(Firm) yellowish brown sandy gravelly CLAY. Gravel is fine to coarse subangular to subrounded flint and rare chalk. Sand is medium to coarse. 2.50 - 2.95 Firm, medium strength.
		3.50 3.50 - 4.00 3.50 - 3.78	B D SPT	N 50				3.50 - 3.78 Very stiff, very high strength. Refused at 3.78m begl.
		4.50 4.50 - 5.00 4.50 - 4.95	B D SPT	N 22	4.30			(Soft) light creamish white sandy gravelly CLAY. Gravel is medium to coarse subangular to subrounded flint and rare chalk. Sand is fine. 4.50 - 4.95 Stiff, high strength.
		5.50 5.50 - 6.00 5.50 - 5.95	B D SPT	N 29				5.50 - 5.95 Stiff, high strength.
		7.00 7.00 - 7.50 7.00 - 7.45	B D SPT	N 33	6.00			Creamish yellow CHALK recovered as weak density chalk clasts in a chalk matrix.
		8.00 - 8.50	D		{8.00}			Continued next sheet

General Remarks

EQUIPMENT: Dando 150 Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Cable percussive drilling 1.200m-10.00m begl.
CASING: 3.00m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 10.00m begl, rose to 9.29m begl.
Chiselling 45minutes 1.50m-1.90m begl.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 9.50m, granular response zone (9.50m-1.00m), bentonite seal 1.00m-0.15m, concrete and stopcock cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By

1.0 ENZYGO WS LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Barrington Road, Goring on Sea, BN12 4XH

BH01

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 22-11-21 Finish 22-11-21		

Client: Bellway Homes

Sheet: 2 of 2

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		8.50 - 8.95	SPT	N 29				
	▽	10.00 - 10.45	SPT	N 34	10.00			Creamish yellow CHALK recovered as weak density chalk clasts in a chalk matrix.
					10.45			Borehole completed at 10.45m.
					{16.00}			

8 9 10 11 12 13 14 15 16

General Remarks

EQUIPMENT: Dando 150 Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Cable percussive drilling 1.200m-10.00m begl.
CASING: 3.00m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 10.00m begl, rose to 9.29m begl.
Chiselling 45minutes 1.50m-1.90m begl.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 9.50m, granular response zone (9.50m-1.00m), bentonite seal 1.00m-0.15m, concrete and stopcock cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
22/11/21	10.00	3.00	9.29

All dimensions in metres
Scale 1:50

Logged By

1.0 ENZYGO WS LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

BH02

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 24-11-21		

Client
Bellway Homes

Sheet
1 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.10 - 0.20	ES					MADE GROUND: Dark brown slightly sandy gravelly silty CLAY. Gravel is medium to coarse subangular to subrounded brick, concrete and flint. Sand is fine to coarse.
					0.60			
		0.70 - 0.80	ES					(Soft) light brown slightly gravelly sandy silty CLAY. Gravel is fine to medium subrounded and well rounded flint. Sand is fine to medium.
		1.00 - 1.50	B					
		1.20 - 1.65	SPT	N 11				1.20 - 1.65 Firm, medium strength.
		2.50 - 2.95	SPT	N 12				
					2.80			
		3.00 - 3.10	D					Brown slightly clayey silty SAND with occasional well rounded gravel of flint.
		3.50 - 4.00	D		3.50			
		3.70	D					Yellowish slightly clayey SAND & GRAVEL. Gravel is fine to coarse subangular and well rounded flint and chalk. Sand is medium to coarse.
		4.00 - 4.43	SPT	N 50				4.00 - 4.43 Very dense. Refused at 4.43m begl.
		5.10 - 5.40	D		5.10			
		5.50 - 5.95	SPT	N 29				(Stiff) light brown slightly gravelly silty CLAY. Gravel is medium to coarse subangular to subrounded flint. 5.50 - 5.95 Stiff, high strength.
		6.30 - 7.00	D		6.30			
		7.00 - 7.45	SPT	N 33				Creamish white CHALK recovered as weak density subrounded putty chalk clasts in a clayey chalk matrix.
		7.50 - 8.00	D					
					{8.00}			Continued next sheet

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Dando 150 Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Cable percussive drilling 1.200m-16.00m begl.
CASING: 13.50m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 8.50m begl, rose to 7.10m begl.
Slow drilling 60 minutes.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 10.00m, granular response zone (10.00m-1.00m), bentonite seal 1.00m-0.15m, concrete and stopcock cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By

1.0 ENZYGO WS LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Web: www.enzygo.com

Site: Barrington Road, Goring on Sea, BN12 4XH

BH02

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 24-11-21		

Client: Bellway Homes

Sheet: 2 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	▽	8.50 - 9.00 8.50 - 8.95	D SPT	N 47	8.50			White CHALK recovered as weak density chalk and sand with subangular and subrounded fine to coarse flint in a clayey chalk matrix.
		9.50 - 10.00	D					
		10.00 - 10.24	SPT	N 50				
		11.50 - 12.00 11.50 - 11.86	D SPT	N 50	11.50			Cream CHALK recovered as hard chalk cobbles and gravel.
		13.00 - 13.50 13.00 - 13.34	D SPT	N 50				
		14.50 - 14.94	SPT	N 50				
		15.50 - 16.00	D					
		16.00 - 16.34	SPT	N 50	16.00 {16.00}			Continued next sheet

8 9 10 11 12 13 14 15 16

General Remarks

EQUIPMENT: Dando 150 Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Cable percussive drilling 1.200m-16.00m begl.
CASING: 13.50m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 8.50m begl, rose to 7.10m begl.
Slow drilling 60 minutes.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 10.00m, granular response zone (10.00m-1.00m), bentonite seal 1.00m-0.15m, concrete and stopcock cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
23/11/21	8.50	6.00	7.10

All dimensions in metres
Scale 1:50

Logged By

1.0 ENZYGO WS LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

BH02

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 24-11-21		

Client
Bellway Homes

Sheet
3 of 3

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
					16.34			Cream CHALK recovered as hard chalk cobbles and gravel.
					{24.00}			Borehole completed at 16.34m.

16 17 18 19 20 21 22 23 24

General Remarks

EQUIPMENT: Dando 150 Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Cable percussive drilling 1.200m-16.00m begl.
CASING: 13.50m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 8.50m begl, rose to 7.10m begl.
Slow drilling 60 minutes.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 10.00m, granular response zone (10.00m-1.00m), bentonite seal 1.00m-0.15m, concrete and stopcock cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By

1.0 ENZYGO WS LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

BH03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client
Bellway Homes

Sheet
1 of 2

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		0.10 - 0.20	ES		0.30			MADE GROUND: (Soft) dark brown slightly sandy gravelly CLAY with abundant rootlets. Gravel is fine to coarse subangular to subrounded flint and brick. Sand is fine to medium.
		0.40 - 0.50	D					
		0.60 - 0.70	ES		0.60			(Soft) light brown slightly gravelly silty CLAY. Gravel is fine to medium subrounded and well rounded flint.
			D					
			ES					
		1.20 - 1.65	SPT	N 7				(Soft) orangish brown mottled yellowish brown slightly gravelly slightly sandy silty CLAY. Gravel is fine subangular to subrounded flint. Sand is fine. 1.20 - 1.65 Soft, low strength.
		2.50 - 2.95	SPT	N 6				2.50 - 2.95 Soft, low strength.
		3.00 - 3.20	D					
		4.00 - 4.45	SPT	N 10				4.00 - 4.45 Firm, medium strength.
					4.50			Yellowish clayey SAND & GRAVEL. Gravel is fine to coarse subangular to subrounded flint. Sand is medium to coarse.
		5.00 - 5.50	D					
		5.50 - 5.95	SPT	N 8				5.50 - 5.95 Loose.
	▽	7.00 - 7.45	SPT	N 23				
		7.20 - 7.50	D		7.20			Creamish white CHALK recovered as weak density putty chalk clasts and flint gravel in a clayey chalk matrix.
					{8.00}			Continued next sheet

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Dando 150 Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Cable percussive drilling 1.200m-16.00m begl.
CASING: 7.50m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 7.00m begl, rose to 6.80m begl.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 10.00m, granular response zone (10.00m-1.00m), bentonite seal 1.00m-0.15m, concrete and stopcock cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
24/11/21	7.00	1.50	6.80

All dimensions in metres
Scale 1:50

Logged By

1.0 ENZYGO WS LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

BH03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client
Bellway Homes

Sheet
2 of 2

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		8.50 - 8.95	SPT	N 29				
		9.50 - 10.00	D					
		10.00 - 10.45	SPT	N 44	10.00			Creamish white CHALK recovered as weak density putty chalk clasts and flint gravel in a clayey chalk matrix.
					10.45			Borehole completed at 10.45m.
					{16.00}			

8 9 10 11 12 13 14 15 16

General Remarks

EQUIPMENT: Dando 150 Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Cable percussive drilling 1.200m-16.00m begl.
CASING: 7.50m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 7.00m begl, rose to 6.80m begl.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 10.00m, granular response zone (10.00m-1.00m), bentonite seal 1.00m-0.15m, concrete and stopcock cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By

1.0 ENZYGO WS LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site				
Barrington Road, Goring on Sea, BN12 4XH				**TP01**
Job No: CRM.1154.026	Dates: Start 23-11-21, Finish 23-11-21	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
	Depth (m)	No/Type	Results				
	0.10 - 0.20	ES					MADE GROUND: (Soft) dark brown gravelly sandy CLAY with rootlets. Gravel is subangular to subrounded fine to coarse chert, brick and concrete. Sand is fine to medium.
	0.40 - 1.00	B ES		0.40			(Soft) dark orangish brown slightly gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to medium chert. Sand is fine to medium.
	0.90 - 1.00	B	HV 23.33				
				1.00			(Soft) orangish brown silty CLAY.
				1.20			Trial Pit completed at 1.20m.
				{4.00}			

0
1
2
3
4

General Remarks

Dimensions: 3.10x0.75x1.20
1. Machine excavated pit from ground level to 1.20m begl.
2. Groundwater not encountered.
3. Trial pit sides remained vertical and stable.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres Scale 1:25		Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

Enzygo Ltd
Tel: 01454 269237
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Site				
Barrington Road, Goring on Sea, BN12 4XH				**TP02**
Job No: CRM.1154.026	Dates: Start 23-11-21, Finish 23-11-21	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
	Depth (m)	No/Type	Results				
	0.00 - 0.07	ES		0.07			MADE GROUND: Tarmacadam.
	0.07 - 0.13	ES		0.13			
	0.10 - 0.20	B		0.20			MADE GROUND: Yellowish brown SAND & GRAVEL. Gravel is subangular to subrounded fine to medium flint/chert, brick and concrete. Sand is medium to coarse.
	0.40 - 0.50	ES	HV 29				MADE GROUND: Concrete.
							(Soft) dark brownish grey silty CLAY.
			HV				
	0.70 - 1.10	B	22.33	0.70			
		ES					(Soft) orangish brown slightly sandy silty CLAY. Sand is fine.
				1.10			Trial Pit completed at 1.10m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: 2.30x0.50x1.10
1. Machine excavated pit from ground level to 1.10m begl.
2. Groundwater not encountered.
3. Trial pit sides remained vertical and stable.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres Scale 1:25		Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

Enzygo Ltd
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Site: Barrington Road, Goring on Sea, BN12 4XH

TP03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 23-11-21		

Client: Bellway Homes

Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.20	ES					Yellowish brown slightly silty SAND & GRAVEL with a low cobble content. Gravel is medium to coarse subangular to subrounded chert and cobbles of chert. Sand is medium to coarse.
	1.00 - 1.10	B ES					
				2.00			Trial pit terminated due to collapse. Trial Pit completed at 2.00m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: 3.00x0.50x2.00
1. Machine excavated pit from ground level to 2.00m begl.
2. Groundwater not encountered.
3. Trial pit sides collpasing.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres
Scale 1:25

Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site				TP04
Barrington Road, Goring on Sea, BN12 4XH				
Job No: CRM.1154.026	Dates: Start 23-11-21, Finish 23-11-21	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.20	ES					MADE GROUND: (Soft) dark brown slightly sandy gravelly silty CLAY with abundant rootlets. Gravel is subangular to subrounded fine to coarse flint, brick and concrete. Sand is fine to medium.
				0.50			(Firm) orangish brown slightly sandy silty CLAY with rare fine chalk gravel. Sand is fine.
	0.80 - 1.00	ES					
	1.00 - 1.20	B	HV 50				
				1.30			(Firm) orangish brown slightly gravelly slightly sandy CLAY. Gravel is subrounded fine to medium chalk and flint. Sand is fine to medium.
	1.80 - 2.00	B					
	2.80 - 3.10	B		2.80			(Soft) orangish brown mottled yellowish brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to medium flint and chalk. Sand is fine to medium.
				3.10			Trial Pit completed at 3.10m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: 2.90x0.50x3.10
1. Machine excavated pit from ground level to 3.10m begl.
2. Groundwater not encountered.
3. Trial pit sides remained vertical and stable.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres Scale 1:25		Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site				
Barrington Road, Goring on Sea, BN12 4XH				**TP05**
Job No: CRM.1154.026	Dates: Start 23-11-21, Finish 23-11-21	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
	Depth (m)	No/Type	Results				
	0.10 - 0.20	ES					MADE GROUND: (Soft) dark brown slightly gravelly slightly sandy CLAY with abundant rootlets. Gravel is subangular to subrounded fine to coarse flint, brick and concrete. Sand is fine to medium.
				0.30			
	0.40 - 0.60	ES					(Soft) orangish brown slightly gravelly slightly sandy silty CLAY. Gravel is subangular and well rounded fine to medium flint. Sand is fine to medium.
	1.00 - 1.20	B					
				1.20			
							(Firm) orangish brown sandy CLAY with occasional subrounded and well rounded flint gravel.
			HV				
	2.00 - 2.20	B	51.67	2.00			
	2.00 - 2.10	ES					(Stiff) orangish brown mottled yellowish brown slightly sandy CLAY with rare subrounded and well rounded fine to medium flint. Sand is fine.
				2.70			
							Light yellowish brown and orangish brown silty gravelly SAND. Gravel is subangular and subrounded fine to coarse flint.
	3.00 - 3.40	B					
				3.40			
							Trial Pit completed at 3.40m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: 3.40x0.50x3.40
1. Machine excavated pit from ground level to 3.40m begl.
2. Groundwater not encountered.
3. Trial pit sides remained vertical and stable.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres Scale 1:25		Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site: Barrington Road, Goring on Sea, BN12 4XH

TP06

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 23-11-21		

Client: Bellway Homes

Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.20	ES					MADE GROUND: Yellowish brown silty SAND & GRAVEL with a low cobble content. Gravel is fine to coarse subangular to subrounded flint and cobbles of flint. Sand is fine to coarse.
	1.10 - 1.20	B ES					
	1.60 - 1.70	B ES		1.60			MADE GROUND: Reddish brown SAND & GRAVEL. Gravel is fine to coarse subangular to subrounded flint, brick, and concrete. Sand is fine to medium.
	2.10 - 2.20	B					
				2.40			(Firm) yellowish brown gravelly sandy CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse flint, and cobbles of flint. Sand is medium to coarse.
▽	3.10 - 3.20	B		3.20			Trial Pit completed at 3.20m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: 3.20x0.50x3.20
1. Machine excavated pit from ground level to 3.20m begl.
2. Groundwater slightl seepage encountered at 3.20m begl.
3. Trial pit sides remained vertical and stable.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres
Scale 1:25

Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site				
Barrington Road, Goring on Sea, BN12 4XH				**TP07**
Job No: CRM.1154.026	Dates: Start 23-11-21, Finish 23-11-21	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.20	ES					MADE GROUND: (Soft) dark brown slightly gravelly slightly sandy CLAY with abundant rootlets. Gravel is subangular to subrounded fine to medium flint, brick and rare chalk. Sand is fine.
				0.50			(Soft) dark brown slightly sandy CLAY with rare well rounded fine to medium flint gravel.
	1.00 - 1.20	B ES					
	2.10 - 2.40	B		2.10			(Firm) yellowish brown mottled orangish brown slightly gravelly sandy CLAY. Gravel is subangular and well rounded fine to coarse flint. Sand is medium to coarse.
	3.20 - 3.50	B		3.20			Light yellowish brown slightly clayey SAND.
				3.50			Trial Pit completed at 3.50m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: xx3.50
1. Machine excavated pit from ground level to 3.50m begl.
2. Groundwater not encountered.
3. Trial pit sides remained vertical and stable.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres Scale 1:25		Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site				TP08
Barrington Road, Goring on Sea, BN12 4XH				
Job No: CRM.1154.026	Dates: Start 23-11-21, Finish 23-11-21	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.20	ES					MADE GROUND: (Soft) dark brown slightly gravelly sandy silty CLAY with abundant rootlets. Gravel is subangular to subrounded fine to medium flint and occasional brick.
				0.30			
	0.40 - 0.50	ES					(Soft) light brown sandy silty CLAY. Sand is fine.
	0.80 - 1.00	ES		0.80			
	1.00 - 1.20	B					(Stiff) orangish brown silty CLAY.
	2.10 - 2.20	B					
				2.50			
							(Stiff) orangish brown sandy CLAY. Sand is fine to medium.
	3.10 - 3.20	B					
				3.20			
							Trial Pit completed at 3.20m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: 3.10x0.50x3.20
1. Machine excavated pit from ground level to 3.20m begl.
2. Groundwater not encountered.
3. Trial pit sides remained vertical and stable.
4. On completion, trial pit was backfilled with arisings.

All dimensions in metres Scale 1:25		Logged By

1:1 ENZYGO TP LOG GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 27/11/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

WS01

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
					0.15			MADE GROUND: Grass over (soft) brown sandy CLAY.
		0.90 1.00 1.00 - 1.45	D ES SPT	N 19				(Firm) brown slightly gravelly slightly sandy CLAY. Gravel is subangular coarse flint. 1.00 - 1.45 Stiff, high strength.
		1.80 2.00 2.00 - 2.45	D ES SPT	N 48	2.00			2.00 - 2.45 Dense. Brown clayey gravelly SAND. Gravel is angular to subangular fine to coarse flint.
		2.50 2.50 - 2.78	ES SPTLS	N 50	2.78			2.50 - 2.78 Very dense. Refused at 2.78m begl. Borehole completed at 2.78m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.00m begl. Dynamic sampled 1.00m-2.50m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
ES

1.0 ENZYGO WS LOG CRM.1154.026 GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 3/12/21

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Site: Barrington Road, Goring on Sea, BN12 4XH

WS02

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client: Bellway Homes

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.35	ES		0.35			MADE GROUND: (Stiff) brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse gravel, brick and rare clinker
		0.90	D					(Firm to soft) brown slightly gravelly slightly sandy CLAY. Gravel is subangular coarse flint.
		1.00	ES	N 8				
		1.00 - 1.45	SPT					1.00 - 1.45 Soft to firm, low strength.
		1.80	D					
		2.00	ES	N 18				
		2.00 - 2.45	SPT		2.30			
		2.50 - 2.70	D		2.50			Brown clayey slightly gravelly SAND. Gravel is rounded coarse flint.
		2.70 - 3.00	ES					Light brown slightly gravelly SAND. Gravel is rounded coarse flint.
		3.00 - 3.35	SPTLS	N 50				3.00 Cobble of flint.
					3.35			3.00 - 3.35 Very dense. Refused at 3.345m begl.
								Borehole completed at 3.35m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.00m begl. Dynamic sampled 1.00m-3.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 3.00m begl, granular response zone (3.00m-1.00m), bentonite seal 1.00m-0.00m, plain pipe 0.00m-1.00m agl (above ground level).

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: ES

1.0 ENZYGO WS LOG CRM.1154.026 GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 3/12/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

WS03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
					0.40			MADE GROUND: (Stiff) brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse gravel, brick and rare clinker.
					0.50			MADE GROUND: (Stiff) dark grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse gravel, brick and rare clinker
		0.90	D					(Stiff) brown slightly gravelly slightly sandy CLAY. Gravel is angular to rounded fine to coarse flint.
		1.00	ES	N 30				1.00 - 1.45 Stiff, high strength.
		1.00 - 1.45	SPT					
		1.80	D					
		2.00	ES	N 50				
		2.00 - 2.44	SPTLS					2.00 - 2.44 Very stiff, very high strength. Refused at 2.435m begl.
					2.44			Borehole completed at 2.44m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.00m begl. Dynamic sampled 1.00m-2.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
ES

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Site: Barrington Road, Goring on Sea, BN12 4XH

WS05

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client: Bellway Homes

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
								MADE GROUND: Brown gravelly coarse SAND with a low cobble content of subangular concrete, brick and rounded flint. Gravel is angular to subangular fine to coarse brick, concrete and flint.
		0.90	D					
		1.00	ES	N 16	1.10			
		1.00 - 1.45	SPT					(Soft) greenish brown slightly gravelly slightly sandy CLAY. Gravel is subangular coarse flint.
		1.90	D					
		2.00	ES	N 12				
		2.00 - 2.45	SPT					2.00 - 2.45 Firm, medium strength.
		2.50 - 2.80	D					
		2.80 - 3.00	ES					2.60 - 3.00 Becoming sandy.
		3.00 - 3.45	SPT	N 9				3.00 - 3.45 Firm, low strength.
		3.50 - 3.70	D					
		3.70 - 4.00	ES					
		4.00 - 4.50	D	N 44	3.90			3.70 - 3.90 Becoming sandy.
		4.00 - 4.45	SPT		4.10			Brown clayey slightly gravelly SAND. Gravel is rounded coarse flint. 4.00 - 4.45 Dense.
		4.50 - 5.00	ES					Light brown slightly gravelly SAND. Gravel is rounded coarse flint. 4.10 - 5.45 Becoming light brown.
		5.00 - 5.45	SPTLS	N 26				5.00 - 5.45 Medium dense.
					5.45			Borehole completed at 5.45m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.00m begl. Dynamic sampled 1.00m-5.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: ES

1.0 ENZYGO WS LOG CRM.1154.026 GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 3/12/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

WS06

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
								MADE GROUND: Light brown very gravelly coarse SAND. Gravel is angular to subangular fine to coarse flint.
					0.50			(Firm) brown slightly sandy CLAY.
		1.20 - 1.65	SPT	N 4				1.20 - 1.65 Soft, very low strength.
		2.00 - 2.45	SPT	N 15				2.00 - 2.45 Firm to stiff, medium strength.
					2.50			
					2.70			Brown gravelly coarse SAND. Gravel is angular to subrounded fine to coarse chert.
		3.00 - 3.45	SPT	N 28				Light brown slightly gravelly coarse SAND. Gravel is rounded coarse chert. 3.00 - 3.45 Medium dense.
		4.00 - 4.45	SPT	N 30				4.00 - 4.45 Medium dense to dense.
					4.30			
					4.55			Brown gravelly coarse SAND. Gravel is angular to subrounded fine to coarse chert.
		5.00 - 5.45	SPTLS	N 24				(Soft) slightly sandy gravelly CLAY with a low cobble content of rounded chert. Gravel angular coarse dense chalk. 5.00 - 5.45 Stiff, high strength.
					5.45			Borehole completed at 5.45m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Dynamic sampled 1.20m-5.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 5.00m begl, granular response zone (5.00m-1.00m), bentonite seal 1.00m-0.00m, plain pipe 0.00m-1.00m agl (above ground level).

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
ES

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Site: Barrington Road, Goring on Sea, BN12 4XH

WS07

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 24-11-21 Finish 24-11-21		

Client: Bellway Homes

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
								MADE GROUND: Brown clayey gravelly coarse SAND with a low cobble content of subangular concrete, brick and rounded chert. Gravel is angular to subangular fine to coarse brick concrete and flint.
		0.90	D					
		1.00	ES	N 14				
		1.00 - 1.45	SPT		1.20			
					1.60			(Soft) greenish brown slightly gravelly slightly sandy CLAY. Gravel is subangular coarse flint.
		1.80	D					(Soft) brown slightly gravelly slightly sandy CLAY. Gravel is subangular coarse flint.
		2.00	ES	N 14				
		2.00 - 2.45	SPT					2.00 - 2.45 Firm, medium strength.
		2.70 - 2.80	D					
		2.80 - 3.00	ES					
		3.00 - 3.45	SPT	N 7				3.00 - 3.45 Soft, low strength.
		3.50 - 3.70	D					
		3.70 - 4.00	ES					
		4.00 - 4.45	SPT	N 17				4.00 - 4.45 Stiff, medium strength.
		4.50 - 4.60	D					
		4.60 - 5.00	ES		4.65			
					4.70			Brown clayey slightly gravelly SAND. Gravel is rounded coarse flint.
		5.00 - 5.45	SPTLS	N 15				Light brown slightly gravelly SAND. Gravel is rounded coarse flint. 5.00 - 5.45 Medium dense.
					5.45			Borehole completed at 5.45m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.00m begl. Dynamic sampled 1.00m-5.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: ES

1.0 ENZYGO WS LOG CRM.1154.026 GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 3/12/21

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Site
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WS08

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 23-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
					0.50			MADE GROUND: Grass over (firm) brown sandy gravelly CLAY. Gravel is angular to rounded fine to coarse brick, chert, and concrete.
		1.20 - 1.65	SPT	N 6				(Firm) brown slightly gravelly sandy CLAY. Gravel is angular to rounded fine to coarse chert. 1.20 - 1.65 Soft, low strength.
		2.00 - 2.45	SPT	N 5				2.00 - 2.45 Soft, low strength.
		3.00 - 3.45	SPT	N 23	3.00			3.00 - 3.45 Medium dense. Brown clayey slightly gravelly coarse SAND. Gravel is rounded coarse chert.
		4.00 - 4.45	SPT	N 30	3.70			Light brown slightly gravelly medium SAND. Gravel is rounded coarse chert. 4.00 - 4.45 Medium dense to dense.
		5.00 - 5.45	SPTLS	N 20				5.00 - 5.45 Medium dense.
					5.45			Borehole completed at 5.45m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Dynamic sampled 1.20m-5.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
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Site
Barrington Road, Goring on Sea, BN12 4XH

WS09

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 23-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
								MADE GROUND: Light brown slightly cobbly SAND & GRAVEL of angular to subangular fine to coarse flint, and flint cobbles.
		1.20 - 1.51	SPT	N 50	1.20			
					1.51			MADE GROUND: Light brown slightly cobbly SAND & GRAVEL of angular to subangular fine to coarse flint, and flint cobbles. 1.20 - 1.51 Very dense. Refused at 1.51m begl. Borehole completed at 1.51m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
ES

1.0 ENZYGO WS LOG CRM.1154.026 GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 3/12/21

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Site
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WS10

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 23-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.90 1.00 1.20 - 1.65	D ES SPT	N 23				Light brown gravelly coarse SAND with a high cobble content of subangular flint. Gravel is angular to subrounded fine to coarse flint.
		1.70 2.00 2.00 - 2.45	D ES SPT	N 8	1.50			(Soft) brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse flint. 2.00 - 2.45 Soft to firm, low strength.
		2.70 2.80 - 3.00 3.00 - 3.60 3.00 - 3.45 3.60 - 4.00	D ES D SPT ES	N 10	2.80			Brown gravelly coarse SAND. Gravel is angular to subangular fine to coarse flint. 3.00 - 3.45 Loose to medium dense.
		4.00 - 4.45	SPT	N 10	4.00 4.45			Brown gravelly coarse SAND. Gravel is angular to subangular fine to coarse flint. 4.00 - 4.45 Loose to medium dense. Borehole completed at 4.45m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Dynamic sampled 1.20m-4.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
ES

1.0 ENZYGO WS LOG CRM.1154.026 GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 3/12/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

WS11

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 23-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
					0.70			MADE GROUND: Light brown very gravelly coarse SAND. Gravel is angular to subangular fine to coarse flint.
		1.20 - 1.65	SPT	N 5				Brown gravelly coarse SAND. Gravel is angular to subrounded fine to coarse chert. 1.20 - 1.65 Loose.
		2.00 - 2.45	SPT	N 32				2.00 - 2.45 Dense.
		3.00 - 3.43	SPT	N 50	3.00			Brown gravelly coarse SAND. Gravel is angular to subrounded fine to coarse chert.
					3.43			3.00 - 3.43 Very dense. Refused at 3.425m begl. Borehole completed at 3.43m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl. Dynamic sampled 1.20m-3.00m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 3.00m begl, granular response zone (3.00m-1.00m), bentonite seal 1.00m-0.00m, plain pipe 0.00m-1.00m agl (above ground level).

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
ES

1.0 ENZYGO WS LOG CRM.1154.026 GORING ON SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 3/12/21

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Site
Barrington Road, Goring on Sea, BN12 4XH

WS12

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.026	Start 23-11-21 Finish 23-11-21		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
								MADE GROUND: Light brown slightly cobbly SAND & GRAVEL of angular to subangular fine to coarse flint, and flint cobbles.
		1.20 - 1.53	SPT	N 50	1.20			MADE GROUND: Light brown slightly cobbly SAND & GRAVEL of angular to subangular fine to coarse flint, and flint cobbles.
					1.53			1.20 - 1.53 Very dense. Refused at 1.53m begl.
								Borehole completed at 1.53m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Premier 110 compact window sampling tracked rig.
METHOD: Hand dug inspection pit 0.00m-1.20m begl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 1.00m begl, granular response zone (1.00m-0.50m), bentonite seal 0.50m-0.00m, plain pipe 0.00m-1.00m agl (above ground level).

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
ES

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geo environmental



Geoenvironmental Report

Barrington Road, Goring on Sea, BN12 4XH

For Bellway Homes

CRM.1154.039.GE.R.001.A

'Experience and expertise working in union'

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Appendix 2 – Exploratory Hole Logs

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Site: Marlets Way, Goring-by-Sea BN12 4HF

BH01

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 23-05-25		

Client: Bellway Homes

Sheet: 1 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.30			MADE GROUND: Multicoloured (light brown, light orange brown, grey and red) very clayey gravelly fine to coarse SAND of demolition rubble. Gravel is angular to subangular fine to coarse brick, concrete and flint.
								Light orange brown sandy occasionally gravelly CLAY. Gravel is subangular fine to coarse flint. Sand is fine.
		1.20 - 1.65	SPT	N=21				1.20 - 1.65 Stiff, high strength.
		2.00 - 2.45	SPT	N=25				2.00 - 2.45 Stiff, high strength.
		3.00 - 3.38	SPT	N=50	2.80			Light green to light brown slightly clayey slightly gravelly fine SAND. Gravel is subangular and subrounded fine to coarse flint. 3.00 - 3.38 Very dense. Refused at 3.38mbgl.
		4.00 - 4.38	SPT	N=50	4.20			Structureless CHALK composed of very light yellow slightly gravelly sandy SILT. Gravel is very weak, low density, white, and angular. Occasional flint cobbles. Grade (Dm).
		5.00	D	N=50				
		5.00 - 5.41	SPT					
		6.50 - 6.91	SPT	N=50				
	▽	8.00 - 8.34	SPT	N=50	8.00 {8.00}			
								Continued next sheet

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
22/05/25	8.00	7.50	

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				
Marlets Way, Goring-by-Sea BN12 4HF				**BH01**
Job No: CRM.1154.039	Dates: Start 22-05-25, Finish 23-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 2 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
								Structureless CHALK composed of pale yellow cream slightly sandy silty subangular and rounded GRAVEL & COBBLES. Clasts are very weak and weak, low and medium density, white. Grade (Dc).
		9.50 - 9.85	SPT	N=50				
		10.00	D					
		11.00 - 11.34	SPT	N=50				
		12.50 - 12.87	SPT	N=50				
		14.00 - 14.34	SPT	N=14				
		15.00	D					
		15.50 - 15.86	SPT	N=50				
					{16.00}			Continued next sheet

8 9 10 11 12 13 14 15 16

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site
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BH01

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 23-05-25		

Client
Bellway Homes

Sheet
3 of 3

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		17.00 - 17.23	SPT	N=50				
		18.50 - 18.83	SPT	N=50				
		20.00 20.00 - 20.38	D SPT	N=50	20.00 20.38			Structureless CHALK composed of pale yellow cream slightly sandy silty subangular and rounded GRAVEL & COBBLES. Clasts are very weak and weak, low and medium density, white. Grade (Dc). Borehole completed at 20.38m.
					{24.00}			

16 17 18 19 20 21 22 23 24

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

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Site				BH02
Marlets Way, Goring-by-Sea BN12 4HF				
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 22-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES					MADE GROUND: Multicoloured (brown, black, grey, orange, and red) slightly clayey gravelly fine to coarse SAND of demolition rubble with metal and plastics. Gravel is angular to subangular fine to coarse brick, flint and tarmac.
		1.20 - 1.65	SPT	N=19				
					1.50			
		2.00 - 2.45	SPT	N=22				MADE GROUND: Multicoloured (light grey, light green black, dark brown, white, black and red) sandy gravelly CLAY with plastics. Gravel is angular to subangular fine to coarse chalk, flint and brick. Sand is fine to coarse. 2.00 - 2.45 Stiff, high strength.
					2.20			
		3.00 - 3.45	SPT	N=17				MADE GROUND: Multicoloured (grey, green grey, red, black and white) very sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse brick, chalk, ash and slag. 3.00 - 3.45 Stiff, medium strength.
					3.20			
					3.80			Brown and light brown silty CLAY.
		4.00 - 4.45	SPT	N=13				Orange brown sandy CLAY. Sand is fine.
					4.20			
		5.00	D	N=16				Light grey, light brown and brown clayey sandy GRAVEL. Sand is fine to medium. Gravel is subangular and subrounded fine to coarse flint.
		5.00 - 5.45	SPT					5.00 - 5.45 Medium dense.
		6.00 - 6.35	SPT	N=50				6.00 - 6.35 Very dense. Refused at 6.35mbgl.
	▽				7.00			
		7.50 - 7.60	SPT	N=50				Structureless CHALK composed of pale yellow cream slightly sandy silty subangular and rounded GRAVEL & COBBLES. Clasts are very weak and weak, low and medium density, white. Grade (Dc).
					{8.00}			Continued next sheet

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater encountered at 7.00mbgl rose to 6.00mbgl.
BACKFILL: On completion, On completion, a slotted pipe (63mm OD) was installed to 20.00mbgl, granular response zone (20.00m-7.00m), bentonite seal 7.00m-0.00m, gas valve and top hot cover above ground level.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
21/05/25	7.00	6.00	6.00

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				BH02
Marlets Way, Goring-by-Sea BN12 4HF				
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 22-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 2 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		9.00 - 9.43	SPT	N=50				
		10.00	D					
		10.50 - 10.87	SPT	N=50				
		12.00 - 12.29	SPT	N=50				
		13.50 - 13.84	SPT	N=50				
		15.00	D	N=50				
		15.00 - 15.37	SPT					
					{16.00}			Continued next sheet

8 9 10 11 12 13 14 15 16

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater encountered at 7.00mbgl rose to 6.00mbgl.
BACKFILL: On completion, On completion, a slotted pipe (63mm OD) was installed to 20.00mbgl, granular response zone (20.00m-7.00m), bentonite seal 7.00m-0.00m, gas valve and top hot cover above ground level.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site
Marlets Way, Goring-by-Sea BN12 4HF

BH02

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 21-05-25 Finish 22-05-25		

Client
Bellway Homes

Sheet
3 of 3

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		16.50 - 16.76	SPT	N=50				
		18.00 - 18.33	SPT	N=50				
		19.50 - 19.95	SPT	N=50				
		20.00	D		20.00			Borehole completed at 20.00m.
					{24.00}			

16 17 18 19 20 21 22 23 24

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater encountered at 7.00mbgl rose to 6.00mbgl.
BACKFILL: On completion, On completion, a slotted pipe (63mm OD) was installed to 20.00mbgl, granular response zone (20.00m-7.00m), bentonite seal 7.00m-0.00m, gas valve and top hot cover above ground level.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site: Marlets Way, Goring-by-Sea BN12 4HF

BH03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 19-05-25 Finish 20-05-25		

Client: Bellway Homes

Sheet: 1 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.30			MADE GROUND: Multicoloured (brown occasionally light brown, grey to light grey, dark purple grey and red) sandy very gravelly CLAY with pottery and tiles. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint, concrete and brick.
								Brown to light brown CLAY with decayed organic matter.
		1.20 - 1.65	SPT	N=12				1.20 - 1.65 Firm, medium strength.
		2.00 - 2.45	SPT	N=15				2.00 - 2.45 Firm to stiff, medium strength.
		3.00 - 3.45	SPT	N=24	3.20			Light yellow light brown slightly clayey occasionally gravelly fine to coarse SAND. Gravel is subrounded fine to medium flint.
		4.00 - 4.45	SPT	N=24	4.00			4.00 - 4.45 Medium dense. Light yellow light brown grey gravelly fine to coarse SAND. Gravel is subrounded fine to coarse flint.
		5.00 5.00 - 5.37	D SPT	N=50	4.80			Grey to light grey occasionally light yellow sandy GRAVEL. Sand is fine to coarse. Gravel is rounded and subrounded fine to coarse flint. 5.00 - 5.37 Very dense. Refused at 5.37mbgl.
		6.50 - 6.95	SPT	N=20	6.20			Light greenish very light brown sandy CLAY. Sand is fine.
		8.00 - 8.43	SPT	N=50	7.00 {8.00}			Structureless CHALK composed of pale yellow cream slightly sandy silty subangular and rounded GRAVEL & COBBLES. Clasts are very weak and weak, low and medium density, white. Grade (Dc).

Continued next sheet

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater encountered at 7.00mbgl rose to 6.00mbgl.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: KC

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Site: Marlets Way, Goring-by-Sea BN12 4HF

BH03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 19-05-25 Finish 20-05-25		

Client: Bellway Homes

Sheet: 2 of 3

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		9.50 - 9.95	SPT	N=42				
		10.00	D					
		11.00 - 11.45	SPT	N=30				
		12.50 - 12.77	SPT	N=50				
		14.00 - 14.34	SPT	N=50				
		15.00	D					
		15.50 - 15.93	SPT	N=50				
					{16.00}			Continued next sheet

8 9 10 11 12 13 14 15 16

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater encountered at 7.00mbgl rose to 6.00mbgl.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site
Marlets Way, Goring-by-Sea BN12 4HF

BH03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 19-05-25 Finish 20-05-25		

Client
Bellway Homes

Sheet
3 of 3

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		17.00 - 17.36	SPT	N=50				
		18.50 - 18.91	SPT	N=50				
		20.00	D	N=50	20.00			
		20.00 - 20.35	SPT					
					20.35			Structureless CHALK composed of pale yellow cream slightly sandy silty subangular and rounded GRAVEL & COBBLES. Clasts are very weak and weak, low and medium density, white. Grade (Dc).
								Borehole completed at 20.35m.
					{24.00}			

16 17 18 19 20 21 22 23 24

General Remarks

EQUIPMENT: Dando 2000 cable percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilled 1.20m-20.00mbgl.
CASING: 19.50m of 150mm diameter steel casing used.
REMARKS: Groundwater encountered at 7.00mbgl rose to 6.00mbgl.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
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1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site: Marlets Way, Goring-by-Sea BN12 4HF

WS01

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 22-05-25		

Client: Bellway Homes

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.40			MADE GROUND: Multicoloured (grey, brown and occasionally red) clayey gravelly fine to coarse SAND with occasional cobble of concrete. Gravel is angular and subrounded fine to coarse concrete, flint and very occasional brick.
		0.90 - 1.00	D		0.80			MADE GROUND: Multicoloured (brown, light grey and black) sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular fine to coarse concrete, flint and ash.
		1.20 - 1.65	SPT	N=7				Dark brown occasionally gravelly CLAY. Gravel is subangular fine flint. 1.20 - 1.65 Soft, low strength.
		1.90 - 2.00 2.00 - 2.45	D SPT	N=7	2.00			2.00 - 2.45 Soft, low strength. Brown occasionally light brown sandy very occasionally gravelly CLAY. Sand is fine. Gravel is subangular fine flint.
		2.90 - 3.00 3.00 - 3.45	D SPT	N=9				3.00 - 3.45 Firm, low strength.
		3.90 - 4.00 4.00 - 4.45	D SPT	N=9				4.00 - 4.45 Firm, low strength.
					4.40			Greenish grey very sandy occasionally gravelly CLAY. Sand is fine. Gravel is subangular fine to coarse flint.
		4.90 - 5.00 5.00 - 5.45	D SPT	N=6	4.90 5.00			Cream to light grey clayey occasionally gravelly fine SAND. Gravel is subangular fine chalk.
					5.45			Cream to light grey clayey occasionally gravelly fine SAND. Gravel is subangular fine chalk. 5.00 - 5.45 Loose.
					{8.00}			Borehole completed at 5.45m.

General Remarks

EQUIPMENT: Archway Dart window sampling rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Dynamic sampled 1.20m-5.00mbgl.
CASING: No casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (63mm OD) was installed to 5.00mbgl, granular response zone (5.00m-1.00m), bentonite seal 1.00m-0.15m, gas valve and flush steel cover 0.15m-0.00m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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WS02

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 22-05-25		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.40			MADE GROUND: Light brown and light grey clayey gravelly fine to coarse SAND with occasional cobble of concrete. Gravel is angular to subangular fine to coarse concrete and flint.
		0.90 - 1.00	D					Brown very sandy gravelly CLAY. Gravel is subangular fine to coarse flint.
		1.20 - 1.65	SPT	N=26	1.20			1.20 - 1.65 Medium dense. Very light grey gravelly fine SAND. Gravel is angular to subangular medium to coarse flint.
		1.90 - 2.00	D		1.90			
		2.00 - 2.41	SPT	N=50	2.00			Light grey and grey sandy GRAVEL. Sand is fine. Gravel is subangular and subrounded medium to coarse flint.
					2.41			Light grey and grey sandy GRAVEL. Sand is fine. Gravel is subangular and subrounded medium to coarse flint. 2.00 - 2.41 Very dense. Refused at 2.41mbgl.
								Borehole completed at 2.41m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Archway Dart window sampling rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Dynamic sampled 1.20m-2.00mbgl.
CASING: No casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (63mm OD) was installed to 2.00mbgl, granular response zone (1.50m-0.50m), bentonite seal 0.50m-0.00m, gas valve and top hat steel cover.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site: Marlets Way, Goring-by-Sea BN12 4HF

WS03

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 22-05-25		

Client: Bellway Homes

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.50			MADE GROUND: Multicoloured (light to dark brown, light to dark grey, red and black) very clayey sandy GRAVEL. Gravel is subangular and subrounded fine to coarse flint, brick, tarmac and concrete. Sand is fine to coarse.
		0.90 - 1.00	D					Multicoloured (brown occasionally black and light grey) silty very occasionally gravelly CLAY. Gravel is subangular fine flint.
		1.20 - 1.65	SPT	N=16	1.30			1.20 - 1.65 Stiff, medium strength.
		1.40 - 1.50	ES					Dark olive green silty occasionally gravelly CLAY. Gravel is subangular fine flint.
		1.90 - 2.00	D		2.00			2.00 - 2.45 Soft to firm, low strength.
		2.00 - 2.45	SPT	N=8				Olive green brown silty CLAY.
		2.90 - 3.00	D		2.70			Light orange brown to light green slightly sandy CLAY. Sand is fine.
		3.00 - 3.45	SPT	N=10	3.20			Light grey and grey sandy GRAVEL of flint. Gravel is subangular and subrounded medium to coarse flint. Sand is fine.
		3.90 - 4.00	D		4.00			Light grey and grey sandy GRAVEL of flint. Gravel is subangular and subrounded medium to coarse flint. Sand is fine.
		4.00 - 4.38	SPT	N=50	4.38			4.00 - 4.38 Very dense. Refused at 4.38mbgl.
					{8.00}			Borehole completed at 4.38m.

General Remarks

EQUIPMENT: Archway Dart window sampling rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Dynamic sampled 1.20m-4.00mbgl.
CASING: No casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (63mm OD) was installed to 4.00mbgl, granular response zone (4.00m-1.00m), bentonite seal 1.00m-0.00m, gas valve and top hat steel cover.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site
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WS04/TP

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 22-05-25		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.50			MADE GROUND: Multicoloured (brown, light brown, light grey to light black occasionally red) clayey gravelly fine SAND with glass fragments. Gravel is angular to subangular fine to coarse concrete, tarmac, flint and occasional brick.
		0.90 - 1.00	D		1.10			MADE GROUND: Dark brown grey and light black slightly sandy occasionally gravelly CLAY with occasional cobble of concrete. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse brick, flint and concrete.
		1.90 - 2.00	D		2.30			Brown to light brown occasionally sandy occasionally gravelly CLAY. Sand is fine. Gravel is subangular fine flint.
		2.90 - 3.00	D		2.80 3.00			Multicoloured (brown, light brown and grey) very sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to medium flint.
					{8.00}			Orange brown to light yellow gravelly fine to coarse SAND. Gravel is subangular and subrounded fine to coarse flint. Borehole completed at 3.00m.

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Archway Dart window sampling rig.
METHOD: Machine excavated 0.00m-3.00mbgl.
CASING: No casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (63mm OD) was installed to 3.00mbgl, granular response zone (3.00m-1.00m), bentonite seal 1.00m-0.00m, gas valve and top hat steel cover.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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WS05

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 22-05-25		

Client: Bellway Homes

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.30			MADE GROUND: Multicoloured (purple, dark brown and grey) clayey gravelly fine to coarse SAND of demolition rubble. Gravel is angular fine to coarse brick, concrete and flint.
		0.90 - 1.00	D					Dark brown very clayey occasionally gravelly SILT. Gravel is subrounded fine to medium flint.
		1.20 - 1.65	SPT	N=13	1.20			1.20 - 1.65 Firm, medium strength. Brown silty CLAY.
		1.90 - 2.00	D					
		2.00 - 2.45	SPT	N=9	2.10			2.00 - 2.45 Firm, low strength.
								Light brown sandy occasionally gravelly CLAY. Sand is fine to coarse. Gravel is subangular and rounded fine to coarse flint.
		2.90 - 3.00	D		2.90			
		3.00 - 3.45	SPT	N=23				Very light brown to cream fine SAND. 3.00 - 3.45 Medium dense.
					3.60			Brown clayey fine SAND.
		3.90 - 4.00	D					
		4.00 - 4.45	SPT	N=13	4.00			
					4.20			Cream fine SAND.
								Brown and grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse flint.
		4.90 - 5.00	D					
		5.00 - 5.45	SPT	N=5	5.00			
								Brown and grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse flint.
					5.45			5.00 - 5.45 Soft, low strength.
								Borehole completed at 5.45m.
					{8.00}			

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Archway Dart window sampling rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Dynamic sampled 1.20m-5.00mbgl.
CASING: No casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (63mm OD) was installed to 5.00mbgl, granular response zone (5.00m-1.00m), bentonite seal 1.00m-0.00m, gas valve and top hat steel cover.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site
Marlets Way, Goring-by-Sea BN12 4HF

WS06

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 22-05-25 Finish 22-05-25		

Client
Bellway Homes

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.00 - 0.30	ES		0.40			MADE GROUND: Multicoloured (brown, grey, red and blue) very sandy gravelly CLAY with tile, plastic and metal fragments. Sand is fine to coarse. Gravel is angular and subrounded fine to coarse brick.
		0.90 - 1.00	D		0.90			MADE GROUND: Black and dark grey clayey gravelly fine to coarse SAND of ash with glass and wood fragments. Gravel is angular fine to coarse flint.
		1.20 - 1.65	SPT	N=12				MADE GROUND: Multicoloured (purple, dark grey, white-cream and brown) clayey gravelly fine to coarse SAND of demolition rubble with tile, glass and metal fragments. Gravel is angular to subangular fine to medium flint and chalk.
		1.40 - 1.50	ES		1.50			
					1.70			1.20 - 1.65 Medium dense.
		1.90 - 2.00	D					Light brown to light grey very clayey gravelly fine to medium SAND. Gravel is subrounded fine flint.
		2.00 - 2.45	SPT	N=12	2.20			Dark brown silty CLAY with occasional coarse sand of flint.
								2.00 - 2.45 Firm, medium strength.
					2.70			Brown CLAY.
		2.90 - 3.00	D					Light brown slightly clayey fine SAND.
		3.00 - 3.45	SPT	N=21	3.00			3.00 - 3.45 Medium dense. Light brown and light grey very gravelly fine SAND. Gravel is subangular coarse flint.
		3.90 - 4.00	D					
		4.00 - 4.45	SPT	N=10				4.00 - 4.45 Loose to medium dense.
					4.50			
					4.70			Brown to light brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse flint.
		4.90 - 5.00	D					
		5.00 - 5.45	SPT	N=7	5.00			Multicoloured (white, light brown and light grey) sandy gravelly CLAY. Sand is fine. Gravel is subangular coarse chalk.
					5.45			Multicoloured (white, light brown and light grey) sandy gravelly CLAY. Sand is fine. Gravel is subangular coarse chalk.
								5.00 - 5.45 Soft, low strength.
					{8.00}			Borehole completed at 5.45m.

0 1 2 3 4 5 6 7 8

General Remarks

EQUIPMENT: Archway Dart window sampling rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Dynamic sampled 1.20m-5.00mbgl.
CASING: No casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By
KC

1.0 ENZYGO WS LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				TP01
Marlets Way, Goring-by-Sea BN12 4HF				
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 21-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.00 - 0.30	ES					MADE GROUND: Multicoloured (brown, grey, black, red and orange) very slightly clayey very gravelly fine to coarse SAND with occasional cobbles of brick and concrete slabs, occasional boulders of concrete kerbstone, and metal. Gravel is angular and subrounded fine to coarse brick, concrete, flint, ash, slag and tarmac.
				0.40			MADE GROUND: CONCRETE.
				0.70			MADE GROUND: Multicoloured (brown, grey, black, red and orange) sandy very gravelly CLAY with occasional cobbles of brick and concrete, occasional boulders of concrete, metal, metal pipes, stainless steel and wood with bitumen odour. Sand is fine to coarse. Gravel is angular and subrounded fine to coarse brick, concrete, flint, ash, slag and tarmac.
	1.00	ES					
				1.55			Brown silty CLAY.
				3.00			Trial Pit completed at 3.00m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: xx3.00
Trial pit machine excavated from ground level-3.00mbgl.
Trial pit sides remained vertical and stable.
Groundwater not encountered.
On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres Scale 1:25		Logged By KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				TP02
Marlets Way, Goring-by-Sea BN12 4HF				
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 21-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.40	ES					MADE GROUND: Multicoloured (brown, grey, black, red and orange) very slightly clayey very gravelly fine to coarse SAND with occasional cobbles of brick and concrete slabs and metal. Gravel is angular and subrounded fine to coarse brick, concrete, flint, ash, slag and tarmac.
				0.50			
				0.60			MADE GROUND: TARMACADAM.
							MADE GROUND: White angular coarse GRAVEL of chalk with occasional cobbles of chalk.
				0.90			
	1.00	D					Multicoloured (brown, reddish brown and light green) very occasionally gravelly CLAY with coarse sand of flint. Gravel is angular fine flint.
				2.70			
							Light orange yellow slightly clayey fine SAND.
				3.00			
							Trial Pit completed at 3.00m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: 3.00x0.45x3.00
Trial pit machine excavated from ground level-3.00mbgl.

Trial pit sides remained vertical and stable.

Groundwater not encountered.

On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres Scale 1:25		Logged By KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				TP03
Marlets Way, Goring-by-Sea BN12 4HF				
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 21-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.40	ES		0.40			MADE GROUND: Multicoloured (brown, grey to light grey, red and white) slightly clayey very gravelly fine to coarse SAND of demolition rubble with tiles, pottery and wood. Gravel is angular to subangular fine to coarse concrete, flint, brick, and ash.
	1.00	ES		3.00			MADE GROUND: Multicoloured (brown, dark brown, grey, red occasionally white) slightly sandy occasionally gravelly CLAY with occasional cobble of brick, reinforcement bars, plastic and pottery. Sand is fine to coarse. Gravel is angular to subangular fine to coarse concrete and brick.
				{4.00}			Trial Pit completed at 3.00m.

0 1 2 3 4

General Remarks

Dimensions: xx3.00
Trial pit machine excavated from ground level-3.00mbgl.

Trial pit sides remained vertical and stable.

Groundwater not encountered.

On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres Scale 1:25		Logged By KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				
Marlets Way, Goring-by-Sea BN12 4HF				**TP04**
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 21-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.10 - 0.40	ES					MADE - Brown very sandy very occasionally gravelly CLAY with pottery and plastic. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint, concrete and brick.
	1.00	D					
				1.40			Light brown to light yellow brown slightly clayey occasionally gravelly fine SAND. Gravel is subangular medium flint.
				3.00			Trial Pit completed at 3.00m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: xx3.00
Trial pit machine excavated from ground level-3.00mbgl.
Trial pit sides remained vertical and stable.
Groundwater not encountered.
On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres Scale 1:25		Logged By KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				TP05
Marlets Way, Goring-by-Sea BN12 4HF				
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 21-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.00 - 0.30	ES					MADE GROUND: Multicoloured (light brown very occasionally white and light grey) gravelly fine to coarse SAND with wood. Gravel is angular and subrounded fine to coarse flint, very occasional chalk and tarmac.
				0.40			Brown to light brown very slightly silty CLAY with tree roots.
	1.00	D					
				2.30			Light brown and orange brown sandy CLAY. Sand is fine. Gravel is subangular and subrounded fine to medium flint.
				2.90			Pale yellow to cream gravelly fine SAND. Gravel is angular to subangular fine to coarse flint.
				3.00			Trial Pit completed at 3.00m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: xx3.00
Trial pit machine excavated from ground level-3.00mbgl.
Trial pit sides remained vertical and stable.
Groundwater not encountered.
On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres Scale 1:25		Logged By KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site: Marlets Way, Goring-by-Sea BN12 4HF

TP06

Job No	Dates	Ground Level (m)	Co-Ordinates
CRM.1154.039	Start 21-05-25 Finish 21-05-25		

Client: Bellway Homes

Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.00 - 0.30	ES		0.30			MADE GROUND: Multicoloured (brown occasionally light brown, grey to light grey, dark purple grey and red) sandy very gravelly CLAY with pottery and tiles. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint, concrete and brick.
				0.90			Brown silty CLAY.
	1.00	D		1.80			Dark grey to light black occasionally gravelly CLAY with decayed roots of reeds (possible pond or waterlogged area). Gravel is subangular and subrounded fine to medium flint.
				3.00			Dark brown silty CLAY.
				{4.00}			Trial Pit completed at 3.00m.

0 1 2 3 4

General Remarks

Dimensions: xx3.00
Trial pit machine excavated from ground level-3.00mbgl.
Trial pit sides remained vertical and stable.
Groundwater not encountered.
On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres
Scale 1:25

Logged By: KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				
Marlets Way, Goring-by-Sea BN12 4HF				**TP07**
Job No	Dates	Ground Level (m)	Co-Ordinates	
CRM.1154.039	Start 21-05-25 Finish 21-05-25			
Client				Sheet
Bellway Homes				1 of 1

Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
	Depth (m)	No/Type	Results				
	0.00 - 0.40	ES					MADE GROUND: Multicoloured (brown occasionally light brown, grey to light grey, dark purple grey and red) sandy very gravelly CLAY with pottery and tiles. Sand is fine to coarse. Gravel is angular to subangular fine to coarse flint, concrete and rare brick.
				0.40			POSSIBLE REWORKED GROUND: Brown to light brown occasionally sandy CLAY. Sand is fine to medium.
	1.00	D					
				2.80			Light orange brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular medium to coarse flint.
				3.00			Trial Pit completed at 3.00m.
				{4.00}			

0 1 2 3 4

General Remarks

Dimensions: xx3.00
Trial pit machine excavated from ground level-3.00mbgl.
Trial pit sides remained vertical and stable.
Groundwater not encountered.
On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres Scale 1:25		Logged By KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

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Site				
Marlets Way, Goring-by-Sea BN12 4HF				**TP08**
Job No: CRM.1154.039	Dates: Start 21-05-25, Finish 21-05-25	Ground Level (m)	Co-Ordinates	
Client: Bellway Homes				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	0.00 - 0.30	ES					MADE GROUND: Multicoloured (brown, light brown, orange and black) very clayey gravelly fine to medium SAND with glass. Gravel is angular to subangular fine to coarse flint, occasional ash and concrete.
				0.40			
				0.50			MADE GROUND: TARMACADAM.
				0.65			MADE GROUND: White Dc CHALK.
	1.00	D					Brown to light brown slightly sandy very occasionally gravelly CLAY. Sand is fine. Gravel is subangular and subrounded fine to medium flint.
				2.70			Orange brown sandy occasionally gravelly CLAY. Sand is fine to medium. Gravel is subrounded fine to coarse flint.
				2.95			
				3.00			Pale yellow to cream gravelly fine SAND. Gravel is angular to subangular fine to coarse flint.
							Trial Pit completed at 3.00m.
				{4.00}			

0 1 2 3 4

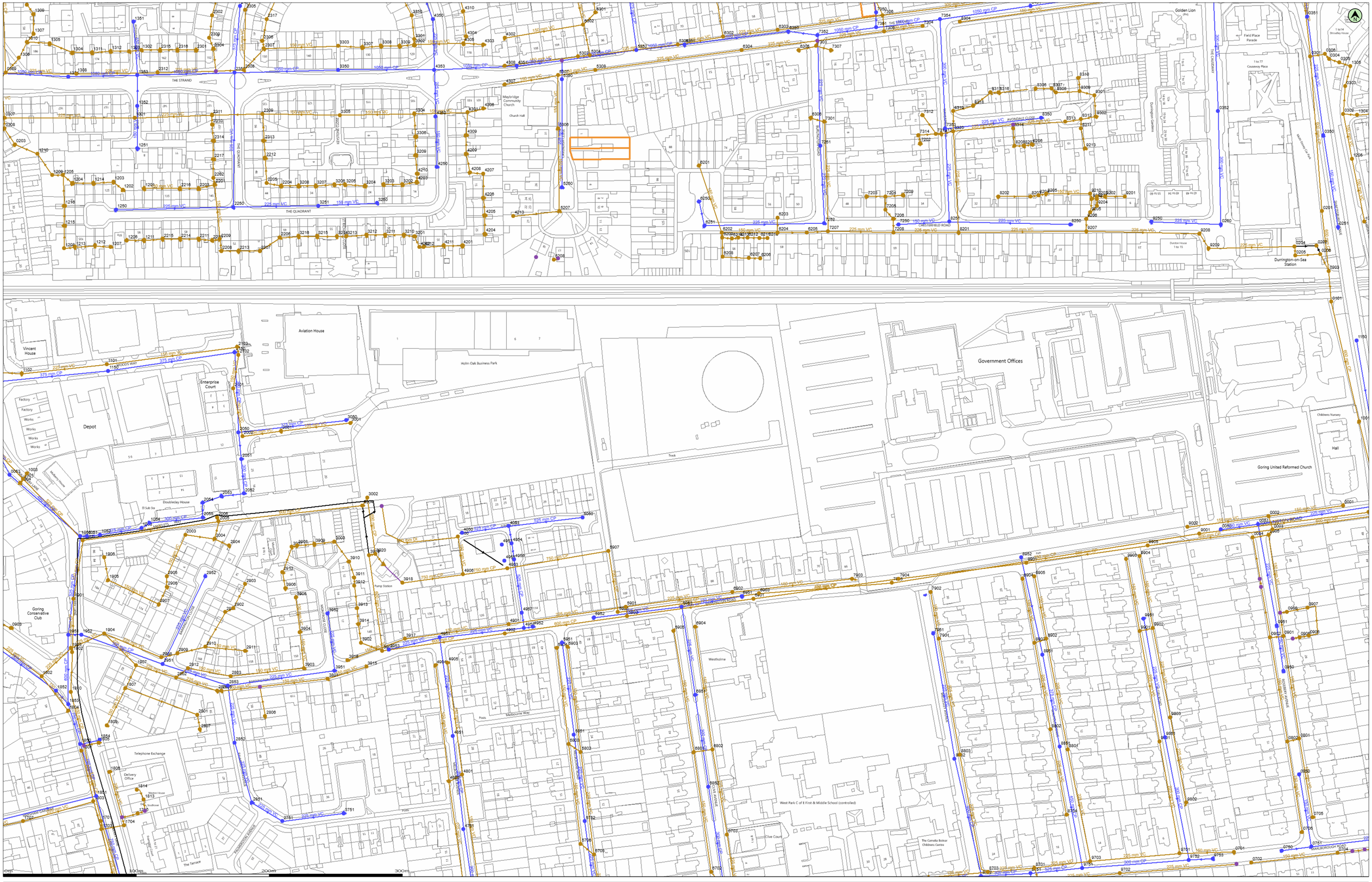
General Remarks

Dimensions: xx3.00
Trial pit machine excavated from ground level-3.00mbgl.
Trial pit sides remained vertical and stable.
Groundwater not encountered.
On completion, the trial pit was backfilled with materials arisings.

All dimensions in metres Scale 1:25		Logged By KC

1:1 ENZYGO TP LOG CRM.1154.039 GORING BY SEA.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 5/6/25

Appendix D



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Date: 03/12/21

Scale: 1:1250

Map Centre: 511602,103076

Data updated: 23/11/21

Our Ref: 728732 - 3

Wastewater Plan A1

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WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

Foul Gravity Sewer
Combined Gravity Sewer
Culverted Water Course or Treated Effluent
Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon
Combined Outfall
Foul Outfall
Surface Water Outfall
Surface Water Inlet
Combined Pumping Station
Surface Water Pumping Station
Foul Pumping Station
Water Treatment Works
Section 104 Area
Building Over Agreement Area
Foul Manhole
Combined Manhole
Surface Water Manhole
Side Entry Manhole, Decantation Chamber, Dummy Manhole or Surface Water Soakaway

shane@utilitasassociates.co.uk

BARRINGTON ROAD

WATER for LIFE from Southern Water.

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
0001	F	10.29	8.81	
0002	F	10.43	7.17	
0003	F	10.46	4.21	
0004	F	10.55	8.99	
0005	F	10.58	7.98	
0101	F	0.00	0.00	
0201	F	10.67	4.41	
0202	F	9.34	0.00	
0203	F	7.79	6.34	
0203	F	9.70	4.40	
0204	F	9.35	5.17	
0205	F	9.45	5.10	
0206	F	9.37	0.00	
0301	F	10.40	0.00	
0302	F	9.01	5.17	
0303	F	8.95	5.08	
0304	F	9.22	4.93	
0305	F	0.00	0.00	
0306	F	10.15	4.91	
0307	F	7.80	4.73	
0308	F	7.71	6.19	
0309	F	7.35	3.50	
0701	F	11.00	9.26	
0702	F	11.01	0.00	
0704	F	10.87	8.53	
0705	F	10.90	9.47	
0706	F	10.87	9.62	
0801	F	11.14	8.84	
0802	F	11.70	9.55	
0901	F	10.91	8.41	
0902	F	10.89	0.00	
0903	F	10.23	8.14	
0905	F	0.00	0.00	
0906	F	0.00	0.00	
0907	F	0.00	0.00	
0908	F	0.00	0.00	
1001	F	8.39	1.70	
1001	F	0.00	0.00	
1002	F	8.54	1.39	
1003	F	8.46	6.33	
1004	F	8.48	7.33	
1004	F	10.27	0.00	
1101	F	9.09	5.60	
1102	F	8.77	5.25	
1201	F	8.24	7.19	
1202	F	8.20	7.43	
1203	F	8.34	7.22	
1204	F	8.36	6.87	
1205	F	8.29	6.82	
1205	F	8.97	6.24	
1206	F	8.71	7.87	
1206	F	9.10	6.50	
1207	F	8.35	8.01	
1208	F	8.45	7.46	
1209	F	8.08	6.81	
1210	F	7.92	6.54	
1211	F	8.73	7.63	
1212	F	8.38	7.70	
1213	F	8.38	7.55	
1214	F	8.38	7.03	
1215	F	8.38	7.20	
1216	F	8.38	7.04	
1301	F	7.78	5.18	
1302	F	8.01	6.84	
1303	F	7.87	6.68	
1304	F	7.87	6.18	
1304	F	8.94	5.22	
1305	F	7.56	5.96	
1305	F	8.97	0.00	
1306	F	7.40	4.31	
1307	F	7.52	5.71	
1308	F	7.65	5.33	
1309	F	0.00	0.00	
1310	F	7.57	5.64	
1311	F	7.87	6.35	
1312	F	7.89	6.55	
1406	F	0.00	0.00	
1701	F	9.90	0.00	
1703	F	9.95	0.00	
1704	F	9.95	8.29	
1707	F	10.68	8.80	
1710	F	0.00	0.00	
1801	F	9.73	8.26	
1802	F	9.69	7.26	
1803	F	0.00	0.00	
1804	F	9.60	8.92	
1805	F	9.78	0.00	
1806	F	9.88	8.62	
1807	F	10.18	8.43	
1808	F	10.29	8.95	
1810	F	0.00	0.00	
1813	F	0.00	0.00	
1814	F	0.00	0.00	
1901	F	8.96	2.12	
1902	F	9.63	2.31	
1903	F	9.56	7.13	
1904	F	9.35	7.32	
1905	F	9.48	7.77	
1906	F	9.03	8.05	
1907	F	10.02	7.51	
2001	F	9.83	6.90	
2002	F	9.80	6.73	
2003	F	0.00	0.00	
2004	F	9.79	6.43	
2005	F	9.63	1.37	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
2006	F	9.58	6.64	
2101	F	9.56	6.44	
2102	F	9.61	6.28	
2103	F	9.60	6.23	
2201	F	8.18	6.64	
2202	F	0.00	0.00	
2203	F	8.23	6.77	
2204	F	8.35	7.35	
2205	F	0.00	0.00	
2206	F	8.68	7.77	
2207	F	8.71	7.66	
2208	F	8.64	7.19	
2209	F	8.63	7.02	
2210	F	8.63	7.08	
2211	F	8.70	7.23	
2212	F	7.90	7.02	
2213	F	8.69	7.36	
2214	F	8.68	7.36	
2215	F	8.69	7.49	
2216	F	8.24	6.93	
2217	F	7.95	6.45	
2301	F	8.08	7.42	
2302	F	0.00	0.00	
2303	F	0.00	0.00	
2304	F	8.02	6.33	
2305	F	8.09	6.22	
2306	F	8.28	6.77	
2307	F	8.22	6.17	
2308	F	7.67	6.00	
2309	F	0.00	0.00	
2310	F	7.87	6.17	
2311	F	7.95	5.38	
2312	F	7.76	5.66	
2313	F	7.94	6.88	
2314	F	7.94	6.30	
2315	F	8.05	7.03	
2316	F	8.07	7.21	
2317	F	0.00	0.00	
2801	F	0.00	0.00	
2802	F	10.42	7.65	
2803	F	10.84	9.00	
2804	F	10.73	7.88	
2805	F	10.71	7.88	
2806	F	11.09	9.71	
2807	F	11.18	10.19	
2901	F	0.00	0.00	
2902	F	0.00	0.00	
2903	F	10.09	8.90	
2904	F	9.90	8.75	
2905	F	9.90	6.97	
2906	F	9.96	7.11	
2907	F	10.18	0.00	
2908	F	10.12	7.69	
2909	F	10.12	7.74	
2910	F	10.80	8.03	
2911	F	9.43	0.00	
2912	F	10.47	8.69	
2913	F	10.74	9.75	
3001	F	9.92	7.27	
3002	F	0.00	0.00	
3003	F	10.53	9.32	
3004	F	10.17	1.27	
3201	F	9.13	8.80	
3202	F	8.82	7.99	
3203	F	8.83	8.20	
3204	F	8.77	8.04	
3205	F	8.76	7.88	
3206	F	8.33	7.79	
3207	F	8.36	7.62	
3208	F	8.40	7.52	
3209	F	8.66	7.44	
3210	F	9.10	8.66	
3211	F	9.10	8.55	
3212	F	9.10	8.39	
3213	F	9.05	8.25	
3214	F	8.73	8.18	
3215	F	8.68	8.04	
3216	F	8.67	7.90	
3301	F	0.00	0.00	
3302	F	7.88	6.95	
3303	F	8.06	6.62	
3304	F	8.33	6.96	
3305	F	8.30	6.29	
3306	F	8.65	7.21	
3307	F	7.91	6.72	
3308	F	7.95	6.79	
3309	F	7.91	6.89	
3310	F	0.00	0.00	
3801	F	10.97	9.26	
3901	F	10.83	0.00	
3902	F	10.87	8.59	
3903	F	10.99	9.57	
3904	F	10.93	10.04	
3905	F	10.89	10.29	
3906	F	10.75	9.90	
3907	F	10.50	9.65	
3908	F	10.60	9.56	
3909	F	10.61	9.45	
3910	F	10.59	9.13	
3911	F	10.54	9.03	
3912	F	0.00	0.00	
3913	F	10.87	8.80	
3914	F	10.89	8.68	
3915	F	10.98	9.58	
3916	F	11.01	9.54	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
3917	F	10.95	9.12	
3918	F	11.50	9.07	
3919	F	0.00	0.00	
3920	F	0.00	0.00	
4000	F	11.51	10.08	
4201	F	9.54	9.17	
4202	F	9.96	8.88	
4203	F	8.77	7.79	
4204	F	9.57	9.09	
4205	F	9.58	8.89	
4206	F	9.56	8.59	
4207	F	9.45	8.33	
4208	F	8.77	8.04	
4209	F	8.77	7.77	
4210	F	8.63	7.67	
4211	F	9.54	9.03	
4212	F	9.53	8.93	
4213	F	0.00	0.00	
4301	F	8.59	7.30	
4302	F	8.08	7.33	
4303	F	0.00	0.00	
4304	F	8.30	7.24	
4305	F	7.96	7.19	
4306	F	8.47	7.75	
4307	F	8.23	7.20	
4308	F	8.16	7.00	
4309	F	8.78	7.55	
4310	F	0.00	0.00	
4801	F	10.62	8.26	
4802	F	10.59	8.05	
4901	F	11.03	8.24	
4902	F	10.97	3.62	
4903	F	11.13	8.80	
4904	F	10.94	9.45	
4905	F	10.90	9.40	
4906	F	11.65	9.91	
5207	F	9.93	7.59	
5208	F	0.00	0.00	
5301	F	8.28	6.85	
5302	F	0.00	0.00	
5303	F	8.23	6.64	
5304	F	8.24	6.64	
5305	F	8.36	6.44	
5306	F	8.91	7.24	
5307	F	8.04	6.97	
5308	F	8.16	6.75	
5705	F	10.61	8.27	
5706	F	10.67	8.44	
5802	F	11.05	8.66	
5803	F	11.04	8.82	
5901	F	11.01	7.54	
5902	F	10.93	3.69	
5903	F	10.98	9.61	
5904	F	10.98	9.63	
5905	F	11.02	9.32	
5906	F	10.94	8.35	
5907	F	11.03	8.52	
6201	F	9.93	7.99	
6202	F	10.21	7.80	
6203	F	10.03	0.00	
6204	F	10.06	7.33	
6205	F	9.95	7.14	
6206	F	0.00	0.00	
6207	F	0.00	0.00	
6208	F	0.00	0.00	
6209	F	0.00	0.00	
6210	F	0.00	0.00	
6211	F	0.00	0.00	
6212	F	0.00	0.00	
6213	F	0.00	0.00	
6214	F	0.00	0.00	
6302	F	8.42	6.35	
6303	F	8.48	6.20	
6304	F	8.38	6.37	
6305	F	8.51	7.33	
6306	F	9.04	7.52	
6702	F	10.74	8.02	
6703	F	10.87	7.66	
6801	F	11.06	8.01	
6802	F	11.05	7.90	
6901	F	10.97	3.82	
6902	F	11.00	8.66	
6903	F	10.97	8.00	
6904	F	10.99	0.57	
7202	F	9.24	7.91	
7203	F	19.64	18.62	
7204	F	9.44	8.00	
7205	F	9.48	7.80	
7206	F	9.52	7.12	
7207	F	9.76	7.02	
7208	F	9.52	6.85	
7209	F	9.44	8.21	
7301	F	9.06	7.43	
7303	F	8.45	6.70	
7304	F	8.49	6.97	
7305	F	8.49	5.99	
7306	F	8.50	5.97	
7307	F	8.62	7.04	
7312	F	9.03	7.96	
7313	F	9.10	7.26	
7314	F	9.02	7.84	
7315	F	9.09	7.60	
7901	F	11.01	9.40	
7902	F	10.88	9.85	
7903	F	11.04	9.65	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
7904	F	10.97	3.91	
7905	F	10.97	7.63	
8201	F	9.37	6.63	
8202	F	9.20	8.02	
8203	F	0.00	0.00	
8204	F	0.00	0.00	
8205	F	9.10	7.55	
8206	F	8.99	8.04	
8207	F	9.00	7.92	
8208	F	8.96	7.81	
8304	F	8.52	7.45	
8306	F	8.84	8.20	
8307	F	8.86	8.07	
8308	F	8.82	8.05	
8309	F	8.72	7.83	
8310	F	8.67	7.93	
8311	F	8.81	7.58	
8312	F	8.79	7.41	
8313	F	8.74	7.29	
8314	F	8.92	7.64	
8316	F	8.96	7.86	
8317	F	9.02	7.77	
8318	F	9.16	7.71	
8319	F	9.06	7.48	
8320	F	8.97	7.23	
8701	F	10.85	7.43	
8703	F	10.61	7.70	
8704	F	11.03	9.74	
8801	F	11.03	8.49	
8802	F	11.04	9.35	
8803	F	11.05	8.98	
8901	F	0.00	0.00	
8902	F	10.76	8.99	
8903	F	10.73	9.04	
8904	F	10.43	9.57	
8905	F	10.49	9.48	
9001	F	10.57	6.75	
9002	F	0.00	0.00	
9201	F	0.00	0.00	
9202	F	9.04	7.82	
9203	F	9.03	7.72	
9204	F	9.06	7.57	
9205	F	9.30	6.56	
9206	F	9.36	6.24	
9207	F	9.42	6.08	
9208	F	9.48	5.67	
9209	F	9.57	0.00	
9210	F	9.11	6.98	
9211	F	9.06	7.66	
9212	F	9.11	6.91	
9213	F	8.67	7.82	
9301	F	8.82	7.67	
9302	F	8.87	7.53	
9701	F	10.95	7.91	
9702	F	10.98	8.97	
9703	F	10.94	7.59	
9801	F	11.40	8.42	
9802	F	11.21	9.80	
9803	F	11.31	9.32	
9901	F	10.80	8.82	
9902	F	10.79	8.84	
9903	F	10.39	9.30	
9904	F	10.39	9.37	
9905	F	10.76	4.12	
0050	S	10.55	9.30	
0051	S	10.44	8.66	
0053	S	8.48	6.81	
0250	S	9.42	8.09	
0251	S	14.76	13.20	
0350	S	12.40	10.87	
0351	S	9.43	7.51	
0352	S	9.23	7.70	
0750	S	10.81	9.40	
0751	S	10.75	8.95	
0850	S	10.96	9.51	
0950	S	10.95	9.64	
0951	S	10.79	9.21	
1050	S	8.49	6.49	
1051	S	8.52	0.00	
1052	S	8.62	6.68	
1053	S	8.99	7.06	
1054	S	9.10	7.11	
1150	S	9.08	7.61	
1150	S	14.80	0.00	
1250	S	8.39	7.37	
1251	S	7.81	6.76	
1351	S	7.82	6.63	
1352	S	7.71	6.25	
1353	S	7.64	5.79	
1354	S	7.52	5.76	
1850	S	0.00	0.00	
1851	S	9.67	5.56	
1852	S	9.63	5.96	
1853	S	9.51	0.00	
1854	S	0.00	0.00	
1951	S	9.49	5.97	
1952	S	9.36	6.00	
2050	S	9.80	7.80	
2051	S	9.71	7.73	
2052	S	9.92	7.47	
2053	S	9.49	7.46	
2054	S	9.61	7.36	
2055	S	9.41	7.32	
2150	S	9.59	7.93	
2250	S	8.17	7.09	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
2350	S	7.67	5.86	
2451	S	8.04	6.65	
2751	S	10.94	9.32	
2851	S	11.07	9.15	
2852	S	10.96	8.49	
2853	S	10.74	8.21	
2951	S	10.17	7.27	
2952	S	9.61	8.12	
3050	S	9.84	8.07	
3250	S	9.00	8.11	
3251	S	8.62	7.57	
3350	S	7.96	5.93	
3751	S	10.69	9.61	
3951	S	10.95	9.52	
3952	S	10.94	9.74	
3953	S	10.83	9.33	
4050	S	11.53	10.04	
4051	S	11.60	9.97	
4250	S	8.95	7.98	
4350	S	8.65	7.34	
4351	S	8.14	6.10	
4352	S	8.33	7.44	
4353	S	7.89	6.02	
4751	S	10.27	8.39	
4851	S	10.61	8.63	
4951	S	10.93	9.08	
4952	S	10.93	9.42	
4953	S	0.00	9.93	
4954	S	11.58	9.94	
4955	S	0.00	9.93	
4956	S	11.59	9.92	
4957	S	10.99	9.60	
4958	S	10.95	9.37	
5050	S	11.59	10.08	
5250	S	9.93	8.40	
5350	S	8.10	6.76	
5352	S	8.14	6.15	
5752	S	10.74	8.90	
5851	S	11.01	9.27	
5951	S	10.91	9.67	
5952	S	10.94	9.54	
5953	S	10.98	9.03	
6250	S	9.77	9.09	
6251	S	10.11	8.99	
6350	S	8.45	6.28	
6351	S	8.32	6.22	
6851	S	11.16	8.66	
6852	S	11.11	8.37	
6951	S	10.93	9.57	
7250	S	9.45	8.01	
7251	S	9.16	7.84	
7252	S	9.74	8.42	
7350	S	8.65	6.51	
7351	S	8.39	6.34	
7352	S	8.36	6.28	
7353	S	8.44	6.89	
7354	S	8.40	6.40	
7951	S	10.96	9.43	
8250	S	9.34	8.47	
8251	S	9.35	7.96	
8350	S	8.68	7.96	
8451	S	8.25	6.52	
8751	S	10.75	8.00	
8752	S	10.54	8.34	
8851	S	10.99	0.00	
8852	S	10.97	8.58	
8951	S	10.74	8.41	
8952	S	0.00	0.00	
9250	S	9.31	8.49	
9751	S	10.90	8.11	
9752	S	10.90	8.61	
9753	S	10.89	9.38	
9851	S	11.36	8.90	
9951	S	10.68	9.20	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert

Appendix E

from Southern Water

Josh Haddow
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Your ref
22491

Our ref
DSA000047721

Date
27 October 2025

Contact
Tel 0330 303 0119

Dear Mr Haddow,

Level 1 Capacity Check Enquiry: Martlets Way, Worthing, West Sussex, BN12 4UB.

We have completed the capacity check for the above development site and the results are as follows:

Foul Water

The enquiry has been reassessed to determine the capacity available for 9.55 l/s at manhole reference TQ11033004 Grid Reference: 511359 , 103027.

There is currently adequate capacity in the local sewerage network to accommodate a foul flow of 9.55 l/s for the above development at manhole reference TQ11033004. Southern Water will not permit a surface water connection into the foul network. Please refer to our surface water management policy.

Surface Water

The enquiry has been reassessed to determine the capacity available for 11.5 l/s at manhole reference TQ11032055 Grid Reference: 511239 , 103018.

There is currently adequate capacity in the local surface water/foul sewerage network to accommodate a surface water flow of 11.5 l/s for the above development at manhole reference TQ11032055.

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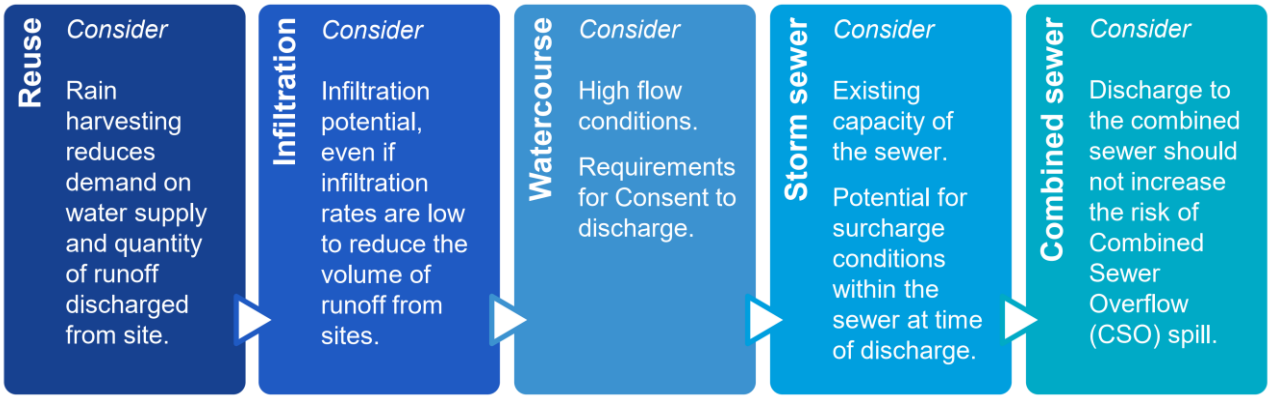
Although capacity in the surface water network has been identified, in all situations where surface water is being considered for discharge to our network, we require the below hierarchy for surface water to be followed which is reflected in part H3 of the Building Regulations. Whilst reuse does not strictly form part of this hierarchy, Southern Water would encourage the consideration of reuse for new developments.



Guidance on Building Regulations is here: gov.uk/government/publications/drainage-and-waste-disposal-approved-document-h

We would welcome the opportunity to engage with you on the design for disposal of surface water, with a particular focus on the potential for incorporating Sustainable Drainage Systems (SuDS), for this development at the earliest opportunity and we recommend that civil engineers and landscape architects work together and with Southern Water.

Where a surface water connection to the foul or combined sewer is being considered, this should be agreed by the Lead Local Flood Authority, in consultation with Southern Water.

It should be noted that although the above assessment indicates that there is capacity available for your proposed surface water flows the LLFA (Local Lead Flood Authority) may impose/request that a lower flow is discharged to the public surface water sewer.

If the excess surface water flows are to be attenuated on site, it could have a significant effect on any proposed Sewer Adoption (S104) Agreements. Any attenuation proposals should be agreed before any works are implemented on site. Where capacity is limited/restricted, agreement should be sought if you are to include any highway drainage within your proposals as Southern Water is not obligated to accept highway flows.

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Connecting to our network

It should be noted that this information is only a hydraulic assessment of the existing sewerage network and does not grant approval for a connection to the public sewerage system. A formal Sewer Connection (S106) application is required to be completed and approved by Southern Water Services. To make an application visit: developerservices.southernwater.co.uk

The results quoted above are only valid for 12 months from the date of issue of this letter. **Any revisions in flow rate or alternative point of connection will require a new Pre-Planning Application to be submitted.**

Please get in touch via the Get Connected customer dashboard if you have any queries.

Should it be necessary to contact us please quote our above reference number in all communications relating to this application by email at southernwaterplanning@southernwater.co.uk

Yours sincerely,

Future Growth Planning Team
Developer Services

southernwater.co.uk/developing-building/planning-your-development

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Appendix F

MEETING MINUTES

DATE AND TIME:	**15:00 – 16:00 Thursday 27th November 2025**
SUBJECT:	**Pre-Application Meeting with West Sussex County Council (WSCC) LLFA and Ardent Consulting Engineers (ACE) for Durrington Gasworks (Elizabeth Gardens Phase 2)**
VENUE:	**Video Call (Microsoft Teams)**
REF:	**2025-11-27_LLFA Meeting Minutes – Durrington Gasworks (Elizabeth Gardens Phase 2)**
THOSE PRESENT:	**Eleanor Read – West Sussex County Council (SuDS);** **Jay Moriarty (JM) – Ardent Consulting Engineers;** **Josh Haddow (JH) – Ardent Consulting Engineers;**
APOLOGIES:	**N/A**
DISCUSSION:	**1.0 Welcome and Introductions** **2.0 Martlets Way (NIB & SGN Land), Durrington** **3.0 Any Other Business**

ITEM	NOTES	ACTION
1.0	**Welcome and Introductions**	
1.01	**JM** introduced **JH** and outlined the purpose of the meeting which was to discuss the proposed development at Martlets Way (NIB & SGN Land), Durrington and to address the drainage parameters which are acceptable to WSCC.	
2.0	**Martlets Way (NIB & SGN Land), Durrington**	
		
2.01	**JM** gave an overview of the history of the site as there have been separate planning applications for various parcels of land within the current redline boundary and that the current redline boundary would be delivered as a stand-alone full planning application which is due to be submitted mid-December.	
2.02	**JM** stated that this site is Phase 2 of the wider Bellway development, with Phase 1 located to the east. **JM** stated that Phase 1 was a standalone application, but the drainage was designed to accommodate flows of up to 10 l/s from Phase 2 and that ACE have been asked by the client to explore the discharging parts of Phase 2 into the Phase 1 drainage, but noted that as the two phases were under separate planning applications that ACE would need advice from WSCC on the viability of that arrangement. **JM** noted that the 10l/s enters a downstream basin, and that no additional flows would come off Phase 1. **ER** noted this would be acceptable if calculations demonstrated flows could be accommodated.	
2.03	**JM** stated that the initial drainage strategy for Phase 2 was designed based on Greenfield rates and the typical design parameters that WSCC would expect to see, such as latest FEH data and CV of 1.	
2.04	**JM** discussed the use of infiltration on Phase 1 was discounted due to risk of ground water contamination. The ground conditions on Phase 2 pose a higher risk due to previous industrial uses (wastewater treatment and gas holders) - therefore infiltration has again been discounted. **JM** asked if WSCC would agree with the approach.	
2.05	**ER** stated that if land is contaminated that testing is recommended to prove so.	

ITEM	NOTES	ACTION
	Also, based on the drainage hierarchy, infiltration into contaminated land is not recommended, so we would need to establish another means of disposal.	
2.06	**JM** outlined the surface water drainage strategy for the site and identified the existing drainage within Martlets Way which would be used as the outfall locations for both the surface water and foul water drainage networks from the development. **JM** stated that capacity checks have been carried out for both surface and foul water which both came back positively and that discharge rates for the site had been calculated based on Greenfield runoff rates.	
2.07	**JM** asked, from a planning policy point of view, how would we best approach the potential use of the 10 l/s capacity within the Phase 1 drainage network? The downstream drainage is owned by the applicant.	
2.08	**ER** stated that the explanation of the strategy within documentation would need to be carefully written and that drainage calculations would be needed to prove that the capacity exists but confirmed that it would be possible to utilise the 10 l/s allowance for a section of the site, as flows would not increase downstream of Phase 1.	
2.09	**ER** mentioned that as the site is brownfield, that WSCC allow a proposed discharge rate of up to 5 times 2yr Greenfield runoff rates to be used, in line with National SuDS Standards, but recommended that the proposed discharge rate should still be as close to Greenfield rates as possible.	
2.10	**JM** discussed the site summary in terms of drainage parameters used within the drainage calculations. ER asked if urban creep had been allowed for. JM stated that it has been accommodated for.	
2.11	**JM** stated that Qbar was originally used to determine the discharge rate for the site and to size the storage requirements but stated that ACE would look into a brownfield relaxation rate.	
2.12	**JM** mentioned that permeable paving is not proposed within highways to allow for the possibility of road adoption from WSCC but could be used in private parking areas.	
2.13	**JH** asked if placing a geo-cellular 'attenuation' tank beneath the proposed play space area on site would be acceptable to WSCC. **ER** stated that if the cover is sufficient and if access and maintenance are both viable then it would be acceptable.	
2.14	**JM** agreed that ACE would simulate the various discharge arrangements (using 10 l/s from Phase 1 with the rest of the site discharging at Greenfield rates into Martlets Way; and discharging at up to 5 times 2yr Greenfield rates as the site is brownfield; and would issue them along with drainage calculations to **ER** for review.	**ACE**

ITEM	NOTES	ACTION
	POST MEETING INFO: ACE explored using 10l/s to Phase 1, however, without significant layout changes this would provide limited benefit and has therefore been discounted for this application. This outfall may be reconsidered in the future if the layout allows.	
2.15	**ER** confirmed the parameters used for the overall surface water drainage strategy is compliant with WSCC standards.	
3.0	**AoB**	
3.01	**JM** mentioned National SuDS standards and what the WSCC approach is on that matter for sites in the future.	
3.02	**ER** stated that all new applications would need to follow the national policy standards	
3.03	**JM** asked about how ACE should proceed in terms of Standard 2 – Interception on a site like this as we have very limited opportunity for interception. We will be improving water quality and quantity compared to existing which is the key aim of the standards so would expect this to be sufficient.	
3.04	**ER** stated that this would be the first brownfield and contaminated site being submitted under the new national standards so she would need to double check with other members of the team, but for now to follow previous guidance.	**ER**
3.05	**JM** mentioned that for the other national standards (biodiversity and amenity), there is only a certain amount that would be possible due to restrictions/constraints with root protection areas, ground conditions and available space on this site but we will note these in our FRA and refer to other reports as necessary.	
3.06	**ER** stated that rainwater harvesting (RWH) will need to be mentioned with the Flood Risk Assessment (FRA).	
3.07	**JM** mentioned that the cost and practicality of RWH for individual residential dwelling makes it unfeasible, and that it is not possible to have shared RWH within communal areas as it would not be adopted by management companies etc. **JM** mentioned that being able to quantify the storage provisions of a RWH system is difficult and makes the system hard to rely on within storage calculations for the site and how that impacts other SuDS elements; but that water butts could be a possibility for the site. There is also a risk that they are removed by homeowners in the future or not maintained.	

Appendix G

1.0 INTRODUCTION

1.1 The development at Durrington Gasworks, Martlets Way, Worthing, BN12 4UB includes a number of Sustainable Drainage Systems (SuDS) as part of the surface water drainage system including roadside swales/tree pits, permeable paving, detention basins and attenuation tanks in sequence with flow control features such as flow control chambers. This Technical Note sets out an outline management plan for the SuDS components.

1.2 The maintenance of all SuDS components will be in accordance with the best practices and CIRIA document C753 "The SuDS Manual". Typical maintenance activities for the proposed SuDS components have been reproduced from Table 32.1 of "The SuDS Manual" in **Table 1** below.

1.3 The drainage features will be maintained and managed by a private management company responsible to the owner of the site.

Table 1: Typical SuDS Maintenance Activities

Operation and Maintenance Activity	SuDS Component			
	Roadside Tree Pits	**Lined Permeable Paving**	**Detention Basins**	**Attenuation Tanks**
Regular Maintenance				
Inspection	■	■	■	■
Litter and debris removal	■	■	■	□
Grass cutting	■		■	
Weed and invasive plant control		□	□	
Shrub management	□	□	□	
Inspection of Perforated Pipework		□	□	□
Inspection of inlet and outlet pipes and chambers		□	□	□
Aquatic vegetation management			□	
Occasional Maintenance				
Sediment management	■	■	■	■
Vegetation replacement	□		□	
Vacuum sweeping and brushing		■		
Structure rehabilitation / repair	□	□	□	□
Reseeding of grassed surfaces	□		□	
■ will be required □ may be required				

2.0 SuDS MANAGEMENT PLAN

2.1 This long-term Management Plan for the Sustainable Drainage System (SuDS) should be implemented at the site to ensure that the drainage network functions as designed. Maintenance and cleaning of catchpit manholes, connecting pipework and SuDS components will ensure adequate hydraulic performance.

2.2 This plan is intended to cover all on-site drainage structures. The Site Management Team should oversee and implement the SuDS Management Plan and designate a qualified person who will be responsible for the proper operation and maintenance of the surface water drainage structures.

Water Quality Management

2.3 The surface drainage network has been designed to protect and enhance the quality of surface water runoff through the removal of sediment and pollutants, in accordance with guidance presented in CIRIA C753 'The SuDS Manual'.

2.4 The 'Simple Index Method' has been utilised to demonstrate that the proposed permeable paving provides sufficient treatment of surface water runoff for a site of this nature and intended use.

2.5 Catchpit manholes will add further treatment by reducing the amount of pollutants conveyed through the system. Preventive maintenance of the system will include a comprehensive source reduction program of regular sweeping and litter removal, prohibitions on the use of pesticides and provision of best practices.

Maintenance Program

2.6 The Site Management Team and will conduct the SuDS Management Plan set out in this document. The responsible party will ensure that inspections and record keeping are timely and accurate.

2.7 Inspection & Maintenance Log Forms (attached) should include the date and physical conditions of the structures, depth of sediment in structures / features, evidence of overtopping or debris blockage and maintenance required of each structure.

2.8 Records of maintenance will be kept on file on-site and copies of Inspection & Maintenance Log sheets indicating all work and inspections will be available to the Council upon request.

Regular maintenance should include:

- Inspect paving surfacing and sweep any debris every 6 months, or as determined to be reasonable based on experience with the installed systems, to ensure that the permeable paving is working in the intended fashion.

- All litter shall be picked up and removed from access roads, paving and soft landscaping.

- The inlets, outlet and vents and overflows of SuDS components should be checked annually and after large storms to ensure that they are in good condition and operating as designed. Regular maintenance includes inspection and identification of any areas that are not operating correctly monthly for the first 3 months and then every 6 months after.

Winter Maintenance Program

2.9 Ensure that drainage structures are not blocked by ice, snow, debris or rubbish during winter months. Inspections and maintenance should be carried out on a more regular basis due to likely adverse weather conditions.

2.10 Avoid de-icing agents wherever possible to allow bio-remediation of pollutants in SuDS features.

Fertiliser Use

2.11 Only slow-release organic low-phosphorous fertilisers will be used in any landscaped areas in order to limit the amount of nutrients that could enter the surface water drainage system.

2.12 Avoid use of weed killers and pesticides to prevent chemical pollution.

Operation and Maintenance requirements

2.13 Recommendations for the operation and maintenance including typical frequencies are included in **Table 2 to 5** below:

Table 2 : Typical SuDS Maintenance Activity Frequencies:

Roadside Tree Pits

SuDS Element	Roadside Tree Pits	
Maintenance Period	**Maintenance Task**	**Frequency**
Regular Maintenance	Remove litter and debris	Monthly, or as required
	Cut the grass – to retain grass height within specified design range	Monthly (during growing season) or as required
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours	Monthly, or when required
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies	Half yearly
Occasional maintenance	Reseed areas of poor vegetation growth; alter plant types to better suit conditions, if required	As required or if bare soil is exposed over > 10% of the filter strip area
Remedial Actions	Repair erosion or other damage by re-turfing or reseeding	As required
	Re-level uneven surfaces and reinstate design levels	As required
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface	As required

	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip	As required
	Remove and dispose of oils or petrol residues using safe standard practices	As required

Table 3 : Typical SuDS Maintenance Activity Frequencies: Lined Permeable Paving

SuDS Element	Lined Permeable Paving	
Maintenance Period	**Maintenance Task**	**Frequency**
Regular Maintenance	Brushing and vacuuming	Once a year or as required
Occasional Maintenance	Stabilise and mow contributing adjacent area	As required
	Removal of weed or management using glyphospate applied directly into weeds by an applicator rather than spraying	As required
Remedial Actions	Remediate any landscaping which has been raised to within 50mm of the level of the paving	As required.
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to structural performance or a hazard to users.	As required.
	Rehabilitation of surface or upper structure by remedial sweeping	Every 10 to 15 years, or as required
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	3 monthly, 48hrs after large storms in first 6 months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Table 4 : Typical SuDS Maintenance Activity Frequencies: Detention Basins

SuDS Element	Detention Basin	
Maintenance Period	**Maintenance Task**	**Frequency**
Regular Maintenance	Remove litter and debris	Monthly (or as required)
	Cut the grass – for spillways and access routes	Monthly (during growing season), or as required
	Cut grass - meadow grass in and around basin	Half yearly (spring, before nesting season, and autumn)
	Manage other vegetation and remove invasive/nuisance plants (e.g. Himalayan Balsam)	Monthly (at start, then as required)
	Inspect inlets, outlets, and overflows for blockages, and clear is required	Monthly
	Inspect banksides, structures, pipework etc. for evidence of physical damage	Monthly
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies	Monthly (for first year), then annually or as required
	Check any penstocks and other mechanical devices	Annually
	Tidy all dead growth before start of growing season	Annually
	Remove sediment from inlets, outlets and forebays	Annually (or as required)
	Manage wetland plants in outlet pool- where provided	Annually
Occasional Maintenance	Reseed areas of poor vegetation growth	As required

	Prune and trim any trees and remove cuttings	Every 2 years, or as required
	Remove sediment from inlets, outlets, forebay and main basin when required	Every 5 years, or as required (likely to be minimal requirements where effective upstream source control is provided)
Remedial Actions	Repair erosion or other damage by reseeding or returfing	As required
	Realignment of rip-rap	As required
	Repair/rehabilitation of inlets, outlets and overflows	As required
	Relevel uneven levels and reinstate design levels	As required

Table 5 : Typical SuDS Maintenance Activity Frequencies: Attenuation Tank

SuDS Element	Attenuation Tank	
Maintenance Period	**Maintenance Task**	**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 risk to performance)	Monthly
	Remove sediment from pre-treatment structures and/or internal forebays.	Annually, or as required.
Remedial Actions	Repair/rehabilitate inlets, outlets, 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

Pipework and Outfall Flap Valves

2.14 The connecting pipework under the site roads and outfall pipework, should be regularly checked to ensure there is no significant damage affecting the function of the proposed drainage system. This would include:

- Quarterly visual inspection of the upstream and downstream chambers / outfalls to ensure surface water flows through the network (also to be undertaken after severe storms);
- CCTV survey on an annual basis to inspect condition of pipework;
- Jetting of the pipework to remove sediment / blockages, as required; and
- Reparations / replacement of damaged or collapsed pipework, as required.

2.15 Flap valves are constructed in a way that minimum maintenance is required. To ensure correct functioning of the flap valve it is recommended to carry the following maintenance:

- Half yearly visual check of the flap valve;
- Half yearly visual inspection of the material sealing and replacement / cleaning, as required;
- Replacement / reparation of damaged flap valve, as required.

Exclusions

2.16 This SuDS Management and Maintenance Strategy does not allow for the maintenance of the pumping station or proprietary treatment structures. The manufacturer's guidance and expertise should be used.

Additional Support

2.17 In the event of concern or failure of a SuDS feature, it is recommended that Ardent Consulting Engineers are contacted to provide expert advice.

Drainage Operation and Maintenance Log

Site Maintenance Supervisor:_____ Date:_____

☐ Routine ☐ Response to rainfall event ☐ Other:_____

Maintenance Area	Frequency	Date Performed	Comments
Catchpit Manholes and Pipework	Monthly Inspections of condition and operation		
	Monthly (for the first 3 months) then as required; removal of silt accumulation		
	Reparation of physical damage to pipes and chambers		
Inlet, outlets and Headwalls	Inspect and identify areas not operating property every 3 months (for the first 3 months) and every 6 months after.		
	Monthly trash screens inspection and remove debris		
Pavement Areas/Hard Surfaces	Monthly trash screens inspection and remove debris		

(parking, driveways, service areas)	Rubbish, litter & debris removal on a monthly basis		
	Specialist sweeping, jetting and vacuuming, as required		
	Remediation of any depressions, rutting or broken paving elements, as required		
Landscaped & Vegetated Areas	Maintenance as necessary		

Appendix H

INSET

SOUTHERN WATER SWMH 2053 CL: 9.49mAOD IL: 7.46mAOD

SOUTHERN WATER SWMH 2054 CL: 9.61mAOD IL: 7.36mAOD

SOUTHERN WATER SWMH 2052 CL: 9.92mAOD IL: 7.47mAOD

SEWERS IN MARTLETS WAY SUBJECT TO SECTION 98 SEWER REQUISITION WITH SOUTHERN WATER

FOR CONTINUATION, SEE MAIN SHEET

S39 CL: 9.96 IL: 7.83

S40 CL: 9.41 IL: 7.32

1500 1/30

SOUTHERN WATER SWMH 2055 CL: 9.41mAOD IL: 7.32mAOD

NEW CONNECTION TO BE MADE TO EXISTING SOUTHERN WATER SURFACE WATER NETWORK. SUBJECT TO APPROVAL

SOUTHERN WATER FWMH 2005 CL: 9.63mAOD IL: 1.37mAOD

SOUTHERN WATER FWMH 3909 CL: 10.61mAOD IL: 9.45mAOD

SOUTHERN WATER FWMH 3003 CL: 10.53mAOD IL: 9.32mAOD

SOUTHERN WATER FWMH 3908 CL: 10.60mAOD IL: 9.56mAOD

TOTAL SITE AREA = 4.21ha
DEVELOPABLE AREA = 3.39ha
IMPERMEABLE AREA (65% - INCLUDES URBAN CREEP) = 2.205ha

Q_{bar} = 3.6 l/s/ha
Q_1 = 3.0 l/s/ha
Q_2 = 3.1 l/s/ha
Q_{30} = 8.2 l/s/ha
Q_{100} = 11.3 l/s/ha

TOTAL SITE DISCHARGE RATE
= (3.39ha x 3.1l/s/ha) x 5 (AS PER NATIONAL SuDS GUIDANCE)
= 52.6l/s

DRAINAGE PARAMETERS USED
CV = 1.0 MADD = 0 FEH22 DATA

STORAGE REQUIRED = 1,568m³

STORAGE PROVIDED BY BASINS = 992m³
STORAGE PROVIDED BY ATTENUATION TANKS = 384m³
STORAGE PROVIDED BY PERMEABLE PAVING = 205m³
TOTAL STORAGE PROVIDED = 1,581m³

STORAGE SIZED TO ACCOMMODATE 1 IN 100YR STORM EVENT PLUS 45% CLIMATE CHANGE ALLOWANCE

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. RISK ASSESSMENTS AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
2. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
3. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES UNLESS OTHERWISE STATED.
4. ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ON SITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS.
5. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS PERMITTED WITHOUT PRIOR PERMISSION FROM THE ENGINEER.
6. ANY WORKS OUTSIDE RED SITE BOUNDARY ARE FOR INFORMATION PURPOSES ONLY. UNLESS SPECIFICALLY NOTED, ALL WORKS OUTSIDE THE SITE BOUNDARY WILL BE UNDERTAKEN BY OTHERS UNDER A SEPARATE CONTRACT.

KEY:

- EXISTING SURFACE WATER SEWER AND CHAMBER
- EXISTING FOUL WATER SEWER AND CHAMBER
- EXISTING PHASE 1 SURFACE WATER SPUR
- PROPOSED SURFACE WATER SEWER AND CHAMBER
- PROPOSED SURFACE WATER CONTROL CHAMBER
- PROPOSED HEADWALL
- PROPOSED FOUL WATER SEWER AND CHAMBER
- PROPOSED BASIN
- PROPOSED BANKING (1:3 SLOPES)
- TREE ROOT PROTECTION AREA
- GEOCELLULAR 'ATTENUATION TANK'
- MAJOR CONTOUR
- MINOR CONTOUR
- AREA TO DISCHARGE INTO PHASE 1 DRAINAGE
- RETAINED SGN LAND/EQUIPMENT
- PROPOSED PERMEABLE PAVING
- EXCEEDANCE FLOW ROUTES
- PROPOSED TREE PIT / BIO-RETENTION FEATURE
- APPROXIMATE LOCATION OF FORMER GASHOLDER

N

BASIN 1
CL = 10.90m
IL = 9.40m

DEPTH = 1.5m
FREEBOARD = 0.3m
WATER DEPTH = 1.2m

TOP AREA = 654m²
BASE AREA = 254m²
VOLUME PROVIDED = 482m³

ATTENUATION TANK 2
CL = 10.40m

TOP OF TANK = 9.60m
BOTTOM OF TANK = 8.80m

TANK DEPTH = 0.8m
TANK AREA = 126m²
VOLUME PROVIDED = 96m³

ATTENUATION TANK 3
CL = 10.50m

TOP OF TANK = 9.55m
BOTTOM OF TANK = 8.75m

TANK DEPTH = 0.8m
TANK AREA = 98m²
VOLUME PROVIDED = 75m³

BASIN 2
CL = 9.90m
IL = 8.40m

DEPTH = 1.5m
FREEBOARD = 0.3m
WATER DEPTH = 1.2m

TOP AREA = 769m²
BASE AREA = 216m²
VOLUME PROVIDED = 510m³

ATTENUATION TANK 4
CL = 10.20m

TOP OF TANK = 9.20m
BOTTOM OF TANK = 8.40m

TANK DEPTH = 0.8m
TANK AREA = 153m²
VOLUME PROVIDED = 116m³

CONCRETE PROTECTION REQUIRED

HW1 IL: 9.40
HW2 IL: 9.40
HW3 IL: 9.40
HW4 IL: 8.40
HW5 IL: 8.40

S6 CL: 11.042 IL: 9.48
S5 CL: 11.206 IL: 9.735
S4 CL: 11.401 IL: 9.895
S3 CL: 11.508 IL: 9.95
S2 CL: 11.633 IL: 10.13
S1 CL: 11.417 IL: 10.217
S7 CL: 11.211 IL: 9.445
S12 CL: 11.416 IL: 9.47
S11 CL: 11.562 IL: 9.615
S10 CL: 11.495 IL: 9.72
S9 CL: 11.650 IL: 10.00
S8 CL: 11.442 IL: 9.145

F1 CL: 11.568 IL: 9.595
F2 CL: 11.450 IL: 9.465
F3 CL: 11.277 IL: 9.195
F4 CL: 11.045 IL: 8.78
F5 CL: 11.140 IL: 8.735
F6 CL: 11.536 IL: 9.73
F7 CL: 11.344 IL: 8.26
F8 CL: 11.479 IL: 8.315
F9 CL: 11.344 IL: 8.26
F10 CL: 11.245 IL: 8.21
F11 CL: 10.761 IL: 8.975
F12 CL: 11.141 IL: 8.50
F13 CL: 11.022 IL: 8.425
F14 CL: 10.867 IL: 8.05
F15 CL: 11.022 IL: 7.93
F16 CL: 10.968 IL: 7.88
F17 CL: 10.832 IL: 7.80
F18 CL: 10.723 IL: 7.75
F19 CL: 10.498 IL: 8.50
F20 CL: 10.737 IL: 7.625
F21 CL: 10.939 IL: 7.515
F22 CL: 10.516 IL: 8.345
F23 CL: 10.797 IL: 7.36
F24 CL: 10.060 IL: 8.46
F25 CL: 10.407 IL: 6.93
F26 CL: 10.044 IL: 5.75
F27 CL: 10.216 IL: 2.83
S38 (FC2) CL: 10.146 IL: 8.05
S37 CL: 10.041 IL: 8.21
S36 CL: 10.117 IL: 8.235
S31 CL: 10.538 IL: 8.645
S32 CL: 10.768 IL: 8.51
S29 CL: 10.885 IL: 8.575
S28 CL: 10.712 IL: 8.62
S26 CL: 10.670 IL: 8.685
S25 CL: 10.776 IL: 8.715
S24 CL: 10.914 IL: 8.75
S23 CL: 10.973 IL: 8.77
S22 (FC1) CL: 10.866 IL: 8.825
S21 CL: 10.815 IL: 8.84
S20 CL: 10.839 IL: 8.86
S18 CL: 10.979 IL: 8.915
S17 CL: 11.090 IL: 9.030
S16 CL: 10.829 IL: 9.33
S15 CL: 11.197 IL: 9.03
S12 CL: 11.416 IL: 9.47

ATTENUATION TANK 1
CL = 10.96m

TOP OF TANK = 10.20m
BOTTOM OF TANK = 9.40m

TANK DEPTH = 0.8m
TANK AREA = 128m²
VOLUME PROVIDED = 97m³

NEW MANHOLE TO BE INSTALLED ON EXISTING SPUR. SPUR PROVIDED AS PART OF PHASE 1 DRAINAGE WORKS. CONFIRMED BY CLIENT. EXACT LOCATION AND INVERT LEVEL OF SPUR TO BE CONFIRMED BEFORE CONSTRUCTION OF NEW MANHOLE

FLOW CONTROL DEVICE
DESIGN DEPTH - 2.075m
DESIGN FLOW - 50l/s
2700Ø

BASE OF BASIN = 8.40m
SOFFIT OF FW PIPE = 7.25m

FLOW CONTROL DEVICE
DESIGN DEPTH - 1.85m
DESIGN FLOW - 52.6l/s
2700Ø

CONCRETE PROTECTION REQUIRED

DEEP TERMINAL MANHOLE WITH BACKDROP INCLUDED FOR COSTING. SUBJECT TO AGREEMENT WITH SOUTHERN WATER. AN EXTERNAL BACKDROP TO THE EXISTING MANHOLE MAY BE ACCEPTABLE

FOR CONTINUATION, SEE INSET ABOVE

IMPORTANT: EXISTING DRAINAGE SURVEY REQUIRED PRIOR TO DETAILED DESIGN TO AVOID CLASHES

SOUTHERN WATER FWMH 3002 CL: N/A IL: N/A
SOUTHERN WATER FWMH 3004 CL: 10.17mAOD IL: 1.27mAOD
SOUTHERN WATER FWMH 3005 CL: 10.17mAOD IL: N/A
SOUTHERN WATER SWMH 3050 CL: 9.84mAOD IL: 8.07mAOD
SOUTHERN WATER FWMH 3001 CL: 9.92mAOD IL: 7.27mAOD
SOUTHERN WATER FWMH 3919 CL: N/A IL: N/A
SOUTHERN WATER FWMH 390P CL: N/A IL: N/A
SOUTHERN WATER FWMH 3918 CL: 11.50mAOD IL: 9.07mAOD

SOUTHERN WATER FOUL WATER PUMPING STATION

SOUTHERN WATER SWMH 4051 CL: 11.60mAOD IL: 9.97mAOD
SOUTHERN WATER SWMH 4050 CL: 11.535mAOD IL: 10.042mAOD
SOUTHERN WATER FWMH 4000 CL: 11.515mAOD IL: 10.087mAOD
SOUTHERN WATER SWMH 4954 CL: N/A IL: N/A
SOUTHERN WATER SWMH 4956 CL: N/A IL: N/A
SOUTHERN WATER Ø150mm FOUL WATER SEWER
SOUTHERN WATER Ø750mm FOUL WATER SEWER
SOUTHERN WATER Ø750mm FOUL WATER SEWER
SOUTHERN WATER FWMH 4903 CL: 11.13mAOD IL: 8.80mAOD
SOUTHERN WATER FWMH 4906 CL: 11.65mAOD IL: 9.915mAOD
SOUTHERN WATER SWMH 5050 CL: 11.59mAOD IL: 10.08mAOD
SOUTHERN WATER FWMH 5907 CL: 11.03mAOD IL: 8.52mAOD
SOUTHERN WATER FWMH 5906 CL: 10.94mAOD IL: 8.35mAOD
SOUTHERN WATER FWMH 5901 CL: 11.01mAOD IL: 7.54mAOD
SOUTHERN WATER Ø225mm FOUL WATER SEWER
SOUTHERN WATER Ø750mm FOUL WATER SEWER
SOUTHERN WATER FWMH 6902 CL: 11.00mAOD IL: 8.66mAOD

Block A
Block B
Block C
Holm Oak Business Par
Mast (Telecommunication)
Pump Station

0m 5m 25m
Scale: 1:500 @A1

Rev	Description	Drn	Chk	App	Date
P3	UPDATED TO SUIT LAYOUT CHANGES	JH	JH	JM	30.04.26
P2	UPDATED TO SUIT COMMERICAL LAYOUT CHANGES	JH	JH	JM	26.02.26
P1	PRELIMINARY ISSUE	JH	JM	BB	19.12.25

Purpose: PRELIMINARY
Status: NOT YET APPROVED

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Client: BELLWAY HOMES LTD (SOUTH LONDON)

Project Title: DURRINGTON GASWORKS (ELIZABETH SQUARE PHASE 2)

Drawing Title: PROPOSED DRAINAGE STRATEGY

Drawn by	Checked by	Approved by	Revision
JH	JM	BB	P3

A1 Scale: 1:500@A1
Date: 19.12.25

Drawing Number: 2505550_C-ACE-XX-XX-DR-C-0601

INFORMATION SUMMARY

INFORMATION TYPE	SOURCE	REFERENCE	REVISION & DATE
SITE LAYOUT	MD DESIGN	SL-01	REV. A 15.04.26
OS	MD DESIGN	OS SURVEY MDD BASE SCALE	REV. - 25.06.24
TOPOGRAPHICAL SURVEY	MK SURVEYS	30510	REV. 1 12.08.25
TREE SURVEY	KEEN CONSULTANTS	draft 2440-KC-XX-YTRE E-TreeProtectionPlan01RevD	REV. 0 29.10.25

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File Location: y:\ardent projects\2505550_c martlets way, nlb and sgn - durrington - planning\technical\acad\drawings\2505550_c-ace-xx-xx-dr-c-0601 proposed drainage strategy.dwg

Appendix I

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

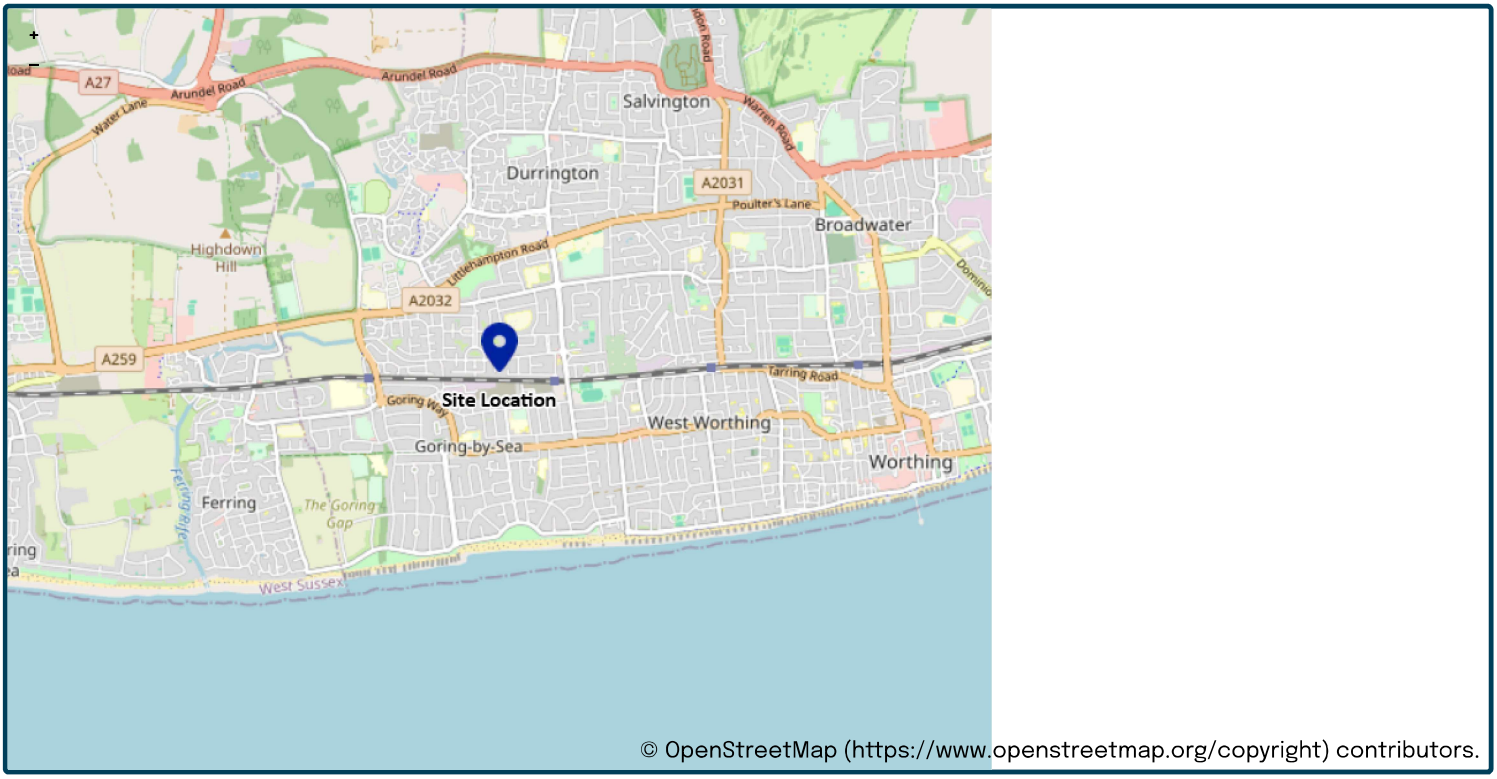
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	20/11/2025
Calculated by	Josh Haddow
Reference	2505550_C
Model version	2.2.2

Location

Site name	2505550_C
Site location	Martlets Way, Durrington



© OpenStreetMap (https://www.openstreetmap.org/copyright) contributors.

Site easting (British National Grid)	511547
Site northing (British National Grid)	103080

Site details

Total site area (ha)	1 ha

Greenfield runoff

Method

Method	FEH statistical (2025)

FEH statistical (2025)

	My value		Map value
SAAR9120 (mm)	786 mm		
BFIHOST19scaled	0.537		
QMed-QBar conversion	1.136		1.136
QMed (l/s)	3.1 l/s		
QBar (FEH statistical 2025) (l/s)	3.6 l/s		

Growth curve factors

	My value		Map value
Hydrological region	7		7
1 year growth factor	0.85		
2 year growth factor	0.88		
10 year growth factor	1.62		
30 year growth factor	2.3		
100 year growth factor	3.19		
200 year growth factor	3.74		

Results

Method	FEH statistical (2025)
Flow rate 1 year (l/s)	3.0 l/s
Flow rate 2 year (l/s)	3.1 l/s
Flow rate 10 years (l/s)	5.8 l/s
Flow rate 30 years (l/s)	8.2 l/s
Flow rate 100 years (l/s)	11.3 l/s
Flow rate 200 years (l/s)	13.3 l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent 'zero' figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.2) developed by HR Wallingford and available at uksuds.com (https://www.uksuds.com/). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (https://www.uksuds.com/terms-conditions). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Appendix J

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	1.000
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	150.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S2	0.072	5.00	11.633	1350	511659.613	103125.817	1.503
S3	0.072	5.00	11.508	1350	511656.983	103139.136	1.558
S4	0.072	5.00	11.401	1350	511647.169	103146.944	1.506
S5	0.072	5.00	11.206	1350	511626.721	103146.599	1.471
S6	0.072	5.00	11.042	1350	511569.252	103145.629	1.562
S7	0.072	5.00	11.211	1350	511569.768	103135.456	1.766
S8 (HW1)	0.000	5.00	10.900	1350	511555.927	103133.293	1.500
S9	0.072	5.00	11.650	1350	511649.635	103092.818	1.650
S10	0.072	5.00	11.495	1350	511583.354	103082.711	1.775
S11	0.071	5.00	11.562	1350	511577.507	103086.757	1.947
S12	0.071	5.00	11.416	1350	511572.890	103115.547	1.946
S13 (HW2)	0.000	5.00	10.900		511558.992	103113.406	1.500
S14 (HW3)	0.000	5.00	10.900		511553.689	103105.136	1.500
S15	0.071	5.00	11.197	1200	511551.871	103071.806	2.167
S16	0.071	5.00	10.829	1350	511635.623	103036.197	1.499
S17	0.071	5.00	11.090	1200	511563.605	103025.101	2.060
S18	0.071	5.00	10.979	1200	511556.298	103030.636	2.064
S19 (Tank 1)	0.000	5.00	10.960	1350	511563.313	103049.474	1.560
S20	0.071	5.00	10.839	1200	511552.473	103047.804	1.979
S21	0.071	5.00	10.815	1200	511551.314	103053.008	1.975
S22 (FC1)	0.071	5.00	10.866	2700	511548.515	103054.590	2.041
S23	0.071	5.00	10.973	1350	511532.854	103058.189	2.203
S24	0.071	5.00	10.914	1350	511528.046	103061.951	2.164
S25	0.071	5.00	10.776	1350	511525.309	103072.506	2.061
S26	0.071	5.00	10.670	1350	511517.914	103077.595	1.985
S27 (Tank 2)	0.000	5.00	10.400	1350	511494.870	103091.361	1.600
S28	0.071	5.00	10.712	1350	511497.538	103074.457	2.092
S29	0.071	5.00	10.885	1350	511483.701	103072.326	2.310
S30 (Tank 3)	0.000	5.00	10.500	1350	511459.238	103093.970	1.750
S31	0.071	5.00	10.538	1200	511460.303	103087.224	1.893
S32	0.071	5.00	10.768	1350	511462.445	103073.654	2.258
S33 (HW4)	0.000	5.00	9.900		511425.139	103067.766	1.500
S34 (HW5)	0.000	5.00	9.900		511421.544	103047.103	1.500

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Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S35 (Tank 4)	0.000	5.00	10.200	1350	511404.559	103064.931	1.800
S36	0.141	5.00	10.117	1350	511407.646	103044.899	1.882
S37	0.141	5.00	10.041	1350	511408.736	103037.832	1.831
S38 (FC2)	0.140	5.00	10.146	2700	511373.771	103032.441	2.096
S39	0.000	5.00	9.960	1350	511286.159	103021.839	2.130
S40	0.000		9.410	1200	511239.444	103017.688	2.090

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	13.576	75.4	300	Circular	11.633	10.130	1.203	11.508	9.950	1.258
1.001	12.541	228.0	300	Circular	11.508	9.950	1.258	11.401	9.895	1.206
1.002	20.451	240.6	300	Circular	11.401	9.895	1.206	11.206	9.810	1.096
1.003	57.477	225.4	375	Circular	11.206	9.735	1.096	11.042	9.480	1.187
1.004	10.186	291.0	375	Circular	11.042	9.480	1.187	11.211	9.445	1.391
1.005	14.009	311.3	375	Circular	11.211	9.445	1.391	10.900	9.400	1.125
1.006	28.246	0.0	450	Circular	10.900	9.400	1.050	10.900	9.400	1.050
2.000	67.047	239.5	300	Circular	11.650	10.000	1.350	11.495	9.720	1.475
2.001	7.110	237.0	300	Circular	11.495	9.720	1.475	11.562	9.690	1.572
2.002	29.158	201.1	375	Circular	11.562	9.615	1.572	11.416	9.470	1.571
2.003	14.062	200.9	375	Circular	11.416	9.470	1.571	10.900	9.400	1.125
2.004	9.824	0.0	450	Circular	10.900	9.400	1.050	10.900	9.400	1.050
1.007	33.380	90.2	375	Circular	10.900	9.400	1.125	11.197	9.030	1.792
1.008	17.540	85.6	375	Circular	11.197	9.030	1.792	10.866	8.825	1.666
3.000	72.868	242.9	300	Circular	10.829	9.330	1.199	11.090	9.030	1.760

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S2	1350	Manhole	Adoptable	S3	1350	Manhole	Adoptable
1.001	S3	1350	Manhole	Adoptable	S4	1350	Manhole	Adoptable
1.002	S4	1350	Manhole	Adoptable	S5	1350	Manhole	Adoptable
1.003	S5	1350	Manhole	Adoptable	S6	1350	Manhole	Adoptable
1.004	S6	1350	Manhole	Adoptable	S7	1350	Manhole	Adoptable
1.005	S7	1350	Manhole	Adoptable	S8 (HW1)	1350	Manhole	Adoptable
1.006	S8 (HW1)	1350	Manhole	Adoptable	S14 (HW3)		Junction	
2.000	S9	1350	Manhole	Adoptable	S10	1350	Manhole	Adoptable
2.001	S10	1350	Manhole	Adoptable	S11	1350	Manhole	Adoptable
2.002	S11	1350	Manhole	Adoptable	S12	1350	Manhole	Adoptable
2.003	S12	1350	Manhole	Adoptable	S13 (HW2)		Junction	
2.004	S13 (HW2)		Junction		S14 (HW3)		Junction	
1.007	S14 (HW3)		Junction		S15	1200	Manhole	Adoptable
1.008	S15	1200	Manhole	Adoptable	S22 (FC1)	2700	Manhole	Adoptable
3.000	S16	1350	Manhole	Adoptable	S17	1200	Manhole	Adoptable

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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)
3.001	9.167	229.2	300	Circular	11.090	9.030	1.760	10.979	8.990	1.689
3.002	17.589	319.8	375	Circular	10.979	8.915	1.689	10.839	8.860	1.604
4.000	10.968	23.6	300	Circular	10.960	9.400	1.260	10.839	8.935	1.604
3.003	5.332	266.6	375	Circular	10.839	8.860	1.604	10.815	8.840	1.600
3.004	3.215	214.3	375	Circular	10.815	8.840	1.600	10.866	8.825	1.666
1.009	16.069	292.2	375	Circular	10.866	8.825	1.666	10.973	8.770	1.828
1.010	6.105	305.3	375	Circular	10.973	8.770	1.828	10.914	8.750	1.789
1.011	10.904	311.5	375	Circular	10.914	8.750	1.789	10.776	8.715	1.686
1.012	8.977	299.2	375	Circular	10.776	8.715	1.686	10.670	8.685	1.610
1.013	20.616	317.2	375	Circular	10.670	8.685	1.610	10.712	8.620	1.717
5.000	17.113	163.0	300	Circular	10.400	8.800	1.300	10.712	8.695	1.717
1.014	14.000	311.1	375	Circular	10.712	8.620	1.717	10.885	8.575	1.935
1.015	18.779	288.9	375	Circular	10.885	8.575	1.935	10.768	8.510	1.883
6.000	5.165	49.2	300	Circular	10.500	8.750	1.450	10.538	8.645	1.593
6.001	23.673	394.6	300	Circular	10.538	8.645	1.593	10.768	8.585	1.883
1.016	39.857	362.3	375	Circular	10.768	8.510	1.883	9.900	8.400	1.125
1.017	20.973	0.0	375	Circular	9.900	8.400	1.125	9.900	8.400	1.125
1.018	10.139	61.4	375	Circular	9.900	8.400	1.125	10.117	8.235	1.507

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.001	S17	1200	Manhole	Adoptable	S18	1200	Manhole	Adoptable
3.002	S18	1200	Manhole	Adoptable	S20	1200	Manhole	Adoptable
4.000	S19 (Tank 1)	1350	Manhole	Adoptable	S20	1200	Manhole	Adoptable
3.003	S20	1200	Manhole	Adoptable	S21	1200	Manhole	Adoptable
3.004	S21	1200	Manhole	Adoptable	S22 (FC1)	2700	Manhole	Adoptable
1.009	S22 (FC1)	2700	Manhole	Adoptable	S23	1350	Manhole	Adoptable
1.010	S23	1350	Manhole	Adoptable	S24	1350	Manhole	Adoptable
1.011	S24	1350	Manhole	Adoptable	S25	1350	Manhole	Adoptable
1.012	S25	1350	Manhole	Adoptable	S26	1350	Manhole	Adoptable
1.013	S26	1350	Manhole	Adoptable	S28	1350	Manhole	Adoptable
5.000	S27 (Tank 2)	1350	Manhole	Adoptable	S28	1350	Manhole	Adoptable
1.014	S28	1350	Manhole	Adoptable	S29	1350	Manhole	Adoptable
1.015	S29	1350	Manhole	Adoptable	S32	1350	Manhole	Adoptable
6.000	S30 (Tank 3)	1350	Manhole	Adoptable	S31	1200	Manhole	Adoptable
6.001	S31	1200	Manhole	Adoptable	S32	1350	Manhole	Adoptable
1.016	S32	1350	Manhole	Adoptable	S33 (HW4)		Junction	
1.017	S33 (HW4)		Junction		S34 (HW5)		Junction	
1.018	S34 (HW5)		Junction		S36	1350	Manhole	Adoptable

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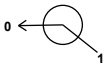
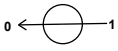
Pipeline Schedule

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)
7.000	20.268	225.2	300	Circular	10.200	8.400	1.500	10.117	8.310	1.507
1.019	11.618	464.7	375	Circular	10.117	8.235	1.507	10.041	8.210	1.456
1.020	31.075	194.2	375	Circular	10.041	8.210	1.456	10.146	8.050	1.721
1.021	88.251	401.1	450	Circular	10.146	8.050	1.646	9.960	7.830	1.680
1.022	46.899	74.4	450	Circular	9.960	7.950	1.560	9.410	7.320	1.640

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
7.000	S35 (Tank 4)	1350	Manhole	Adoptable	S36	1350	Manhole	Adoptable
1.019	S36	1350	Manhole	Adoptable	S37	1350	Manhole	Adoptable
1.020	S37	1350	Manhole	Adoptable	S38 (FC2)	2700	Manhole	Adoptable
1.021	S38 (FC2)	2700	Manhole	Adoptable	S39	1350	Manhole	Adoptable
1.022	S39	1350	Manhole	Adoptable	S40	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S2	511659.613	103125.817	11.633	1.503	1350				
						0	1.000	10.130	300
S3	511656.983	103139.136	11.508	1.558	1350		1.000	9.950	300
						0	1.001	9.950	300
S4	511647.169	103146.944	11.401	1.506	1350		1.001	9.895	300
						0	1.002	9.895	300
S5	511626.721	103146.599	11.206	1.471	1350		1.002	9.810	300
						0	1.003	9.735	375
S6	511569.252	103145.629	11.042	1.562	1350		1.003	9.480	375
						0	1.004	9.480	375
S7	511569.768	103135.456	11.211	1.766	1350		1.004	9.445	375
						0	1.005	9.445	375
S8 (HW1)	511555.927	103133.293	10.900	1.500	1350		1.005	9.400	375
						0	1.006	9.400	450

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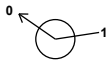
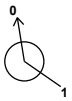
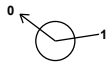
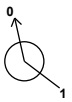
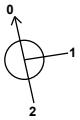
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S9	511649.635	103092.818	11.650	1.650	1350				
						0	2.000	10.000	300
S10	511583.354	103082.711	11.495	1.775	1350		1	2.000	9.720	300
						0	2.001	9.720	300
S11	511577.507	103086.757	11.562	1.947	1350		1	2.001	9.690	300
						0	2.002	9.615	375
S12	511572.890	103115.547	11.416	1.946	1350		1	2.002	9.470	375
						0	2.003	9.470	375
S13 (HW2)	511558.992	103113.406	10.900	1.500			1	2.003	9.400	375
						0	2.004	9.400	450
S14 (HW3)	511553.689	103105.136	10.900	1.500			1	2.004	9.400	450
							2	1.006	9.400	450
						0	1.007	9.400	375
S15	511551.871	103071.806	11.197	2.167	1200		1	1.007	9.030	375
						0	1.008	9.030	375
S16	511635.623	103036.197	10.829	1.499	1350				
						0	3.000	9.330	300
S17	511563.605	103025.101	11.090	2.060	1200		1	3.000	9.030	300
						0	3.001	9.030	300
S18	511556.298	103030.636	10.979	2.064	1200		1	3.001	8.990	300
						0	3.002	8.915	375
S19 (Tank 1)	511563.313	103049.474	10.960	1.560	1350				
						0	4.000	9.400	300
S20	511552.473	103047.804	10.839	1.979	1200		1	4.000	8.935	300
							2	3.002	8.860	375
						0	3.003	8.860	375
S21	511551.314	103053.008	10.815	1.975	1200		1	3.003	8.840	375
						0	3.004	8.840	375

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S22 (FC1)	511548.515	103054.590	10.866	2.041	2700	1	3.004	8.825	375
						2	1.008	8.825	375
						0	1.009	8.825	375
S23	511532.854	103058.189	10.973	2.203	1350	1	1.009	8.770	375
						0	1.010	8.770	375
S24	511528.046	103061.951	10.914	2.164	1350	1	1.010	8.750	375
						0	1.011	8.750	375
S25	511525.309	103072.506	10.776	2.061	1350	1	1.011	8.715	375
						0	1.012	8.715	375
S26	511517.914	103077.595	10.670	1.985	1350	1	1.012	8.685	375
						0	1.013	8.685	375
S27 (Tank 2)	511494.870	103091.361	10.400	1.600	1350	0	5.000	8.800	300
S28	511497.538	103074.457	10.712	2.092	1350	1	5.000	8.695	300
						2	1.013	8.620	375
						0	1.014	8.620	375
S29	511483.701	103072.326	10.885	2.310	1350	1	1.014	8.575	375
						0	1.015	8.575	375
S30 (Tank 3)	511459.238	103093.970	10.500	1.750	1350	0	6.000	8.750	300
S31	511460.303	103087.224	10.538	1.893	1200	1	6.000	8.645	300
						0	6.001	8.645	300
S32	511462.445	103073.654	10.768	2.258	1350	1	6.001	8.585	300
						2	1.015	8.510	375
						0	1.016	8.510	375
S33 (HW4)	511425.139	103067.766	9.900	1.500		1	1.016	8.400	375
						0	1.017	8.400	375
S34 (HW5)	511421.544	103047.103	9.900	1.500		1	1.017	8.400	375
						0	1.018	8.400	375

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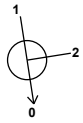
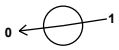
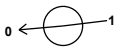
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S35 (Tank 4)	511404.559	103064.931	10.200	1.800	1350		0	7.000	8.400	300
S36	511407.646	103044.899	10.117	1.882	1350		1	7.000	8.310	300
							2	1.018	8.235	375
							0	1.019	8.235	375
S37	511408.736	103037.832	10.041	1.831	1350		1	1.019	8.210	375
							0	1.020	8.210	375
S38 (FC2)	511373.771	103032.441	10.146	2.096	2700		1	1.020	8.050	375
							0	1.021	8.050	450
S39	511286.159	103021.839	9.960	2.130	1350		1	1.021	7.830	450
							0	1.022	7.950	450
S40	511239.444	103017.688	9.410	2.090	1200		1	1.022	7.320	450

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	0.0		

Storm Durations

15	60	180	360	600	960	10080
30	120	240	480	720	1440	

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

Node S22 (FC1) Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	8.825	Product Number	CTL-SHE-0280-5000-2075-5000
Design Depth (m)	2.075	Min Outlet Diameter (m)	0.300
Design Flow (l/s)	50.0	Min Node Diameter (mm)	2700

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Node S38 (FC2) Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	8.050	Product Number	CTL-SHE-0290-5260-1850-5260
Design Depth (m)	1.850	Min Outlet Diameter (m)	0.375
Design Flow (l/s)	52.6	Min Node Diameter (mm)	2700

Node S14 (HW3) Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	9.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	90

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	254.0	0.0	1.500	654.0	0.0

Node S19 (Tank 1) Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	9.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	98

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	128.0	0.0	0.800	128.0	0.0	0.801	0.0	0.0

Node S27 (Tank 2) Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.800
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	126.0	0.0	0.800	126.0	0.0	0.801	0.0	0.0

Node S30 (Tank 3) Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.750
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	98.0	0.0	0.800	98.0	0.0	0.801	0.0	0.0

Node S34 (HW5) Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	216.0	0.0	1.500	769.0	0.0

Node S35 (Tank 4) Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

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Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	153.0	0.0	0.800	153.0	0.0	0.801	0.0	0.0

Node S36 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.235	Slope (1:X)	250.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.300
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	55.000		

Node S38 (FC2) Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.050	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.300
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	26.000		

Node S7 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	9.445	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	34	Depth (m)	0.300
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	72.500		

Node S32 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.510	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	32	Depth (m)	0.300
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	68.000		

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Results for 2 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	10	10.195	0.065	13.5	0.0931	0.0000	OK
15 minute summer	S3	10	10.094	0.144	26.9	0.2065	0.0000	OK
15 minute summer	S4	11	10.063	0.168	39.8	0.2410	0.0000	OK
15 minute summer	S5	11	9.896	0.161	52.4	0.2306	0.0000	OK
15 minute summer	S6	12	9.714	0.234	65.4	0.3346	0.0000	OK
15 minute summer	S7	12	9.679	0.234	76.1	3.7625	0.0000	OK
30 minute summer	S8 (HW1)	22	9.617	0.217	66.1	0.3098	0.0000	OK
15 minute summer	S9	11	10.086	0.086	13.5	0.1226	0.0000	OK
15 minute summer	S10	11	9.856	0.136	26.3	0.1949	0.0000	OK
15 minute summer	S11	11	9.752	0.137	38.5	0.1960	0.0000	OK
15 minute summer	S12	11	9.647	0.177	51.2	0.2531	0.0000	OK
15 minute winter	S13 (HW2)	11	9.631	0.231	47.9	0.0000	0.0000	OK
30 minute summer	S14 (HW3)	24	9.562	0.162	130.7	44.6397	0.0000	OK
60 minute summer	S15	40	9.562	0.532	60.0	0.6015	0.0000	SURCHARGED
30 minute summer	S16	20	9.650	0.320	28.8	0.4572	0.0000	SURCHARGED
60 minute summer	S17	35	9.568	0.538	25.6	0.6082	0.0000	SURCHARGED
60 minute summer	S18	35	9.561	0.646	33.3	0.7309	0.0000	SURCHARGED
120 minute summer	S19 (Tank 1)	78	9.542	0.142	27.1	17.5281	0.0000	OK
60 minute summer	S20	35	9.558	0.698	41.3	0.7890	0.0000	SURCHARGED
60 minute summer	S21	35	9.557	0.717	34.1	0.8109	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S2	1.000	S3	13.4	0.621	0.105	0.3036	
15 minute summer	S3	1.001	S4	26.3	0.711	0.360	0.4644	
15 minute summer	S4	1.002	S5	39.6	1.028	0.555	0.7866	
15 minute summer	S5	1.003	S6	52.6	0.916	0.396	3.3751	
15 minute summer	S6	1.004	S7	63.3	0.909	0.542	0.7367	
15 minute summer	S7	1.005	S8 (HW1)	71.7	1.061	0.636	0.9461	
30 minute summer	S8 (HW1)	1.006	S14 (HW3)	65.3	1.422	0.411	1.7603	
15 minute summer	S9	2.000	S10	13.0	0.558	0.182	1.5977	
15 minute summer	S10	2.001	S11	25.8	0.887	0.359	0.2067	
15 minute summer	S11	2.002	S12	38.5	0.884	0.274	1.2753	
15 minute summer	S12	2.003	S13 (HW2)	51.6	0.966	0.366	0.8312	
15 minute winter	S13 (HW2)	2.004	S14 (HW3)	74.5	2.216	0.468	0.5058	
30 minute summer	S14 (HW3)	1.007	S15	61.5	0.869	0.292	2.6010	
60 minute summer	S15	1.008	S22 (FC1)	59.0	0.535	0.273	1.9346	
30 minute summer	S16	3.000	S17	-17.9	0.438	-0.252	5.1313	
60 minute summer	S17	3.001	S18	25.6	0.531	0.350	0.6455	
60 minute summer	S18	3.002	S20	33.6	0.334	0.302	1.9400	
120 minute summer	S19 (Tank 1)	4.000	S20	-27.1	0.556	-0.118	0.5669	
60 minute summer	S20	3.003	S21	26.4	0.334	0.216	0.5881	
60 minute summer	S21	3.004	S22 (FC1)	33.1	0.451	0.243	0.3546	

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Results for 2 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	S22 (FC1)	35	9.555	0.730	62.5	4.1784	0.0000	SURCHARGED
15 minute summer	S23	12	9.067	0.297	59.2	0.4251	0.0000	OK
15 minute summer	S24	12	9.052	0.302	69.6	0.4325	0.0000	OK
15 minute summer	S25	12	9.028	0.313	80.0	0.4481	0.0000	OK
15 minute summer	S26	12	8.998	0.313	90.5	0.4478	0.0000	OK
120 minute summer	S27 (Tank 2)	78	8.852	0.052	8.5	6.3324	0.0000	OK
15 minute summer	S28	12	8.940	0.320	101.0	0.4579	0.0000	OK
15 minute summer	S29	12	8.891	0.316	102.9	0.4519	0.0000	OK
30 minute summer	S30 (Tank 3)	25	8.762	0.012	3.9	1.0916	0.0000	OK
30 minute summer	S31	20	8.817	0.172	12.0	0.1949	0.0000	OK
30 minute summer	S32	20	8.819	0.309	120.1	6.7825	0.0000	OK
180 minute summer	S33 (HW4)	140	8.712	0.312	83.4	0.0000	0.0000	OK
180 minute summer	S34 (HW5)	140	8.697	0.297	82.3	80.5437	0.0000	OK
180 minute summer	S35 (Tank 4)	144	8.694	0.294	34.4	43.1293	0.0000	OK
480 minute summer	S36	304	8.693	0.458	103.6	16.3833	0.0000	SURCHARGED
480 minute summer	S37	304	8.704	0.494	62.9	0.7068	0.0000	SURCHARGED
240 minute summer	S38 (FC2)	172	8.656	0.606	61.7	16.7808	0.0000	SURCHARGED
240 minute summer	S39	172	8.065	0.235	51.8	0.3364	0.0000	OK
180 minute summer	S40	144	7.431	0.111	51.9	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S22 (FC1)	1.009	S23	49.8	0.798	0.428	1.2760	
15 minute summer	S23	1.010	S24	59.2	0.791	0.520	0.5764	
15 minute summer	S24	1.011	S25	69.6	0.818	0.618	1.0552	
15 minute summer	S25	1.012	S26	80.1	0.847	0.696	0.8826	
15 minute summer	S26	1.013	S28	90.7	0.914	0.811	2.0458	
120 minute summer	S27 (Tank 2)	5.000	S28	-8.5	-0.382	-0.097	0.4199	
15 minute summer	S28	1.014	S29	92.5	0.934	0.820	1.3947	
15 minute summer	S29	1.015	S32	102.8	1.079	0.878	1.8316	
30 minute summer	S30 (Tank 3)	6.000	S31	-3.9	-0.243	-0.024	0.1084	
30 minute summer	S31	6.001	S32	9.3	0.415	0.168	1.1932	
30 minute summer	S32	1.016	S33 (HW4)	111.5	1.256	1.068	3.5220	
180 minute summer	S33 (HW4)	1.017	S34 (HW5)	82.3	1.477	0.745	2.0101	
180 minute summer	S34 (HW5)	1.018	S36	71.9	0.934	0.281	1.0344	
180 minute summer	S35 (Tank 4)	7.000	S36	-34.4	-0.658	-0.467	1.4236	
480 minute summer	S36	1.019	S37	61.6	0.719	0.669	1.2814	
480 minute summer	S37	1.020	S38 (FC2)	65.2	0.591	0.455	3.4275	
240 minute summer	S38 (FC2)	1.021	S39	51.8	0.744	0.323	6.1582	
240 minute summer	S39	1.022	S40	51.9	1.661	0.138	1.4639	529.5

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	11	11.386	1.256	49.9	1.7967	0.0000	FLOOD RISK
15 minute summer	S3	11	11.352	1.402	92.5	2.0057	0.0000	FLOOD RISK
15 minute summer	S4	11	11.224	1.329	137.5	1.9014	0.0000	FLOOD RISK
15 minute summer	S5	11	10.814	1.079	182.5	1.5436	0.0000	SURCHARGED
30 minute summer	S6	20	10.303	0.823	211.9	1.1778	0.0000	SURCHARGED
30 minute summer	S7	22	10.178	0.733	255.3	34.4319	0.0000	SURCHARGED
120 minute summer	S8 (HW1)	98	10.173	0.773	91.9	1.1060	0.0000	SURCHARGED
15 minute summer	S9	11	10.342	0.342	49.9	0.4900	0.0000	SURCHARGED
15 minute summer	S10	11	10.222	0.502	94.6	0.7187	0.0000	SURCHARGED
120 minute summer	S11	98	10.173	0.558	64.8	0.7988	0.0000	SURCHARGED
120 minute summer	S12	98	10.173	0.703	81.5	1.0054	0.0000	SURCHARGED
120 minute summer	S13 (HW2)	98	10.172	0.772	79.3	0.0000	0.0000	SURCHARGED
120 minute summer	S14 (HW3)	98	10.172	0.772	200.0	275.5260	0.0000	SURCHARGED
120 minute summer	S15	98	10.164	1.134	40.9	1.2824	0.0000	SURCHARGED
15 minute summer	S16	10	10.694	1.364	69.5	1.9513	0.0000	FLOOD RISK
15 minute summer	S17	10	10.516	1.486	98.7	1.6803	0.0000	SURCHARGED
15 minute summer	S18	10	10.385	1.470	148.6	1.6629	0.0000	SURCHARGED
120 minute summer	S19 (Tank 1)	96	10.159	0.759	68.9	93.3251	0.0000	SURCHARGED
15 minute summer	S20	10	10.232	1.372	199.0	1.5522	0.0000	SURCHARGED
15 minute summer	S21	10	10.216	1.376	163.6	1.5564	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S2	1.000	S3	44.9	0.696	0.351	0.9560	
15 minute summer	S3	1.001	S4	89.9	1.276	1.226	0.8831	
15 minute summer	S4	1.002	S5	135.0	1.917	1.892	1.4401	
15 minute summer	S5	1.003	S6	180.4	1.636	1.358	6.3395	
30 minute summer	S6	1.004	S7	209.7	1.901	1.796	1.1235	
30 minute summer	S7	1.005	S8 (HW1)	159.2	1.444	1.412	1.5452	
120 minute summer	S8 (HW1)	1.006	S14 (HW3)	89.8	1.046	0.564	4.4754	
15 minute summer	S9	2.000	S10	47.1	0.726	0.658	4.7214	
15 minute summer	S10	2.001	S11	93.0	1.320	1.294	0.5007	
120 minute summer	S11	2.002	S12	59.4	0.867	0.422	3.2160	
120 minute summer	S12	2.003	S13 (HW2)	79.3	0.823	0.563	1.5510	
120 minute summer	S13 (HW2)	2.004	S14 (HW3)	78.8	1.257	0.496	1.5565	
120 minute summer	S14 (HW3)	1.007	S15	40.1	0.798	0.190	3.6817	
120 minute summer	S15	1.008	S22 (FC1)	40.2	0.364	0.186	1.9346	
15 minute summer	S16	3.000	S17	51.4	0.729	0.724	5.1313	
15 minute summer	S17	3.001	S18	101.4	1.440	1.387	0.6455	
15 minute summer	S18	3.002	S20	151.2	1.371	1.358	1.9400	
120 minute summer	S19 (Tank 1)	4.000	S20	-68.9	-0.978	-0.300	0.7724	
15 minute summer	S20	3.003	S21	116.6	1.058	0.956	0.5881	
15 minute summer	S21	3.004	S22 (FC1)	159.8	1.449	1.173	0.3546	

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S22 (FC1)	10	10.172	1.347	206.8	7.7122	0.0000	SURCHARGED
15 minute summer	S23	10	10.019	1.249	75.9	1.7869	0.0000	SURCHARGED
15 minute summer	S24	10	10.002	1.252	116.9	1.7919	0.0000	SURCHARGED
15 minute summer	S25	10	9.935	1.220	165.8	1.7465	0.0000	SURCHARGED
15 minute summer	S26	10	9.814	1.129	214.7	1.6159	0.0000	SURCHARGED
360 minute winter	S27 (Tank 2)	344	9.384	0.584	15.9	70.7899	0.0000	SURCHARGED
15 minute summer	S28	10	9.471	0.851	263.9	1.2181	0.0000	SURCHARGED
360 minute winter	S29	352	9.371	0.796	77.3	1.1390	0.0000	SURCHARGED
360 minute winter	S30 (Tank 3)	352	9.356	0.606	14.0	57.2549	0.0000	SURCHARGED
360 minute winter	S31	352	9.356	0.711	14.5	0.8038	0.0000	SURCHARGED
360 minute winter	S32	352	9.356	0.846	82.6	46.7497	0.0000	SURCHARGED
360 minute winter	S33 (HW4)	352	9.329	0.929	78.6	0.0000	0.0000	SURCHARGED
360 minute winter	S34 (HW5)	360	9.317	0.917	77.8	353.3264	0.0000	SURCHARGED
360 minute winter	S35 (Tank 4)	360	9.309	0.909	18.4	117.6537	0.0000	SURCHARGED
360 minute winter	S36	360	9.309	1.074	56.6	17.2644	0.0000	SURCHARGED
360 minute winter	S37	352	9.298	1.088	52.1	1.5569	0.0000	SURCHARGED
360 minute winter	S38 (FC2)	352	9.275	1.225	53.1	20.3258	0.0000	SURCHARGED
30 minute summer	S39	198	8.066	0.236	52.6	0.3376	0.0000	OK
30 minute summer	S40	198	7.432	0.112	52.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S22 (FC1)	1.009	S23	52.4	0.784	0.450	1.7724	
15 minute summer	S23	1.010	S24	76.2	0.754	0.669	0.6734	
15 minute summer	S24	1.011	S25	116.6	1.057	1.034	1.2027	
15 minute summer	S25	1.012	S26	165.9	1.504	1.441	0.9901	
15 minute summer	S26	1.013	S28	215.2	1.951	1.926	2.2739	
360 minute winter	S27 (Tank 2)	5.000	S28	-15.9	0.385	-0.183	1.2051	
15 minute summer	S28	1.014	S29	160.3	1.453	1.420	1.5442	
360 minute winter	S29	1.015	S32	76.9	0.925	0.656	2.0713	
360 minute winter	S30 (Tank 3)	6.000	S31	-14.0	0.461	-0.088	0.3637	
360 minute winter	S31	6.001	S32	-8.4	0.342	-0.151	1.6670	
360 minute winter	S32	1.016	S33 (HW4)	78.6	1.021	0.752	4.3961	
360 minute winter	S33 (HW4)	1.017	S34 (HW5)	77.8	1.370	0.705	2.3133	
360 minute winter	S34 (HW5)	1.018	S36	50.9	0.923	0.199	1.1183	
360 minute winter	S35 (Tank 4)	7.000	S36	-18.4	-0.391	-0.249	1.4273	
360 minute winter	S36	1.019	S37	52.1	0.769	0.566	1.2814	
360 minute winter	S37	1.020	S38 (FC2)	52.2	0.474	0.365	3.4275	
360 minute winter	S38 (FC2)	1.021	S39	52.6	0.749	0.328	6.1994	
30 minute summer	S39	1.022	S40	52.6	1.668	0.140	1.4786	801.8

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Results for 100 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	11	11.090	0.960	44.9	1.3736	0.0000	SURCHARGED
15 minute summer	S3	11	11.062	1.112	83.5	1.5913	0.0000	SURCHARGED
15 minute summer	S4	11	10.957	1.062	124.3	1.5197	0.0000	SURCHARGED
15 minute summer	S5	11	10.620	0.885	165.1	1.2670	0.0000	SURCHARGED
30 minute summer	S6	20	10.208	0.728	192.1	1.0415	0.0000	SURCHARGED
30 minute summer	S7	21	10.103	0.658	231.2	27.8662	0.0000	SURCHARGED
60 minute winter	S8 (HW1)	59	10.100	0.700	100.9	1.0010	0.0000	SURCHARGED
15 minute summer	S9	11	10.193	0.193	44.9	0.2761	0.0000	OK
15 minute summer	S10	10	10.122	0.402	86.2	0.5753	0.0000	SURCHARGED
60 minute winter	S11	59	10.099	0.484	67.2	0.6931	0.0000	SURCHARGED
60 minute winter	S12	59	10.099	0.629	86.7	0.9001	0.0000	SURCHARGED
60 minute winter	S13 (HW2)	60	10.099	0.699	83.0	0.0000	0.0000	SURCHARGED
60 minute winter	S14 (HW3)	60	10.099	0.699	191.6	242.7201	0.0000	SURCHARGED
60 minute winter	S15	59	10.091	1.061	42.9	1.2002	0.0000	SURCHARGED
15 minute summer	S16	10	10.531	1.201	46.1	1.7181	0.0000	FLOOD RISK
15 minute summer	S17	10	10.382	1.352	88.7	1.5286	0.0000	SURCHARGED
15 minute summer	S18	10	10.276	1.361	133.9	1.5398	0.0000	SURCHARGED
60 minute winter	S19 (Tank 1)	59	10.087	0.687	91.2	84.5183	0.0000	SURCHARGED
15 minute summer	S20	10	10.152	1.292	179.0	1.4615	0.0000	SURCHARGED
15 minute summer	S21	10	10.132	1.292	161.7	1.4615	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S2	1.000	S3	40.7	0.688	0.318	0.9560	
15 minute summer	S3	1.001	S4	81.5	1.157	1.112	0.8831	
15 minute summer	S4	1.002	S5	122.3	1.737	1.715	1.4401	
15 minute summer	S5	1.003	S6	163.3	1.481	1.230	6.3395	
30 minute summer	S6	1.004	S7	190.1	1.723	1.628	1.1235	
30 minute summer	S7	1.005	S8 (HW1)	152.8	1.385	1.354	1.5452	
60 minute winter	S8 (HW1)	1.006	S14 (HW3)	98.4	1.243	0.619	4.4754	
15 minute summer	S9	2.000	S10	43.4	0.741	0.607	3.9659	
15 minute summer	S10	2.001	S11	87.8	1.247	1.222	0.5007	
60 minute winter	S11	2.002	S12	64.2	0.920	0.456	3.2160	
60 minute winter	S12	2.003	S13 (HW2)	83.0	0.979	0.589	1.5510	
60 minute winter	S13 (HW2)	2.004	S14 (HW3)	82.0	1.524	0.515	1.5565	
60 minute winter	S14 (HW3)	1.007	S15	39.6	0.659	0.188	3.6817	
60 minute winter	S15	1.008	S22 (FC1)	39.6	0.362	0.183	1.9346	
15 minute summer	S16	3.000	S17	46.5	0.660	0.655	5.1313	
15 minute summer	S17	3.001	S18	91.7	1.303	1.255	0.6455	
15 minute summer	S18	3.002	S20	136.8	1.240	1.229	1.9400	
60 minute winter	S19 (Tank 1)	4.000	S20	-91.2	-1.346	-0.397	0.7724	
15 minute summer	S20	3.003	S21	119.6	1.084	0.980	0.5881	
15 minute summer	S21	3.004	S22 (FC1)	154.2	1.398	1.132	0.3546	

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Results for 100 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S22 (FC1)	10	10.087	1.262	196.3	7.2271	0.0000	SURCHARGED
15 minute summer	S23	10	9.903	1.133	73.9	1.6215	0.0000	SURCHARGED
15 minute summer	S24	10	9.886	1.136	113.0	1.6258	0.0000	SURCHARGED
15 minute summer	S25	10	9.824	1.109	156.9	1.5868	0.0000	SURCHARGED
15 minute summer	S26	10	9.715	1.030	200.8	1.4744	0.0000	SURCHARGED
240 minute winter	S27 (Tank 2)	236	9.276	0.476	18.2	57.7066	0.0000	SURCHARGED
15 minute summer	S28	10	9.415	0.795	244.8	1.1376	0.0000	SURCHARGED
15 minute summer	S29	10	9.295	0.720	198.0	1.0298	0.0000	SURCHARGED
240 minute winter	S30 (Tank 3)	240	9.241	0.491	18.2	46.4542	0.0000	SURCHARGED
240 minute winter	S31	240	9.241	0.596	18.7	0.6745	0.0000	SURCHARGED
240 minute winter	S32	240	9.241	0.731	90.8	36.3037	0.0000	SURCHARGED
360 minute winter	S33 (HW4)	352	9.213	0.813	77.8	0.0000	0.0000	SURCHARGED
360 minute winter	S34 (HW5)	352	9.201	0.801	77.1	291.2528	0.0000	SURCHARGED
360 minute winter	S35 (Tank 4)	352	9.193	0.793	16.3	116.3887	0.0000	SURCHARGED
360 minute winter	S36	352	9.193	0.958	59.8	17.0980	0.0000	SURCHARGED
360 minute winter	S37	352	9.181	0.971	52.1	1.3896	0.0000	SURCHARGED
360 minute winter	S38 (FC2)	352	9.157	1.107	53.1	19.6480	0.0000	SURCHARGED
960 minute winter	S39	540	8.066	0.236	52.6	0.3376	0.0000	OK
960 minute winter	S40	540	7.432	0.112	52.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S22 (FC1)	1.009	S23	52.4	0.798	0.450	1.7724	
15 minute summer	S23	1.010	S24	75.3	0.778	0.661	0.6734	
15 minute summer	S24	1.011	S25	112.7	1.022	0.999	1.2027	
15 minute summer	S25	1.012	S26	157.1	1.425	1.365	0.9901	
15 minute summer	S26	1.013	S28	201.6	1.828	1.804	2.2739	
240 minute winter	S27 (Tank 2)	5.000	S28	-18.2	0.390	-0.210	1.2051	
15 minute summer	S28	1.014	S29	155.8	1.413	1.381	1.5442	
15 minute summer	S29	1.015	S32	195.0	1.768	1.665	2.0713	
240 minute winter	S30 (Tank 3)	6.000	S31	-18.2	-0.434	-0.115	0.3637	
240 minute winter	S31	6.001	S32	13.2	0.356	0.238	1.6670	
240 minute winter	S32	1.016	S33 (HW4)	84.9	1.051	0.812	4.3961	
360 minute winter	S33 (HW4)	1.017	S34 (HW5)	77.1	1.370	0.698	2.3133	
360 minute winter	S34 (HW5)	1.018	S36	53.8	0.889	0.210	1.1183	
360 minute winter	S35 (Tank 4)	7.000	S36	-16.3	0.545	-0.222	1.4273	
360 minute winter	S36	1.019	S37	52.1	0.755	0.566	1.2814	
360 minute winter	S37	1.020	S38 (FC2)	52.2	0.474	0.365	3.4275	
360 minute winter	S38 (FC2)	1.021	S39	52.6	0.749	0.328	6.1994	
960 minute winter	S39	1.022	S40	52.6	1.668	0.140	1.4786	1886.3

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	10	11.585	1.455	65.0	2.0815	0.0000	FLOOD RISK
15 minute summer	S3	10	11.508	1.558	130.2	2.2295	6.5595	FLOOD
15 minute summer	S4	10	11.401	1.506	149.3	2.1551	1.9860	FLOOD
30 minute summer	S5	19	11.041	1.306	195.9	1.8695	0.0000	FLOOD RISK
30 minute summer	S6	20	10.529	1.049	254.1	1.5007	0.0000	SURCHARGED
120 minute winter	S7	116	10.494	1.049	115.8	63.3412	0.0000	SURCHARGED
120 minute winter	S8 (HW1)	116	10.493	1.093	80.4	1.5635	0.0000	SURCHARGED
15 minute summer	S9	11	10.876	0.876	65.0	1.2538	0.0000	SURCHARGED
15 minute summer	S10	11	10.644	0.924	124.3	1.3227	0.0000	SURCHARGED
30 minute summer	S11	19	10.502	0.887	173.0	1.2694	0.0000	SURCHARGED
120 minute winter	S12	116	10.492	1.022	76.4	1.4631	0.0000	SURCHARGED
120 minute winter	S13 (HW2)	116	10.492	1.092	75.8	0.0000	0.0000	SURCHARGED
120 minute winter	S14 (HW3)	116	10.492	1.092	186.0	436.2587	0.0000	SURCHARGED
120 minute winter	S15	114	10.484	1.454	62.2	1.6444	0.0000	SURCHARGED
15 minute summer	S16	9	10.829	1.499	64.1	2.1451	3.7763	FLOOD
15 minute summer	S17	9	10.761	1.731	108.3	1.9582	0.0000	SURCHARGED
15 minute summer	S18	9	10.634	1.719	170.3	1.9447	0.0000	SURCHARGED
120 minute winter	S19 (Tank 1)	114	10.479	1.079	54.8	98.8851	0.0000	SURCHARGED
120 minute winter	S20	114	10.479	1.619	77.6	1.8313	0.0000	SURCHARGED
120 minute winter	S21	114	10.479	1.639	86.2	1.8533	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S2	1.000	S3	65.2	0.926	0.509	0.9560	
15 minute summer	S3	1.001	S4	87.3	1.239	1.191	0.8831	
15 minute summer	S4	1.002	S5	133.4	1.895	1.871	1.4401	
30 minute summer	S5	1.003	S6	194.3	1.762	1.463	6.3395	
30 minute summer	S6	1.004	S7	250.6	2.272	2.147	1.1235	
120 minute winter	S7	1.005	S8 (HW1)	80.4	0.756	0.713	1.5452	
120 minute winter	S8 (HW1)	1.006	S14 (HW3)	79.8	1.120	0.502	4.4754	
15 minute summer	S9	2.000	S10	61.3	0.871	0.858	4.7214	
15 minute summer	S10	2.001	S11	123.8	1.758	1.723	0.5007	
30 minute summer	S11	2.002	S12	170.4	1.545	1.211	3.2160	
120 minute winter	S12	2.003	S13 (HW2)	75.8	0.782	0.539	1.5510	
120 minute winter	S13 (HW2)	2.004	S14 (HW3)	75.4	1.330	0.474	1.5565	
120 minute winter	S14 (HW3)	1.007	S15	-60.8	0.621	-0.288	3.6817	
120 minute winter	S15	1.008	S22 (FC1)	48.9	0.444	0.226	1.9346	
15 minute summer	S16	3.000	S17	55.5	0.788	0.781	5.1313	
15 minute summer	S17	3.001	S18	109.1	1.549	1.492	0.6455	
15 minute summer	S18	3.002	S20	171.2	1.553	1.539	1.9400	
120 minute winter	S19 (Tank 1)	4.000	S20	-54.8	-0.779	-0.239	0.7724	
120 minute winter	S20	3.003	S21	71.0	0.644	0.582	0.5881	
120 minute winter	S21	3.004	S22 (FC1)	86.1	0.780	0.632	0.3546	

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S22 (FC1)	114	10.478	1.653	101.3	9.4645	0.0000	SURCHARGED
15 minute summer	S23	10	10.358	1.588	72.1	2.2722	0.0000	SURCHARGED
15 minute summer	S24	10	10.343	1.593	126.8	2.2801	0.0000	SURCHARGED
15 minute summer	S25	10	10.265	1.550	190.0	2.2182	0.0000	SURCHARGED
15 minute summer	S26	10	10.107	1.422	253.4	2.0342	0.0000	SURCHARGED
360 minute winter	S27 (Tank 2)	352	9.707	0.907	19.5	97.1173	0.0000	SURCHARGED
360 minute winter	S28	352	9.707	1.087	92.0	1.5550	0.0000	SURCHARGED
360 minute winter	S29	352	9.692	1.117	83.7	1.5989	0.0000	SURCHARGED
360 minute winter	S30 (Tank 3)	352	9.675	0.925	14.7	75.8496	0.0000	SURCHARGED
360 minute winter	S31	352	9.675	1.030	15.1	1.1644	0.0000	SURCHARGED
360 minute winter	S32	352	9.674	1.164	91.9	75.8924	0.0000	SURCHARGED
360 minute winter	S33 (HW4)	360	9.648	1.248	78.6	0.0000	0.0000	FLOOD RISK
360 minute winter	S34 (HW5)	368	9.636	1.236	77.9	548.8981	0.0000	FLOOD RISK
360 minute winter	S35 (Tank 4)	368	9.629	1.229	18.5	118.1112	0.0000	SURCHARGED
360 minute winter	S36	368	9.629	1.394	54.0	17.7218	0.0000	SURCHARGED
360 minute winter	S37	368	9.618	1.408	49.4	2.0152	0.0000	SURCHARGED
360 minute winter	S38 (FC2)	360	9.598	1.548	53.2	22.1738	0.0000	SURCHARGED
720 minute winter	S39	330	8.066	0.236	52.6	0.3376	0.0000	OK
15 minute summer	S40	182	7.432	0.112	52.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S22 (FC1)	1.009	S23	50.0	0.719	0.429	1.7724	
15 minute summer	S23	1.010	S24	77.0	0.698	0.676	0.6734	
15 minute summer	S24	1.011	S25	128.5	1.165	1.139	1.2027	
15 minute summer	S25	1.012	S26	191.8	1.739	1.667	0.9901	
15 minute summer	S26	1.013	S28	254.9	2.312	2.281	2.2739	
360 minute winter	S27 (Tank 2)	5.000	S28	-19.5	-0.295	-0.224	1.2051	
360 minute winter	S28	1.014	S29	75.3	0.879	0.667	1.5442	
360 minute winter	S29	1.015	S32	83.5	0.925	0.713	2.0713	
360 minute winter	S30 (Tank 3)	6.000	S31	-14.7	-0.425	-0.093	0.3637	
360 minute winter	S31	6.001	S32	-8.0	0.346	-0.145	1.6670	
360 minute winter	S32	1.016	S33 (HW4)	78.6	0.997	0.753	4.3961	
360 minute winter	S33 (HW4)	1.017	S34 (HW5)	77.9	1.340	0.705	2.3133	
360 minute winter	S34 (HW5)	1.018	S36	49.3	0.943	0.193	1.1183	
360 minute winter	S35 (Tank 4)	7.000	S36	-18.5	-0.317	-0.250	1.4273	
360 minute winter	S36	1.019	S37	49.4	0.809	0.536	1.2814	
360 minute winter	S37	1.020	S38 (FC2)	49.4	0.502	0.345	3.4275	
360 minute winter	S38 (FC2)	1.021	S39	52.6	0.749	0.328	6.1993	
720 minute winter	S39	1.022	S40	52.6	1.668	0.140	1.4786	2407.3

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