

WE ARE SYMMETRYS

DRAINAGE STRATEGY REPORT

AVONPARK RETIREMENT VILLAGE
BATH
BA2 7FF

24082-SYM-XX-XX-RP-C-0001



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REVISION HISTORY

Revision	Description	Date	By	Checked
A	First Issue	April 2026	CE	AH

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1.0 Executive Summary

- 1.1 This report has been prepared to support the discharge of planning conditions relating to surface water drainage at Avon Park, Winsley Hill, Bath.
- 1.2 The previously approved drainage strategy proposed shallow infiltration; however, subsequent ground investigation has identified that this approach poses a risk to ground stability due to the presence of metastable soils and evidence of historic slope movement.
- 1.3 The drainage strategy has therefore been revised to utilise deep bore soakaways, allowing surface water to be discharged to competent strata at depth while avoiding interaction with unstable near-surface soils.
- 1.4 The revised proposals:
 - maintain compliance with the drainage hierarchy, with infiltration retained as the primary method of disposal,
 - provide a fully managed surface water system, removing discharge to the foul sewer network,
 - incorporate four discrete catchments, each discharging to an individual deep bore soakaway,
 - are designed to accommodate the 1 in 30 year plus climate change event, with additional storage to manage a subsequent 1 in 10 year event in accordance with Wiltshire Council guidance,
 - manage exceedance flows safely on site without increasing flood risk, and
 - include appropriate water quality treatment measures.
- 1.5 The revised strategy responds directly to site specific geotechnical constraints and represents a compliant, robust and sustainable drainage solution.
- 1.6 It provides betterment over both the existing and previously approved arrangements and is considered suitable to support the discharge of the relevant planning condition.

2.0 Introduction

- 2.1 This Drainage Strategy Report has been prepared to support the discharge of planning conditions relating to surface water drainage for the proposed development at Avon Park, Winsley Hill, Bath.
- 2.2 The report should be read as an addendum to the approved Flood Risk Assessment and Drainage Strategy (Ref: 22290-R-601, dated March 2024), which established that the site lies within Flood Zone 1 and is suitable for development in flood risk terms.
- 2.3 Since the approval of the original drainage strategy, detailed ground investigations have been undertaken which have identified constraints associated with ground stability and infiltration behaviour. These findings have necessitated a review and refinement of the surface water drainage proposals.
- 2.4 The purpose of this report is therefore to present an updated surface water drainage strategy that responds to the identified geotechnical constraints, while maintaining compliance with national and local planning policy, including Wiltshire Council's Drainage Betterment Strategy (2024).
- 2.5 This document demonstrates that the revised approach continues to follow the drainage hierarchy, provides an appropriate and sustainable method of surface water disposal, and delivers betterment over the existing situation.
- 2.6 All other aspects of the approved Flood Risk Assessment remain unchanged, including the assessment of flood risk from all sources and the overall suitability of the site for development.

3.0 Scope of Update

- 3.1 This report addresses the revision of the surface water drainage strategy only.
- 3.2 All other aspects of the approved Flood Risk Assessment remain valid, including the assessment of flood risk from all sources, confirmation of Flood Zone 1 classification, and the suitability of the site for development in accordance with national planning policy.
- 3.3 The revised information presented within this document relates to the method of surface water disposal and associated infrastructure required to serve the development.

4.0 Policy and Guidance

- 4.1 The drainage strategy has been developed in accordance with national and local planning policy and best practice guidance.

- 4.2 This includes the National Planning Policy Framework and Planning Practice Guidance, which require development to be directed away from areas of flood risk and to ensure that surface water is managed sustainably. At a local level, Wiltshire Core Policy 67 requires development to incorporate sustainable drainage measures unless demonstrated to be inappropriate.
- 4.3 The Wiltshire Council Drainage Betterment Strategy (2024) further requires that drainage proposals demonstrate improvement over existing conditions and provide robust justification where constraints limit the use of conventional SuDS techniques.
- 4.4 The drainage hierarchy has been applied throughout the design process, prioritising infiltration as the preferred method of surface water disposal. Where this has not been achievable in its conventional form, the strategy has been adapted in response to site-specific constraints.

5.0 Previously Approved Drainage Strategy

- 5.1 The approved drainage strategy was based on the management of surface water via infiltration.
- 5.2 Surface water runoff from the development was to be collected through a piped drainage network and conveyed to a drainage field located to the west of the site. Discharge was to be achieved through a shallow infiltration system comprising a series of trench soakaways constructed at approximately 1.5m to 2.0m below ground level.
- 5.3 The strategy was designed to fully discharge surface water to ground, in accordance with the drainage hierarchy, and to remove historic surface water connections to the foul sewer network.
- 5.4 This approach was accepted at planning stage, subject to conditions requiring detailed design, infiltration testing in accordance with BRE Digest 365 and BS EN 752-4, and the submission of a maintenance strategy.

6.0 Ground Investigation and Geotechnical Constraints

- 6.1 A detailed geotechnical assessment and site walkover survey has been undertaken by Card Geotechnics Limited (April 2025) to inform the drainage strategy.
- 6.2 The site is located within an area of complex geological conditions associated with historic Bath stone mining and periglacial processes. These processes have resulted in cambered strata, the presence of subsurface voids (gulls), and variable ground conditions. The underlying sequence includes the Fuller's Earth Formation, which comprises weak mudstone strata known to be sensitive to changes in moisture content.
- 6.3 The walkover survey identified that the proposed drainage field is situated above a slope exhibiting clear evidence of instability. Features observed include rotational landslide morphology, back tilted trees, displaced fencing and benching within the slope profile, all indicative of historic and ongoing ground movement.
- 6.4 The drainage field itself drains towards a central valley feature, which provides a direct pathway to the underlying Fuller's Earth Formation and associated landslide prone strata. This creates a hydraulic linkage between any shallow infiltration system and the unstable ground below.
- 6.5 The geotechnical assessment concludes that the slope should be considered metastable and that it is likely to respond adversely to additional water ingress, with the potential to trigger further ground movement with potential of a sudden and catastrophic landslide.
- 6.6 In addition, the rock mass is highly variable, with permeability dependent on whether groundwater encounters intact rock, fractured material, or open voids. This variability introduces uncertainty in infiltration behaviour and increases the risk of uncontrolled flow paths developing.
- 6.7 In light of these findings, shallow infiltration is not considered appropriate at this site. The introduction of surface water at shallow depth would increase pore water pressures within already unstable strata and could exacerbate slope instability.

7.0 Ground Stability Statement

- 7.1 The drainage strategy has been developed with full consideration of the geotechnical constraints identified within the ground investigation.
- 7.2 The use of shallow infiltration has been discounted due to the risk of increasing pore water pressures within metastable soils and triggering slope instability. The presence of cambered strata, voids and landslide prone ground further increases this risk.

- 7.3The proposed use of deep bore soakaways ensures that surface water is discharged below the unstable strata, preventing interaction with the identified geotechnical hazards. This approach aligns with the recommendations of the geotechnical assessment and represents the most appropriate method of managing surface water at the site.
- 7.4The revised drainage strategy is therefore considered to be safe in terms of ground stability and will not introduce any increased risk of settlement, collapse or slope failure.

8.0Drainage Hierarchy Review

- 8.1A review of surface water disposal options has been undertaken in accordance with the drainage hierarchy.
- 8.2Infiltration remains the preferred method of discharge. However, the detailed ground investigation has demonstrated that shallow infiltration is not viable due to the identified geotechnical risks. The introduction of water into near-surface strata would increase the likelihood of slope instability and is therefore considered unacceptable.
- 8.3Alternative options have been considered. There are no suitable watercourses within or adjacent to the site that could receive surface water discharge. Discharge to sewer has also been discounted, as surface water connections to the foul network are not permitted and no surface water sewer is available within the vicinity of the site.
- 8.4Symmetry did engage with Wessex water to look at the viability of discharging to the foul sewer, however this was dismissed on multiple occasions.
- 8.5In this context, deep infiltration via bore soakaways has been identified as the only viable solution. This approach allows surface water to be discharged to competent permeable strata at depth, thereby maintaining compliance with the drainage hierarchy while avoiding interaction with unstable near-surface soils.
- 8.6The revised strategy is therefore considered to represent a compliant and site-appropriate application of the drainage hierarchy, in accordance with Wiltshire Council guidance.

9.0Wessex Water Consultation

- 9.1Wessex Water have been consulted in relation to the disposal of surface water from the site.
- 9.2During the development of the approved drainage strategy, a connection to the foul sewer network was considered. However, this approach was formally objected to by Wessex Water. As a result, surface water discharge to the foul sewer has been discounted.
- 9.3The approved and revised strategies both seek to remove any existing surface water connections to the foul network and ensure that only foul flows are directed to the public sewer.
- 9.4Removing surface water catchment from the Wessex Water foul sewer has therefore reduced the peak volume. Proposed foul flows will therefore not pose a capacity concern, which has been agreed with Wessex Water.
- 9.5The current proposals are therefore fully aligned with Wessex Water requirements and do not include any direct or indirect discharge of surface water to the foul sewer system.

10.0Revised Drainage Strategy

- 10.1The revised drainage strategy retains the overall approach of collecting and conveying surface water across the site but modifies the method of discharge.
- 10.2Surface water runoff will be collected via a piped drainage network and conveyed to designated discharge locations within the site. Rather than discharging at shallow depth, flows will be directed to deep bore soakaways designed to discharge to permeable strata below the shallow unstable strata.
- 10.3To prevent deep excavations from conveying surface water from one end of the site to the other, catchments have been split into four areas, where each catchment discharges into an individual deep bore soakaway.
- 10.4This approach ensures that surface water is removed from the influence of metastable soils and avoids the risks associated with shallow infiltration. The system will operate as a controlled and engineered solution, providing a defined discharge pathway to suitable geological formations.
- 10.5Detailed general arrangements of the proposed below ground drainage network can be found within Appendix E.

11.0Area Summary

- 11.1The four main catchments that serve their respective deep bore soakaways have also been split into road and roof catchment, where road also refers to pedestrian hardstanding areas, and can be seen in Table 1 below.

Table 1: Proposed Area Summary

Catchment Ref	Area (m²)	Discharge Location
Road	1,474	BH01
Roof	1,180	BH01
Road	1,629	BH02
Roof	803	BH02
Road	1,064	BH03
Roof	805	BH03
Road	742	BH04
Roof	1,103	BH04
TOTAL	8,800	

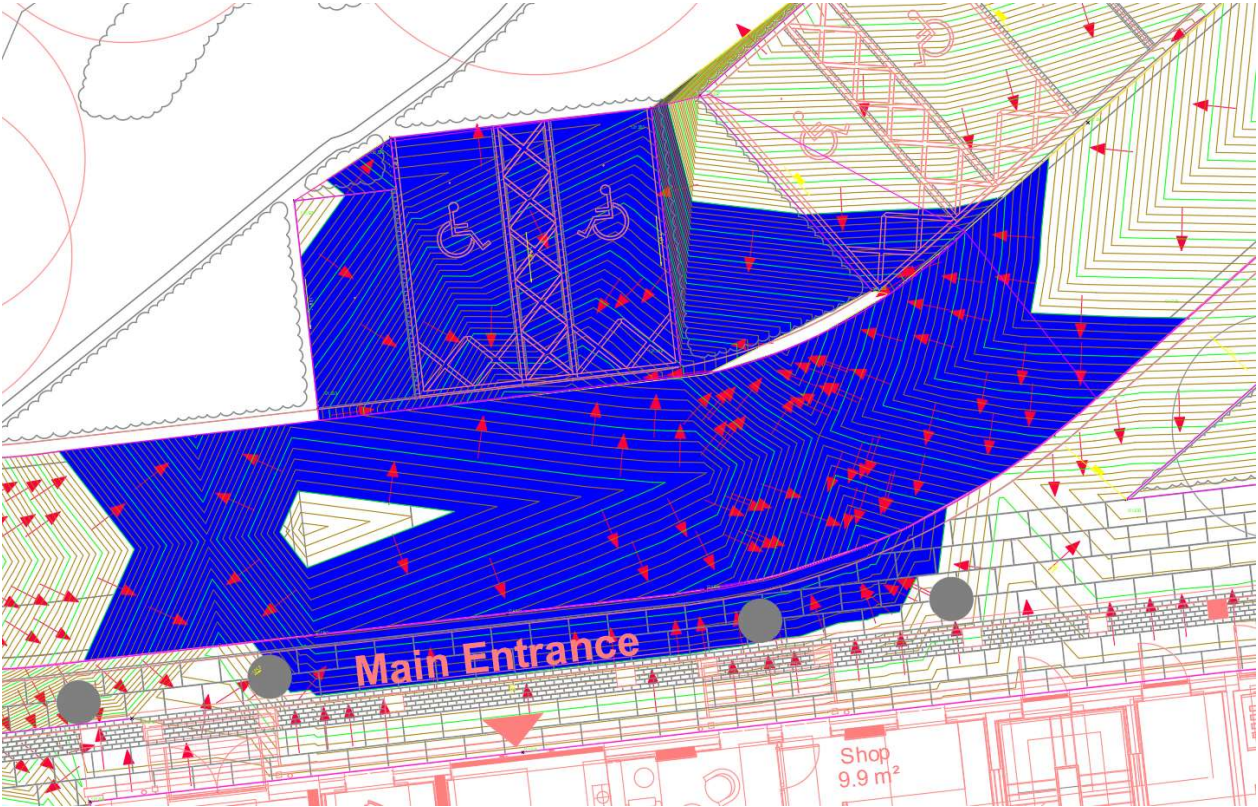
- 11.2Sketch indicating the areas can be found within Appendix A.
- 12.0Hydraulic Design and Storage
- 12.1Surface water runoff has been calculated using FEH22 rainfall methodology, consistent with the approach adopted in the approved Flood Risk Assessment and current industry standards.
- 12.2FSR rainfall data was modelled and FEH data was found to provide the ‘worst case’ rainfall model.
- 12.3Permeable areas of soft landscaping have largely been omitted from runoff calculations and therefore a Cv value of 1 has been utilised.
- 12.4The drainage system has been designed to accommodate the 1 in 30 year return period event without flooding and to manage the 1 in 100 year event including a climate change allowance of 45% through controlled exceedance. It should be noted that no flooding is present during the 1 in 100 year plus 45% climate change allowance storm event.
- 12.5The required attenuation volume has been determined based on compliance with Wiltshire Council’s half drain down time criteria.
- 12.6Wiltshire Council Betterment Strategy (2024), Section 3.2, states that attenuation storage should show that attenuation features either have a 50% capacity available 24 hours after a 1 in 30 year + climate change storm event (i.e., half drain time < 1440mins) or have the capacity to store a subsequent 1 in 10 year storm event after a 1 in 30 year + climate change storm event.
- 12.7Given the hydraulic performance of deep bore soakaways, achieving half drain time < 1440mins is not achievable. Therefore, the latter has been applied. A breakdown of attenuation for each borehole has been included in Table 2 below.

Table 2: Required Surface Water Storage

Ref	1 in 10 year Storage (m³)	1 in 30 year + 40% Storage (m³)	Total Storage Required to Contain Subsequent Storm Events (m³)
BH1 Attenuation	137	256	393
BH2 Attenuation	127	236	363
BH3 Attenuation	103	169	272
BH4 Attenuation	92	177	269

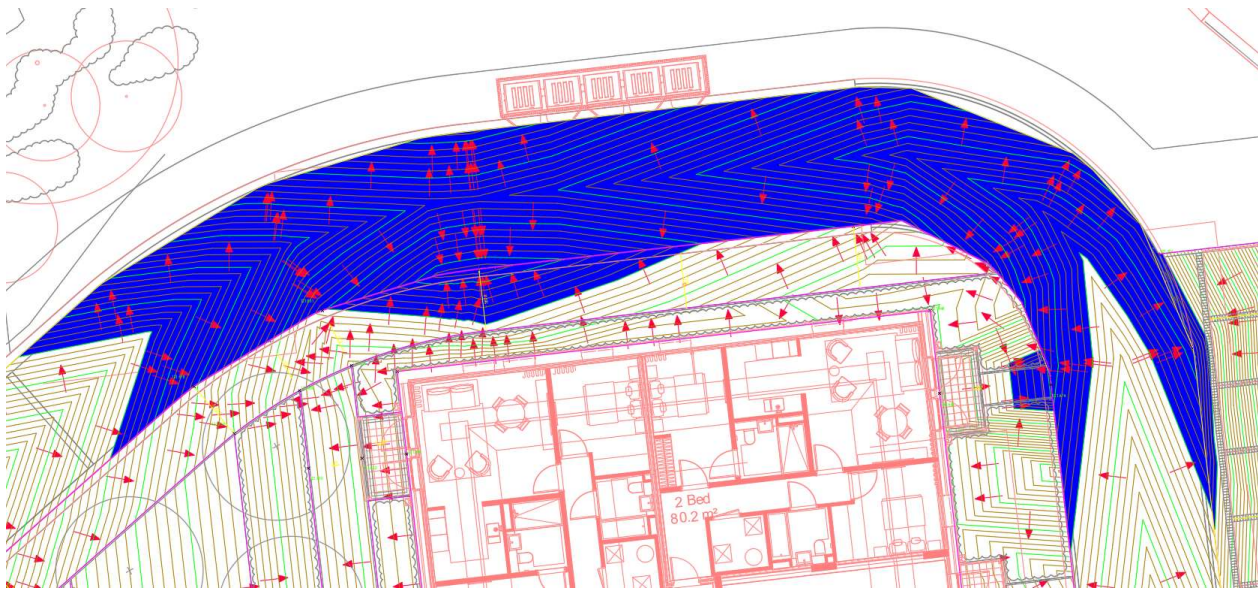
- 12.8 This has resulted in a total storage requirement of approximately 1,297m³.
- 12.9 This volume represents a refinement of the design to ensure full compliance with current guidance.
- 12.10 Due to the development being a fully managed site, there shall be no unplanned development without obtaining necessary planning approvals. Therefore, inclusion of 10% to account for urban creep has been excluded.
- 12.11 Detailed calculations are located within Appendix D.
- 13.0 Infiltration and Discharge Method
- 13.1 The revised strategy utilises deep bore soakaways to discharge surface water to permeable strata at depth.
- 13.2 Given the nature of this approach, standard shallow infiltration design methods, such as BRE Digest 365, are not directly applicable. Instead, the design has been informed by geological and hydrogeological understanding of the underlying strata and the findings of the ground investigation.
- 13.3 The target discharge horizon comprises permeable formations at depth, which provide suitable conditions for the acceptance and conveyance of surface water. By discharging below the unstable strata, the system avoids the risks associated with shallow infiltration while maintaining infiltration as the primary means of disposal.
- 13.4 2no. boreholes have been constructed and tested to date. Test procedures for these boreholes were via guidance from BRE 365 Digest and BS EN 752-4, and infiltration rates varied from 0.0723m/hr to 0.14m/hr.
- 13.5 Extracts from the borehole testing and the interpretive report can be found within Appendix B.
- 13.6 Given the known ground conditions and strata, we expect BH3 and BH4 to exhibit similar rates.
- 14.0 Exceedance Flow Routing
- 14.1 The site layout has been designed to ensure that exceedance flows are managed safely.
- 14.2 In the event of drainage system surcharge or blockage, overland flows will be directed away from buildings via designed exceedance flow routes where feasible. External levels will be configured to minimise ponding adjacent to structures and to allow runoff to drain towards lower areas of the site without increasing off site flood risk.
- 14.3 During exceedance conditions, surface water flows will generally be directed southwards in accordance with the existing topography.
- 14.4 A site-wide exceedance routing plan is provided in Appendix C.
- 14.5 Notwithstanding the above, two localised low points have been identified along the carriageway where runoff does not naturally convey southwards. In exceedance conditions, these areas may experience temporary ponding.
- 14.6 To assess the potential impact of drainage exceedance, a flood level of 121.60mAOD has been assumed. The extent of ponding is illustrated in Figure 1, where blue hatching represents flood extents and red arrows indicate surface water flow paths.

Figure 1: Flood Extent at 121.60mAOD north



- 14.7 To assess the potential impact of drainage exceedance, a flood level of 121.60mAOD has been assumed. The extent of ponding is illustrated in Figure 1, where blue hatching represents flood extents and red arrows indicate surface water flow paths.
- 14.8
- 14.9 Figure 1 indicates that an area adjacent to the main entrance has the potential to experience localised ponding should surface water be unable to drain freely. The modelled flood level is 121.60mAOD, compared to a Finished Floor Level of 121.648mAOD.
- 14.10 An assessment of the available surface storage within the identified low point has been undertaken.
- 14.11 The total surface storage volume is approximately 12m³.
- 14.12 This volume is considered sufficient to provide temporary attenuation during exceedance conditions, allowing time for water to dissipate, drainage systems to recover, or maintenance to be undertaken. The exceedance scenario does not pose a significant risk to the building, and safe access can be maintained via alternative routes.

Figure 2: Flood Extent at 121.60mAOD northeast



- 14.13 Similarly, an area adjacent Block B that presents a topographical low point within the carriageway may be at risk of localised ponding should surface water be unable to freely drain.
- 14.14 The total surface storage volume is approximately 15.5m³.
- 14.15 The contributing catchment to the surface water network includes roof areas located to the south of the site. As a result, during exceedance conditions, flows will surcharge at lower points within the network.
- 14.16 Ground levels to the rear of the building fall towards the south, with manholes located at a lower topographical level relative to the front of the building. In the event of system surcharge, it is anticipated that these downstream manholes will surcharge prior to water levels increasing at higher areas to the front of the building.
- 14.17 Accordingly, whilst localised ponding may occur within the areas identified on Figure 1 and Figure 2 during blockage or exceedance scenarios, the lower level manholes provides an effective relief point within the network. This reduces the likelihood and extent of ponding at the front.
- 14.18 This exceedance behaviour reflects the natural topography of the site, with flows directed southwards and away from the building frontage.
- 14.19 The proposed drainage strategy provides sufficient attenuation to accommodate the 1 in 30 year plus climate change event, as well as additional capacity equivalent to a 1 in 10 year storm event.
- 14.20 The revised drainage strategy does not increase flood risk either on site or to third party land.

15.0 Environment Agency Consultation and Permit Application

- 15.1 The proposed discharge of surface water to ground via deep bore soakaways is subject to regulatory control.
- 15.2 An Environmental Permit will be required from the Environment Agency to authorise the discharge to groundwater. Discussions are currently ongoing in respect of this permit application which was formally submitted in September 2024.
- 15.3 The design of the deep bore soakaways takes into account the requirements of the Environmental Permitting Regulations, including the protection of groundwater quality and the prevention of pollution, addressed in the subsequent section.
- 15.4 The discharge strategy will be developed in consultation with the Environment Agency to ensure that it is compliant with all relevant environmental regulations.

16.0 Water Quality

- 16.1 Surface water runoff from the development is considered to be low risk, reflecting the residential nature of the site.
- 16.2 Water quality from the access road/vehicular trafficked areas will convey through full retention separators, prior to discharging to the below ground attenuation and ultimately the deep bore soakaways.
- 16.3 Remaining areas include roofs and pedestrian trafficked pavements, all of which is considered very low pollution hazard. Whilst no proposals for water treatment have been included for these areas, it's worth noting that treated road areas mix with all other areas of surface water within the attenuation, diluting any pollutants originating from the roof/pedestrian areas.
- 16.4 This approach has been agreed with the Environment Agency, during discussions regarding the Environment Agency permit application.
- 16.5 An assessment of the water quality from the proposed development has been carried out in Table 3 below, using the Simple Index Approach as described in the SuDS Manual CIRIA 753.

Table 3: Water Quality Simple Index Approach

Pollution Hazard Indices – Runoff Area Land Use			
Runoff Area Land Use Description	Suspended Solids	Metals	Hydrocarbons
Low traffic roads (e.g. residential roads and general access roads, < 300 traffic movements/day) – LOW HAZARD	0.5	0.4	0.4
Pollution Mitigation Indices – SuDS Components			
SuDS Component	Suspended Solids	Metals	Hydrocarbons
Marsh Hydroil™ Full retention separators	0.84	0.63	0.97
Combined Pollution Mitigation Indices			
Pollutant	Combined Mitigation Index	Treatment Outcome	
Suspended Solids	0.84	Sufficient Treatment	
Metals	0.63	Sufficient Treatment	
Hydrocarbons	0.97	Sufficient Treatment	

- 16.6 The level of treatment provided is considered appropriate for the risk profile of the development.
- 17.0 Proposed Foul Drainage
- 17.1 Foul flows arising from the development shall be discharged to the existing sewer network within the site extents.
- 17.2 Due to the depth of the existing foul sewer, all proposed connections are gravity fed with no proposed foul pumping chambers.
- 18.0 Betterment
- 18.1 The revised drainage strategy provides a clear betterment over both the existing situation and the previously approved scheme.
- 18.2 Historically, the site has experienced issues associated with uncontrolled surface water drainage, including connections to the foul sewer network and infiltration processes contributing to ground instability. The approved scheme sought to address these issues through the introduction of a managed infiltration system. However, subsequent ground investigation has demonstrated that shallow infiltration presents an unacceptable risk.

- 18.3The revised strategy delivers an improvement by removing all surface water connections to the foul sewer network and replacing them with a fully managed and controlled drainage system. Surface water will be collected and conveyed through a designed network, ensuring predictable and maintainable performance.
- 18.4Furthermore, by avoiding shallow infiltration and directing flows to competent strata at depth, the revised approach removes the risk of exacerbating ground instability. This represents a significant improvement in terms of long term safety and resilience.
- 18.5Overall, the scheme provides betterment in terms of drainage management, environmental protection and ground stability.
- 19.0Maintenance Strategy
- 19.1A maintenance strategy will be implemented to ensure the long-term performance of the drainage system.
- 19.2A maintenance regime to ensure efficient functioning of the drainage system is recommended.
- 19.3Before cleaning, final testing and immediately before handover the Contractor will:

Lift covers to manholes, inspection chambers and access points. Remove mortar droppings, debris and loose wrappings.

Thoroughly flush pipelines with water to remove silt and check for blockages. Rod pipelines between access points if there is any indication that they may be obstructed.

Carry out a CCTV survey of the pipework to ensure that it is free of silt and blockages.
- 19.4The end user shall then follow the “Waste Management, The Duty of Care – A Code of Practice (Revised 1996)” and shall ensure that their waste does not escape from their control and is transferred only to a registered waste carrier to be sent for recycling or disposal at a suitably licensed facility.
- 19.5All waste arising from the maintenance of the drains and sewers shall be handled, stored and disposed of correctly to avoid pollution. Waste may be designated as hazardous / special waste and, as such, the End User shall ensure that they comply with the Hazardous Waste (England and Wales) Regulations 2005.
- 19.6Self-cleansing velocity in the foul and SuDS drainage networks should be achieved in all instances and flows will generally be kept above 0.75m/s at 2/3 capacity and 1m/s full bored capacity respectively within the pipeline to ensure that self-cleansing velocities are achieved. This is subjected to the condition, location and level of the existing on and off site below ground drainage and sewerage network.
- 19.7Gullies and channels will be specified with silt buckets and silt trap manholes will be provided upstream of all tanks and infiltration structures to prevent the ingress of silts into the drainage network and impairing the performance of the system.
- 19.8Maintenance of inlets, outlets and inspection chambers is specified in Table 4, below.

Table 4: Maintenance Schedule for Inlets, Outlets and Inspection Chambers

Inlets, Outlets and Inspection Chambers	
Maintenance Schedule	
Monthly or as required	Inspect surface structures removing obstructions and silt as necessary. Check there is no physical damage. Remove vegetation 1m min. surround to structures and keep hard aprons free from silt and debris.
Annually	Remove cover and inspect ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt. Undertake inspection after leaf fall in autumn.

- 19.9The Maintenance Schedule for attenuation tanks is given in Table 5, below.

Table 5: Maintenance Schedule for Attenuation Storage Tanks

Attenuation Storage Tanks	
Maintenance Schedule	
As required	Repair/rehabilitate inlets, outlet, overflows and vents.
Monthly	Inspection. Remove debris from the catchment surface.
Annually	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary. Remove sediment from pre-treatment structures and/or internal forebays. Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.
Every 5 years or as required	Survey inside of tank for sediment build-up and remove if necessary.

- 19.10The Maintenance Schedule for proprietary treatment systems is given in Table 6, below. Please note this should be read in conjunction with manufacturer recommendations.

Table 6: Maintenance Schedule for Proprietary Treatment Systems

Proprietary Treatment Systems	
Maintenance Schedule	
As required	Repair/rehabilitate inlets, outlet, overflows and vents.
Monthly	Inspection. Remove debris from the catchment surface.
Annually	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary. Remove sediment from pre-treatment structures and/or internal forebays. Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.
Every 5 years or as required	Survey inside of tank for sediment build-up and remove if necessary.

19.11 The Maintenance Schedule for pervious pavements is given in Table 7, below. Please note this should be read in conjunction with manufacturer recommendations.

Table 7: Maintenance Schedule for Pervious Pavements

Pervious Pavements	
Maintenance Schedule	
As required	Stabilise and mow contributing and adjacent areas Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 5mm of the level of the paving Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material
Monthly	Inspection. Remove debris from the catchment surface.
Annually	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying Brushing and vacuuming (standard cosmetic sweep over whole surface) Inspect silt accumulation rates and establish appropriate brushing frequencies Monitor inspection chambers
Three-monthly, 48hr after large storms in first 6 months	Inspect for evidence of poor operation and/or weed growth - if required, take remedial action

19.12 The Maintenance Schedule for filter drains is given in Table 8, below.

Table 8: Maintenance Schedule for Filter Drains

Filter Drains	
Maintenance Schedule	
As required	Remove or control tree roots where they are encroaching the sides of the filter drain, using recommended methods (eg NJUG, 2007 or BS 3998:2010) Clear perforated pipework of blockages
Monthly	Remove litter including leaf litter and debris from filter drain surface, access chambers and pre-treatment devices Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage
6 Monthly	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies Remove sediment from pre-treatment devices
Every 5 years or as required	At locations with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium

19.13 The Maintenance Schedule for deep bore soakaways is given in Table 9, below. Please note this should be read in conjunction with specialist driller recommendations.

Table 9: Maintenance Schedule for Deep Bore Soakaways

Deep Bore Soakaways	
Maintenance Schedule	
As required	Jet or flush borehole liner to remove fines and restore infiltration performance (where accessible) Remove sediment from inspection chambers and pre-treatment structures Clear blockages at bore entry (e.g. debris accumulation at interface) Redevelop borehole (e.g. airlifting / jetting) where infiltration performance deteriorates Replace or retrofit additional pre-treatment where excessive sediment ingress is identified
Monthly <i>(Typically monthly for first 3–12 months, then reduce frequency based on performance)</i>	Inspect pre-treatment measures (e.g. catchpits, silt traps, proprietary units) for sediment build-up Inspect inlet chamber and bore interface for blockage or standing water Check for any signs of surcharge or backing up following rainfall events
6 Monthly	Inspect and clean upstream drainage systems (gutters, downpipes, channels) to minimise sediment ingress Check condition of inlet structures and access chambers Review general system performance and identify any early signs of reduced infiltration
Annually	Monitor drawdown performance following rainfall events to confirm soakaway is emptying within the design period Inspect all chambers, inlets and bore interface to ensure system is operating as designed Record maintenance activities and review performance trends
Every 5 years or as required	Undertake internal inspection of borehole (where feasible – CCTV drainage survey is possible) Carry out intrusive maintenance (e.g. jetting, airlifting) if performance has reduced Review condition of system

20.0 Compliance Summary

20.1 The revised drainage strategy has been developed in accordance with national and local policy and responds appropriately to site specific constraints.

20.2 The scheme:

- Follows the drainage hierarchy, maintaining infiltration as the primary discharge method,
- Provides betterment over the existing drainage situation,
- Removes surface water discharge to the foul sewer network,
- Responds appropriately to geotechnical constraints, and
- Does not increase flood risk on or off site.

21.0 Conclusion

- 21.1

The surface water drainage strategy for the site has been reviewed following detailed ground investigation, which confirmed that shallow infiltration presents an unacceptable risk to ground stability.
- 21.2

The strategy has therefore been revised to incorporate deep bore soakaways, enabling surface water to be discharged safely to competent permeable strata at depth, avoiding interaction with unstable near surface soils.
- 21.3

The revised approach maintains compliance with the drainage hierarchy, removes surface water discharge to the foul sewer network, and provides a fully managed and maintainable drainage system.
- 21.4

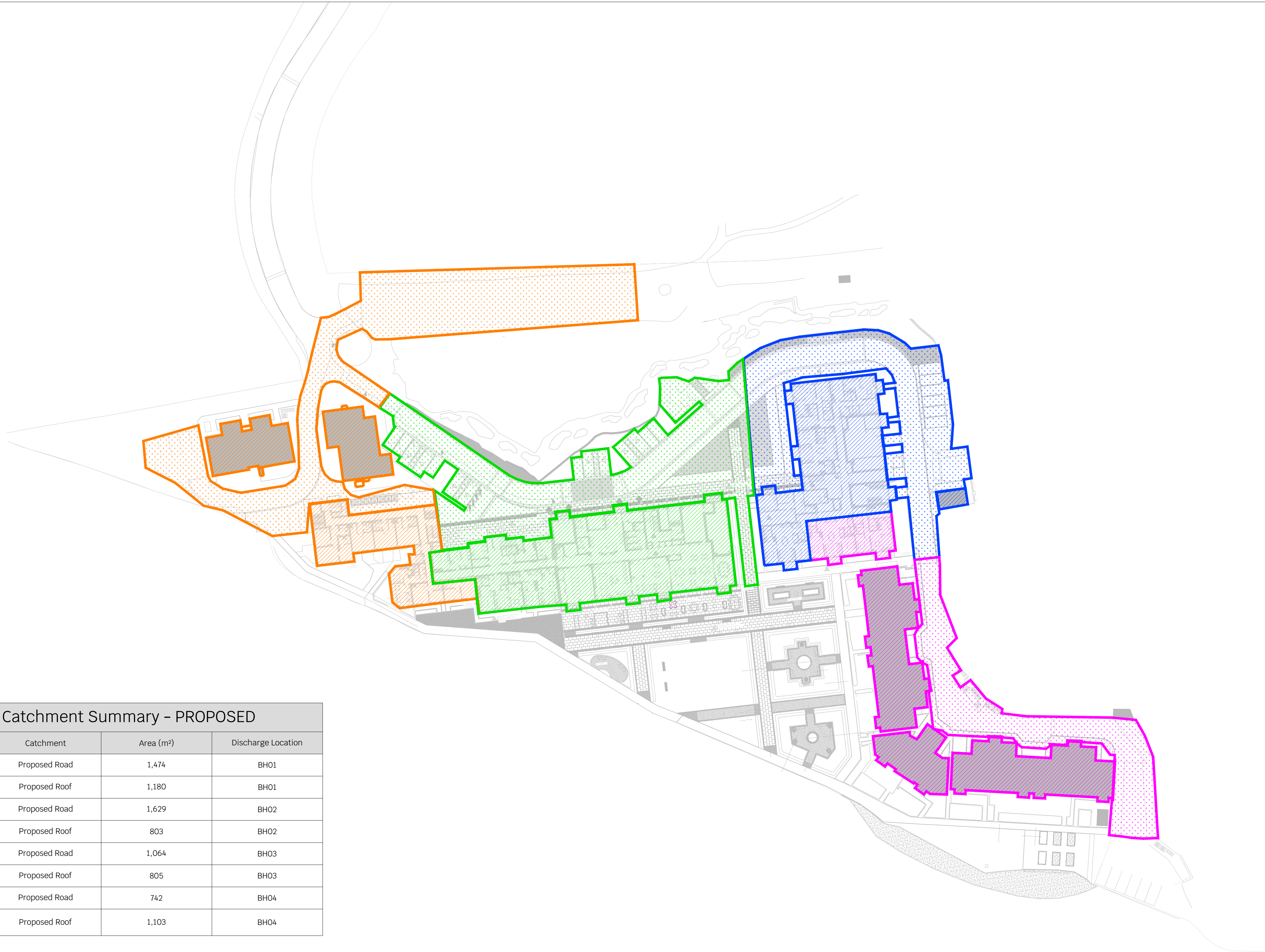
The scheme has been designed to accommodate the 1 in 30 year plus climate change event, with additional capacity provided in accordance with Wiltshire Council's Drainage Betterment Strategy (2024), and includes appropriate exceedance flow routing and water quality treatment.
- 21.5

The revised drainage strategy provides betterment over both the existing and previously approved arrangements, and does not increase flood risk on site or to third party land.
- 21.6

It is therefore concluded that the proposed drainage strategy represents a robust, sustainable and policy compliant solution, and is suitable to support the discharge of the relevant planning condition.

APPENDIX A

CATCHMENT AREAS



Catchment Summary - PROPOSED

Ref	Catchment	Area (m²)	Discharge Location
	Proposed Road	1,474	BH01
	Proposed Roof	1,180	BH01
	Proposed Road	1,629	BH02
	Proposed Roof	803	BH02
	Proposed Road	1,064	BH03
	Proposed Roof	805	BH03
	Proposed Road	742	BH04
	Proposed Roof	1,103	BH04

Notes

P2	APR 26	CE	AH	PLANNING DISCHARGE
P1	SEP 25	CE	AH	FIRST ISSUE
Rev	Date	Drwn	Chkd	Amendments

Drawing Status FOR INFORMATION



SYMMETRYS
STRUCTURAL / CIVIL ENGINEERS

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Job Title
AVONPARK RETIREMENT VIILLAGE
WINSLEY, BATH BA2 7FF, UK

Drawing Title
PROPOSED BOREHOLE CATCHMENTS

Project Company Zones Level Type Role Number

24082- SYM - XX - XX - SK - C - 0850

Scale: 1:500
Date: APR 26
Drawn By: CE
Checked By: AH
Revision :
P2

APPENDIX B

DEEP BORE INFILTRATION

TESTS

Connor Evans
Symmetrys Limited
6 The Courtyard
Lynton Road
London
N8 8SL



11th August 2025

AVONPARK VILLAGE SOAKAWAY TESTING & ANALYSIS
PROJECT NUMBER: 25260441

Dear Connor,

This report letter documents the soakaway testing undertaken by B.A. Hydro Solutions Limited (BAHS Ltd.) at Avonpark Village, on two newly completed boreholes.

The testing was carried out on 5th and 6th August 2025, with the primary objective of collecting field data to determine infiltration rates. The testing method and analysis was performed using DIGEST 365 (British Standard). This document outlines the methodology followed, presents the test results, and notes observations from the testing and analysis.

The soakaway tests were conducted in accordance with BRE Digest 365 methodologies/BS EN 752-4. This standard procedure aims to gather necessary field data for determination of infiltration rates. Before testing, key site details were recorded, along with borehole dimensions (depth, diameter, water levels). Ground and weather conditions were noted.

Both boreholes were drilled to a depth of c.90 metres and screened from approximately 60 metres below ground level. Plumbing the holes and CCTV inspections confirmed that the holes were open to around 72 metres below ground level. During testing, the holes experienced silting, causing them to become shallower by approximately 100mm.

Equipment for the tests included measuring tapes/tools, a dip tape for monitoring water levels, a water source with sufficient volume for rapid filling, a stopwatch or timer, and a Soakaway Test Sheet, along with Personal Protective Equipment (PPE). Automated measurements were also made at least once every second, with manual readings taken at a lower frequency.

To ensure representative results, the test involves filling the borehole(s) at least three times in quick succession while monitoring the rate of seepage. The procedure involves:

- Rapid Filling: Filling the bore rapidly to its maximum effective depth in a short time.
- Monitoring and Recording: For each of the three+ tests, the Start Date and Start Time are recorded. The bore is allowed to drain three times to near empty. During each

drainage cycle, the Depth of Water (cm) and Change in Water Level (cm drop) are recorded at least once per minute manually. Readings are taken at intervals sufficient to clearly define water level versus time.

- The time taken for the water level to lower to 75% from the maximum fill level and 25% from the maximum fill level is specifically noted. These specific points are essential for later analysis, as the infiltration rate is calculated from the time taken for the water level to fall between these depths. The lowest infiltration rate value from the three tests is used for design.

Any additional observations, such as changes in flow, unexpected behaviour, or issues encountered, are recorded.

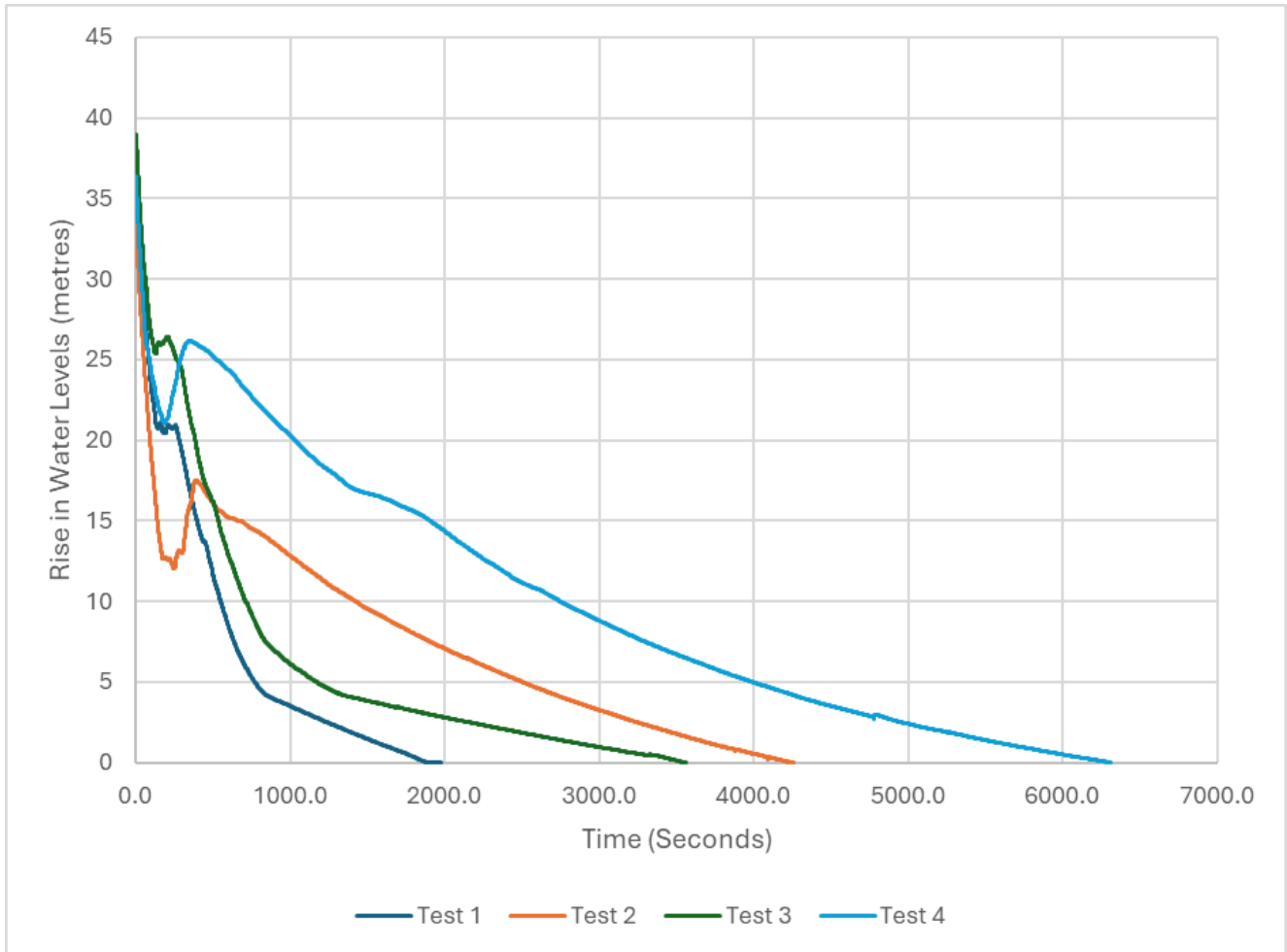
Test Results: Borehole 1 (BH1)

Testing for Borehole 1 was conducted on 05/08/2025. A total of four tests were performed. Water level drops became slower and slower with each successive test (see following graph). Notably, on tests 2 and 4, water levels stopped dropping and began to rise by several metres before dropping again. This phenomenon might be attributed to the screen section becoming submerged due to rising water levels, potentially causing water to go up behind the plain casing. When levels subsequently dropped, an airlock may have been "broken," allowing water to be released into the borehole from behind the plain casing or a more permeable horizon, leading to a rise in water levels for approximately 200 seconds before resuming their drop.

Filling Rate: After 4 minutes of filling the hole at a rate of 27 m³/hour, water levels rose by about 50% up the hole. Infiltration Rate:

- Minimum: 1.25E-05 m/s
- Maximum: 7.28E-05 m/s
- Average: 3.89E-05 m/s
- Median: 3.51E-05 m/s

These figures translate to an equivalent average rate of 140 mm/hr, which is still in line for what would be expected for a sandy aquifer.

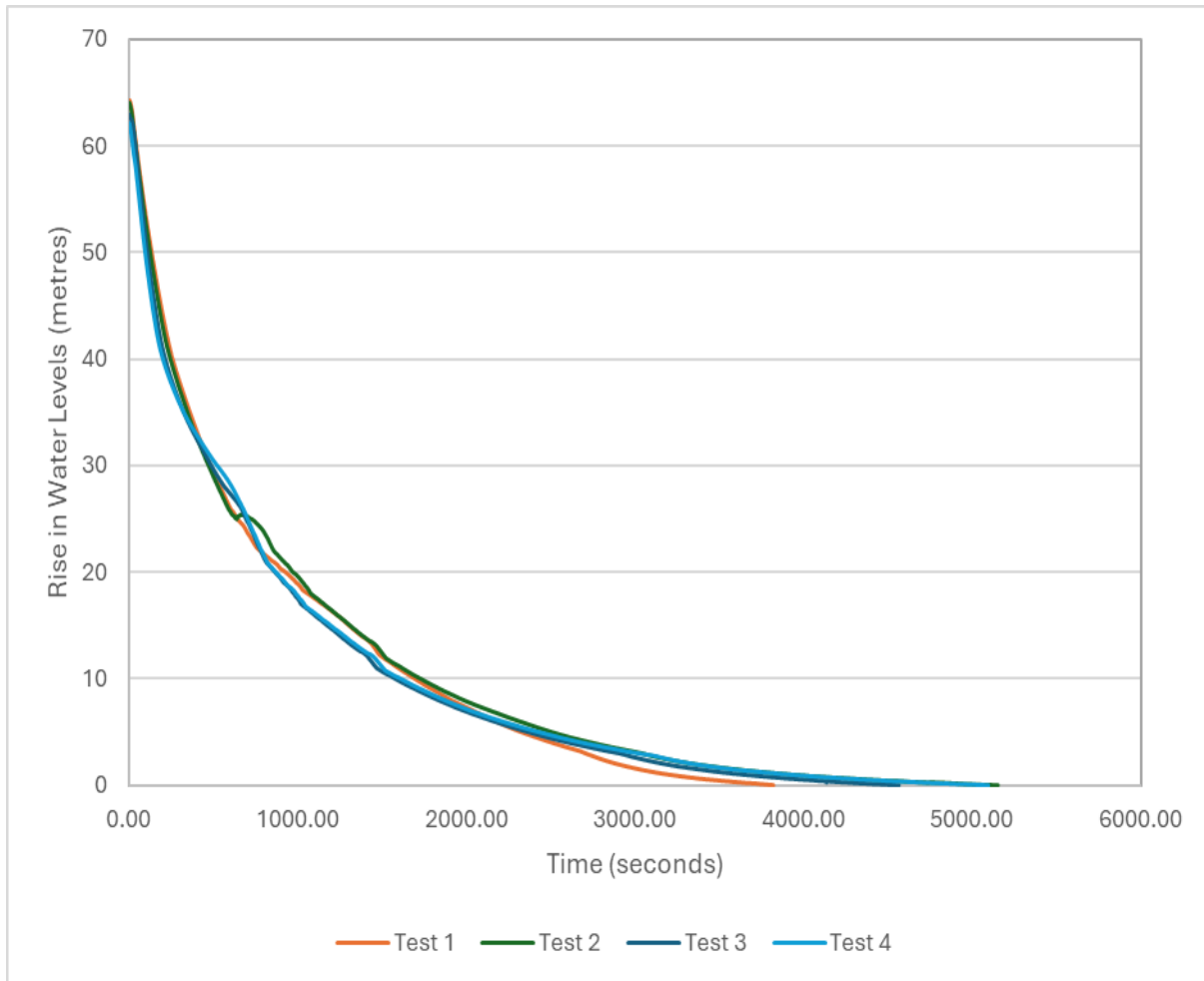


Test Results: Borehole 2 (BH2)

Testing for Borehole 2 was conducted on 06/08/2025. Levels dropped consistently for all four tests. The drop in water levels lasted from 4000 to just over 5000 seconds each time, gradually becoming slower with each test (see following graph). Tests also exhibited unstable levels once water levels had dropped by 35 to 40 metres, suggesting a similar phenomenon to Borehole 1, but to a lesser extent. During this test, water levels rose to the top of the borehole within 3 minutes of starting to fill the hole at a rate of 27 m³/hour. Infiltration Rate:

- Minimum: 3.21E-05 m/s
- Maximum: 3.79E-05 m/s
- Average: 3.50E-05 m/s
- Median: 3.49E-05 m/s

These results are an equivalent average rate of 126 mm/hr, which is still in line for what would be expected for a sandy aquifer.



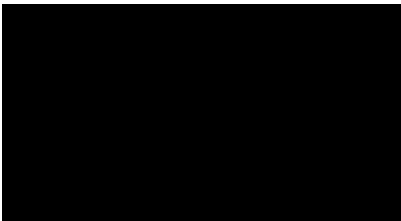
The average infiltration rates for both boreholes (140 mm/hr for BH1 and 126 mm/hr for BH2) are consistent with what would be expected for a sandy aquifer. Borehole 1 displayed more pronounced instances where water levels stopped dropping and temporarily rose before resuming their decline, particularly in tests 2 and 4. Borehole 2 showed similar, though less severe, unstable levels once water had dropped significantly. These observations suggest potential pathways behind the cased section or into the surrounding geology that affect water flow dynamics during testing.

Both boreholes experienced silting, becoming shallower by approximately 100mm during the testing. This highlights a factor that could influence long-term performance and may need to be considered in the final design.

The analysis adhered to the BRE Digest 365 guideline which stipulates that the infiltration rate is calculated from the time taken for the water level to fall between 75% and 25% of the effective storage depth. This specific range is crucial for deriving reliable infiltration rates for soakaway design.

The work was overseen by competent staff (Senior Geologist, Rich Baker) with 20 years' experience, relevant qualifications and safety training (CSCS, SMSTS, Water Hygiene Training, Level 3 First Aid, and BSc Geology). A comprehensive Risk Assessment & Method Statement (RAMS) was in place to address identified risks, site safety, personnel protection (including PPE), COSHH, and emergency procedures. During testing conditions were dry with no external influences identified that might have affected the measurements, data, analysis of the validity of the test.

Your sincerely,



Tim Baker
Principal Hydrogeologist
On behalf of B. A. Hydro Solutions Limited

Adrian Riley
Elliott Group
Unit 1, The Cloisters
Edgbaston
Birmingham
B15 1NP



11th December 2025

**AVONPARK VILLAGE SOAKAWAY TESTING & ANALYSIS
REPLACEMENT SOAKAWAY BOREHOLE TWO
PROJECT NUMBER: 25260441**

Dear Adrian,

This report letter documents the soakaway testing undertaken by B.A. Hydro Solutions Limited (BAHS Ltd.) at Avonpark Village, on the replacement soakaway borehole No. 2.

The testing was carried out on 4th December 2025, with the primary objective of collecting field data to determine infiltration rates. The testing method and analysis was performed using DIGEST 365 (British Standard). This document outlines the methodology followed, presents the test results, and notes observations from the testing and analysis.

The soakaway tests were conducted in accordance with BRE Digest 365 methodologies/BS EN 752-4. This standard procedure aims to gather necessary field data for determination of infiltration rates. Before testing, key site details were recorded, along with borehole dimensions (depth, diameter, water levels). Ground and weather conditions were noted.

The boreholes were drilled to a depth of 92 metres and screened from 60.65 metres below ground level. The borehole is lined with 6 inch (150mm ID, 165mm OD) PVC screen and casing, surrounded by 2 to 4 mm filter pack within a borehole drilled at c.10 inches.

Equipment for the tests included measuring tapes/tools, a dip tape for monitoring water levels, a water source with sufficient volume for rapid filling, a stopwatch or timer, and a Soakaway Test Sheet, along with Personal Protective Equipment (PPE). Automated measurements were also made at least once every second, with manual readings taken at a lower frequency.

To ensure representative results, the test involves filling the borehole(s) at least three times in quick succession while monitoring the rate of seepage. The procedure involves:

- **Rapid Filling:** Filling the bore rapidly to its maximum effective depth in a short time.
- **Monitoring and Recording:** For each of the three+ tests, the Start Date and Start Time are recorded. The bore is allowed to drain three times to near empty. During each

drainage cycle, the Depth of Water (cm) and Change in Water Level (cm drop) are recorded at least once per minute manually. Readings are taken at intervals sufficient to clearly define water level versus time.

- The time taken for the water level to lower to 75% from the maximum fill level and 25% from the maximum fill level is specifically noted. These specific points are essential for later analysis, as the infiltration rate is calculated from the time taken for the water level to fall between these depths. The lowest infiltration rate value from the three tests is used for design.

Any additional observations, such as changes in flow, unexpected behaviour, or issues encountered, are recorded.

Test Results: Replacement Borehole 2 (BH2b)

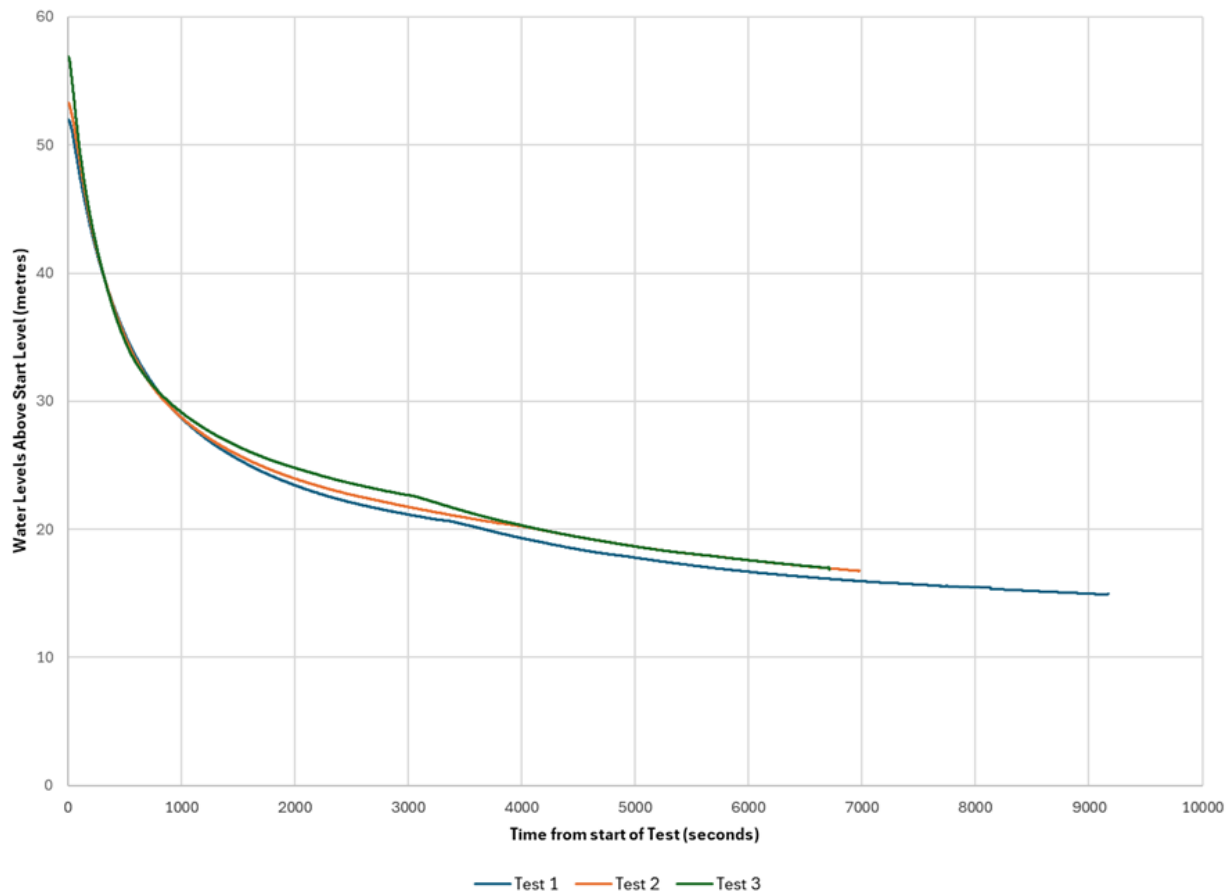
Testing for Borehole 2 was conducted on 04/12/2025. A total of three tests were performed. Water level drops slightly increased in speed with each successive test (see following graph).

Filling Rate: the borehole was filled with around 1m³ of water which raised water levels to around 30 metres below ground level.

Infiltration Rate:

- Minimum: 1.26E-05 m/s
- Maximum: 2.39E-05 m/s
- Average: 2.01E-05 m/s

These figures translate to an equivalent average rate of 72.3 mm/hr, which is less than the original BH2 (140mm/hr) and lower than the performance of the remaining BH1 (126mm/hr).



The average infiltration rate for the replacement Borehole 2 (72.3 mm/hr) is a little lower than what would be expected for a sandy aquifer. Test data is smooth with a small change in infiltration rate at 3000 to 3300 seconds which is when water levels were passing from being within the upper cased section, into the screened section of the borehole. This suggests the grout seal is effective and once the screen section becomes partially unsaturated, air enters/exists from/into the borehole resulting in a more rapid drop in water levels. Thus the borehole construction is working as designed, focusing the discharge of water into the Inferior Oolites and the Bridport Sand.

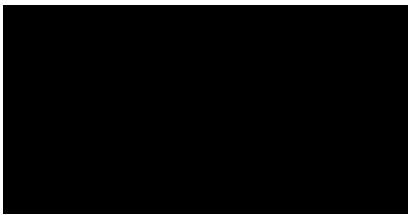
Prior to the test starting, some water was drained into the hole to wet the ground. This resulted in water levels rising to 70.70 metres below ground level, filling the base of the borehole. The borehole did not fully drain completely after each test, although levels dropped lower after each test. At the end of the third test, water levels in the borehole were 72.00 metres below ground level and falling. The basal section of the borehole (92 to 70.7 metres below ground level) is thus less transmissive than the ground between 70.70 and 60.65 metres below ground level. With

sufficient time the borehole will drain, with no water left in the hole, as seen at the end of drilling.

The analysis adhered to the BRE Digest 365 guideline which stipulates that the infiltration rate is calculated from the time taken for the water level to fall between 75% and 25% of the effective storage depth. This specific range is crucial for deriving reliable infiltration rates for soakaway design.

The work was overseen by competent staff (Senior Geologist, Rich Baker) with 20 years' experience, relevant qualifications and safety training (CSCS, SMSTS, Water Hygiene Training, Level 3 First Aid, and BSc Geology). A comprehensive Risk Assessment & Method Statement (RAMS) was in place to address identified risks, site safety, personnel protection (including PPE), COSHH, and emergency procedures. During testing conditions were dry with no external influences identified that might have affected the measurements, data, analysis of the validity of the test.

Your sincerely,



Tim Baker
Principal Hydrogeologist
On behalf of B. A. Hydro Solutions Limited

APPENDIX C

FLOOD EXCEEDANCE

PLAN



Notes

1. This drawing is to be read in conjunction with all relevant Architects & Engineers drawings and specifications
2. Do not scale from this drawing
3. All cover and invert levels are in mAOD
4. Contractor to inspect existing drainage features and replace damaged features.

LEGEND

- SITE BOUNDARY
- FLOOD EXCEEDANCE FLOW DIRECTION

C1	09.04.26	CN	CE	FOR CONSTRUCTION
Rev	Date	Drwn	Chkd	Amendments

Drawing Status FOR CONSTRUCTION



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Job Title

AVONPARK RETIREMENT VILLAGE
WINSLEY, BATH BA2 7FF, UK

Drawing Title

PROPOSED EXCEEDANCE PLAN
SHEET 1

Project Company Zones Level Type Role Number

24082- SYM - XX - XX - DR - C - 0900

Scale: 1:500 AT A1
Date: APR 26
Drawn By: CN
Checked By: CE
Revision : C1

APPENDIX D

HYDRAULIC MODEL

CALCULATIONS

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:		



BH2

Type : Soakaway

Dimensions

Exceedance Level (m)	121.000
Depth (m)	28.500
Base Level (m)	92.500
Freeboard (mm)	100
Soakaway Shape	Circular
Diameter / Width (m)	0.200
Porosity (%)	100
Ineffective Storage Depth (m)	1.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.0723
Side Infiltration Rate (m/hr)	0.0723
Safety Factor	2.0
Total Volume (m³)	0.864



BH1

Type : Soakaway

Dimensions

Exceedance Level (m)	121.700
Depth (m)	30.120
Base Level (m)	91.580
Freeboard (mm)	100
Soakaway Shape	Circular
Diameter / Width (m)	0.200
Porosity (%)	100
Ineffective Storage Depth (m)	1.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.14
Side Infiltration Rate (m/hr)	0.14
Safety Factor	2.0
Total Volume (m³)	0.915



BH3

Type : Soakaway

Dimensions

Exceedance Level (m)	122.425
Depth (m)	30.845
Base Level (m)	91.580
Freeboard (mm)	100
Soakaway Shape	Circular
Diameter / Width (m)	0.200
Porosity (%)	100
Ineffective Storage Depth (m)	1.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.1405
Side Infiltration Rate (m/hr)	0.1405
Safety Factor	2.0
Total Volume (m³)	0.938

Avon Park:	Date: 09/04/2026			 SYMMETRYS STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



BH4

Type : Soakaway

Dimensions

Exceedance Level (m)	122.500
Depth (m)	31.130
Base Level (m)	91.370
Freeboard (mm)	100
Soakaway Shape	Circular
Diameter / Width (m)	0.200
Porosity (%)	100
Ineffective Storage Depth (m)	1.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.14
Side Infiltration Rate (m/hr)	0.14
Safety Factor	2.0
Total Volume (m ³)	0.947

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



Type : Porous Paving

Dimensions	
Exceedance Level (m)	123.000
Depth (m)	0.450
Base Level (m)	122.550
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	13.480
Long. Slope (1:X)	10000.00
Width (m)	5.200
Total Volume (m³)	7.929
Under Drain	
Height Above Base (m)	0.000
Diameter (mm)	100
No. of Barrels	2
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015
Advanced	
Conductivity (m/hr)	250.0

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



Porous Paving (1)

Type : Porous Paving

Dimensions	
Exceedance Level (m)	122.200
Depth (m)	0.380
Base Level (m)	121.820
Paving Layer Depth (mm)	80
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	6.000
Long. Slope (1:X)	10000.00
Width (m)	6.000
Total Volume (m ³)	3.388

Under Drain	
Height Above Base (m)	0.000
Diameter (mm)	150
No. of Barrels	2
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced	
Conductivity (m/hr)	250.0

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



BH2 A1

Type : Cellular Storage

Dimensions

Exceedance Level (m)	120.200
Depth (m)	1.200
Base Level (m)	118.230
Number of Crates Long	53
Number of Crates Wide	12
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	363.290



BH1 A4

Type : Cellular Storage

Dimensions

Exceedance Level (m)	121.600
Depth (m)	1.500
Base Level (m)	119.000
Number of Crates Long	20
Number of Crates Wide	14
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	2
Crate Width (m)	0.5
Crate Height (m)	0.75
Total Volume (m³)	400.100



BH3 A1

Type : Cellular Storage

Dimensions

Exceedance Level (m)	121.600
Depth (m)	1.500
Base Level (m)	119.000
Number of Crates Long	16
Number of Crates Wide	12
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	2
Crate Width (m)	0.5
Crate Height (m)	0.75
Total Volume (m³)	274.700

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



BH4 A1

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	121.500
Depth (m)	1.500
Base Level (m)	119.500
Number of Crates Long	6
Number of Crates Wide	31
Number of Crates High	2
Porosity (%)	97
Crate Length (m)	2
Crate Width (m)	0.5
Crate Height (m)	0.75
Total Volume (m³)	271.130

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH5	122.028 120.307	Diameter / Length: 1.200	{1} P1.003	Pipe	120.307	Diam/Width:300	Manhole
E:379171.257 N:160892.692	1.722		{a} P1.004	Pipe	120.307	Diam/Width:300	Not Applicable
SWMH6	121.683 120.115	Diameter / Length: 1.200	{1} P1.004	Pipe	120.115	Diam/Width:300	Manhole
E:379158.013 N:160904.734	1.568		{2} Pipe (11)	Pipe	120.115	Diam/Width:100	
			{a} P1.005	Pipe	120.115	Diam/Width:300	Not Applicable
SWMH15	121.416 120.550	Diameter / Length: 1.200	{1} P4.000 (1)	Pipe	120.550	Diam/Width:150	Manhole
E:379262.829 N:160866.891	0.866		{a} P4.001	Pipe	120.550	Diam/Width:225	Not Applicable
SWMH49	121.598 120.848	Diameter / Length: 1.200					Manhole
E:379233.204 N:160863.893	0.750		{a} P4.000	Pipe	120.848	Diam/Width:150	Not Applicable

Avon Park:	Date: 09/04/2026		
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH41	121.388 120.338	Diameter / Length: 1.200					Manhole
E:379360.564 N:160839.891	1.050						
			{a} P15.000	Pipe	120.338	Diam/Width:100	Not Applicable
SWMH42	121.379 120.146	Diameter / Length: 1.200	{1} P15.000	Pipe	120.146	Diam/Width:100	Manhole
E:379341.352 N:160841.051	1.234						
			{a} P15.001	Pipe	120.146	Diam/Width:100	Not Applicable
SWMH40	121.500 119.818	Diameter / Length: 1.200	{1} P14.000	Pipe	119.818	Diam/Width:150	Manhole
E:379315.748 N:160850.599	1.682		{2} P13.003	Pipe	119.818	Diam/Width:225	
			{a} P13.004	Pipe	119.818	Diam/Width:300	Not Applicable
SWMH46	121.500 120.750	Diameter / Length: 1.200					Manhole
E:379313.093 N:160874.199	0.750						
			{a} P14.000	Pipe	120.750	Diam/Width:150	Not Applicable

Avon Park:	Date: 09/04/2026		
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH1	123.970 122.840	Diameter / Length: 1.200					Manhole
E:379195.951 N:160927.606	1.130						
			{a} P1.000	Pipe	122.840	Diam/Width:225	Not Applicable
SWMH2	122.760 121.640	Diameter / Length: 1.200	{1} P1.000	Pipe	121.640	Diam/Width:225	Manhole
E:379194.221 N:160912.955	1.120						
			{a} P1.001	Pipe	121.640	Diam/Width:225	Not Applicable
SWMH3	121.885 120.450	Diameter / Length: 1.200	{1} P1.001	Pipe	120.450	Diam/Width:225	Manhole
E:379192.691 N:160893.965	1.435		{2} P2.002	Pipe	120.450	Diam/Width:150	
			{a} P1.002	Pipe	120.450	Diam/Width:300	Not Applicable
SWMH10	121.598 120.950	Diameter / Length: 1.200					Manhole
E:379213.048 N:160866.932	0.648						
			{a} P3.000	Pipe	120.950	Diam/Width:150	Not Applicable

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
EXSWMH3	121.623 120.622	Diameter / Length: 1.200	{1} P3.000 (1)	Pipe	120.622	Diam/Width:150	Manhole
E:379193.284 N:160877.867	1.001						
			{a} P3.001	Pipe	120.622	Diam/Width:150	Not Applicable
SWMH18	122.000 121.050	Diameter / Length: 1.200	{1} Pipe (3)	Pipe	121.050	Diam/Width:100	Manhole
E:379232.965 N:160892.914	0.950						
			{a} P5.003	Pipe	121.050	Diam/Width:100	Not Applicable
SWMH19	121.550 120.400	Diameter / Length: 1.200	{1} P5.003	Pipe	120.400	Diam/Width:100	Manhole
E:379257.826 N:160895.100	1.150						
			{a} P5.004	Pipe	120.400	Diam/Width:150	Not Applicable
SWMH22	121.550 120.810	Diameter / Length: 1.200					Manhole
E:379275.397 N:160893.912	0.740						
			{a} Pipe (8)	Pipe	120.810	Diam/Width:100	Not Applicable

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH16	121.415 120.241	Diameter / Length: 1.200	{1} P4.001	Pipe	120.241	Diam/Width:225	Manhole
E:379293.526 N:160870.246	1.174		{a} P4.002	Pipe	120.241	Diam/Width:225	Not Applicable
SWMH17	121.580 120.024	Diameter / Length: 1.200	{1} P4.002	Pipe	120.024	Diam/Width:225	Manhole
E:379291.170 N:160891.805	1.556		{a} P4.003	Pipe	120.024	Diam/Width:300	Not Applicable
SWMH26	121.500 120.597	Diameter / Length: 1.200	{1} P8.000	Pipe	120.597	Diam/Width:100	Manhole
E:379296.098 N:160874.938	0.903		{a} P8.001	Pipe	120.597	Diam/Width:225	Not Applicable
SWMH27	121.650 120.383	Diameter / Length: 1.200	{1} P8.001	Pipe	120.383	Diam/Width:225	Manhole
E:379293.483 N:160896.134	1.267		{a} P8.002	Pipe	120.383	Diam/Width:225	Not Applicable

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH32	121.650 120.374	Diameter / Length: 1.200	{1} P9.000	Pipe	120.374	Diam/Width:150	Manhole
E:379328.822 N:160902.970	1.276		{2} Pipe (5)	Pipe	120.374	Diam/Width:100	
			{a} P9.001	Pipe	120.374	Diam/Width:150	Not Applicable
SWMH31	121.500 120.500	Diameter / Length: 1.200					Manhole
E:379330.301 N:160890.494	1.000		{a} P9.000	Pipe	120.500	Diam/Width:150	Not Applicable
SWMH45	121.500 120.450	Diameter / Length: 1.200					Manhole
E:379333.050 N:160876.234	1.050		{a} P16.000	Pipe	120.450	Diam/Width:150	Not Applicable
SWMH43	121.400 120.090	Diameter / Length: 1.200	{1} P15.001	Pipe	120.090	Diam/Width:100	Manhole
E:379336.678 N:160844.144	1.310		{2} Pipe (2)	Pipe	120.090	Diam/Width:150	
			{a} Pipe	Pipe	120.090	Diam/Width:150	Not Applicable

Avon Park:	Date: 09/04/2026			 SYMMETRYS STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	Approved	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH44	121.500 120.288	Diameter / Length: 1.200	{1} P16.000	Pipe	120.288	Diam/Width:150	Manhole
E:379334.910 N:160860.145	1.212						
			{a} Pipe (2)	Pipe	120.288	Diam/Width:150	Not Applicable
SWMH35	121.630 120.880	Diameter / Length: 1.200					Manhole
E:379325.887 N:160910.429	0.750						
			{a} P11.000	Pipe	120.880	Diam/Width:100	Not Applicable
SWMH39	121.400 119.975	Diameter / Length: 1.200	{1} P13.002	Pipe	119.975	Diam/Width:225	Manhole
E:379317.457 N:160834.262	1.425						
			{a} P13.003	Pipe	119.975	Diam/Width:225	Not Applicable
SWMH38	121.326 120.111	Diameter / Length: 1.200	{1} P13.001	Pipe	120.111	Diam/Width:225	Manhole
E:379331.923 N:160819.893	1.216						
			{a} P13.002	Pipe	120.111	Diam/Width:225	Not Applicable

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH37	121.239 120.403	Diameter / Length: 1.200	{1} P13.000	Pipe	120.403	Diam/Width:150	Manhole
E:379376.385 N:160818.494	0.836		{a} P13.001	Pipe	120.403	Diam/Width:225	Not Applicable
SWMH28	121.650 120.201	Diameter / Length: 1.200	{1} P8.002	Pipe	120.201	Diam/Width:225	Manhole
E:379300.856 N:160912.842	1.449		{a} P8.003	Pipe	120.201	Diam/Width:225	Not Applicable
SWMH36	121.369 120.633	Diameter / Length: 1.200					Manhole
E:379377.289 N:160833.290	0.736		{a} P13.000	Pipe	120.633	Diam/Width:150	Not Applicable
SWMH30	121.633 120.600	Diameter / Length: 1.200					Manhole
E:379299.483 N:160924.813	1.033		{a} P10.000	Pipe	120.600	Diam/Width:100	Not Applicable

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH29	121.599 120.559	Diameter / Length: 1.200	{1} P10.000	Pipe	120.559	Diam/Width:100	Manhole
E:379300.414 N:160921.672	1.040		{a} P10.001	Pipe	120.567	Diam/Width:150	Not Applicable
SWMH25	121.500 120.750	Diameter / Length: 1.200					Manhole
E:379311.301 N:160876.627	0.750		{a} P8.000	Pipe	120.750	Diam/Width:100	Not Applicable
SWMH23	121.600 120.600	Diameter / Length: 1.200					Manhole
E:379290.090 N:160908.790	1.000		{a} P6.000	Pipe	120.600	Diam/Width:150	Not Applicable
SWMH24	121.600 120.557	Diameter / Length: 1.200	{1} P6.000	Pipe	120.557	Diam/Width:150	Manhole
E:379290.618 N:160904.545	1.043		{a} P6.001	Pipe	120.557	Diam/Width:150	Not Applicable

Avon Park:	Date: 09/04/2026		
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH20	121.600 120.850	Diameter / Length: 1.200	{1} Pipe (7)	Pipe	120.850	Diam/Width:100	Manhole
E:379247.085 N:160890.018	0.750		{a} P7.000	Pipe	120.850	Diam/Width:150	Not Applicable
SWMH21	121.600 120.658	Diameter / Length: 1.200	{1} P7.000	Pipe	120.658	Diam/Width:150	Manhole
E:379266.143 N:160892.274	0.942		{a} P7.001	Pipe	120.658	Diam/Width:150	Not Applicable
SWMH7	121.450 120.750	Diameter / Length: 1.200					Manhole
E:379213.037 N:160891.270	0.700		{a} P2.000	Pipe	120.750	Diam/Width:100	Not Applicable
SWMH8	121.500 120.668	Diameter / Length: 1.200	{1} P2.000	Pipe	120.668	Diam/Width:100	Manhole
E:379204.856 N:160890.569	0.832		{a} P2.001	Pipe	120.668	Diam/Width:100	Not Applicable

Avon Park:	Date: 09/04/2026		
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH9	121.700 120.604	Diameter / Length: 1.200	{1} P2.001	Pipe	120.604	Diam/Width:100	Manhole
E:379200.145 N:160894.835	1.096		{a} P2.002	Pipe	120.604	Diam/Width:150	Not Applicable
EXSWMH4	121.879 120.507	Diameter / Length: 1.200	{1} P3.001	Pipe	120.507	Diam/Width:150	Manhole
E:379184.847 N:160885.681	1.372		{a} P3.002	Pipe	120.507	Diam/Width:150	Not Applicable
SWMH4	122.108 120.358	Diameter / Length: 1.200	{1} P1.002	Pipe	120.358	Diam/Width:300	Manhole
E:379183.622 N:160892.497	1.750		{2} P3.002	Pipe	120.358	Diam/Width:150	
			{a} P1.003	Pipe	120.358	Diam/Width:300	Not Applicable
SWMH47	121.187 119.824	Diameter / Length: 1.200	{1} Pipe	Pipe	119.824	Diam/Width:150	Manhole
E:379310.405 N:160840.350	1.362		{a} Pipe (1)	Pipe	119.824	Diam/Width:150	Not Applicable

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH48	121.130 119.783	Diameter / Length: 1.200	{1} Pipe (1)	Pipe	119.783	Diam/Width:150	Manhole
E:379309.792 N:160844.394	1.347						
			{a} Pipe (1) (1)	Pipe	119.783	Diam/Width:150	Not Applicable
SWMH14	121.538 120.726	Diameter / Length: 1.200	{1} P4.000	Pipe	120.726	Diam/Width:150	Manhole
E:379249.163 N:160865.508	0.812						
			{a} P4.000 (1)	Pipe	120.726	Diam/Width:150	Not Applicable
SWMH33	121.805 120.805	Diameter / Length: 1.200					Manhole
E:379331.545 N:160912.390	1.000						
			{a} Pipe (4)	Pipe	120.805	Diam/Width:100	Not Applicable
SWMH34	121.816 120.773	Diameter / Length: 1.200	{1} Pipe (4)	Pipe	120.773	Diam/Width:100	Manhole
E:379332.022 N:160909.403	1.043						
			{a} Pipe (5)	Pipe	120.773	Diam/Width:100	Not Applicable

Avon Park:	Date: 09/04/2026		 SYMMETRY STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH50	121.650 120.950	Diameter / Length: 1.200	{1} Pipe (6)	Pipe	120.950	Diam/Width:100	Manhole
E:379244.708 N:160886.043	0.700		{a} Pipe (7)	Pipe	120.950	Diam/Width:100	Not Applicable
SWMH51	121.568 121.050	Diameter / Length: 1.200					Manhole
E:379225.822 N:160883.971	0.518		{a} Pipe (6)	Pipe	121.050	Diam/Width:100	Not Applicable
EXSWMH2	121.613 120.661	Diameter / Length: 1.200	{1} P3.000 (2)	Pipe	120.661	Diam/Width:150	Manhole
E:379197.097 N:160875.758	0.952		{a} P3.000 (1)	Pipe	120.661	Diam/Width:150	Not Applicable
EXSWMH1	121.692 120.838	Diameter / Length: 1.200	{1} P3.000	Pipe	120.838	Diam/Width:150	Manhole
E:379206.127 N:160874.273	0.854		{a} P3.000 (2)	Pipe	120.838	Diam/Width:150	Not Applicable

Avon Park:	Date: 09/04/2026		
	Designed CE	Checked by:	
Report Details: Type: Manhole Schedule Storm Phase: BH Catchments	Symmetrys:		

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SWMH13	121.980 120.255	Diameter / Length: 0.600	{1} Pipe (10)	Pipe	120.255	Diam/Width:100	Manhole
E:379170.712 N:160910.636	1.725		{a} Pipe (11)	Pipe	120.255	Diam/Width:100	Not Applicable
SWMH12	121.980 120.350	Diameter / Length: 0.600	{1} Pipe (9)	Pipe	120.350	Diam/Width:100	Manhole
E:379180.014 N:160912.307	1.630		{a} Pipe (10)	Pipe	120.350	Diam/Width:100	Not Applicable
SWMH11	122.020 120.433	Diameter / Length: 0.600					Manhole
E:379188.140 N:160913.787	1.587		{a} Pipe (9)	Pipe	120.433	Diam/Width:100	Not Applicable

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflow Summary Storm Phase: BH Catchments	Symmetrys:			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	SWMH27		Time of Concentration	0.020	100	0	100	0.020
Catchment Area (1)	SWMH9		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (2)	SWMH11		Time of Concentration	0.019	100	0	100	0.019
Catchment Area (3)	SWMH30		Time of Concentration	0.024	100	0	100	0.024
Catchment Area (4)	SWMH32		Time of Concentration	0.044	100	0	100	0.044
Catchment Area (5)	SWMH40		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (6)	SWMH1		Time of Concentration	0.081	100	0	100	0.081
Catchment Area (7)	SWMH2		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (8)	SWMH3		Time of Concentration	0.022	100	0	100	0.022
Catchment Area (9)	SWMH6		Time of Concentration	0.034	100	0	100	0.034
Catchment Area (10)	SWMH10		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (11)	EXSWMH3		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (12)	Porous Paving		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (13)	Porous Paving (1)		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (14)	SWMH19		Time of Concentration	0.018	100	0	100	0.018
Catchment Area (15)	SWMH18		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (16)	SWMH19		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (17)	SWMH23		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (18)	SWMH23		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (19)	SWMH23		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (20)	SWMH19		Time of Concentration	0.018	100	0	100	0.018
Catchment Area (21)	SWMH20		Time of Concentration	0.035	100	0	100	0.035
Catchment Area (22)	SWMH49		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (23)	SWMH45		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (24)	SWMH26		Time of Concentration	0.020	100	0	100	0.020
Catchment Area (25)	SWMH15		Time of Concentration	0.018	100	0	100	0.018
Catchment Area (26)	SWMH17		Time of Concentration	0.011	100	0	100	0.011

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflow Summary Storm Phase: BH Catchments	Symmetrys:			

Catchment Area (27)	SWMH21		Time of Concentration	0.020	100	0	100	0.020
Catchment Area (28)	SWMH27		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (29)	SWMH35		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (30)	SWMH31		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (31)	SWMH46		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (32)	SWMH28		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (33)	SWMH38		Time of Concentration	0.017	100	0	100	0.017
Catchment Area (34)	SWMH45		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (35)	SWMH43		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (36)	SWMH36		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (37)	SWMH37		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (38)	SWMH46		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (39)	SWMH45		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (40)	SWMH36		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (41)	SWMH43		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (42)	SWMH43		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (43)	SWMH39		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (44)	SWMH40		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (45)	SWMH43		Time of Concentration	0.012	100	0	100	0.012
Catchment Area (46)	SWMH8		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (47)	SWMH16		Time of Concentration	0.009	100	0	100	0.009
Catchment Area (48)	SWMH16		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (49)	SWMH22		Time of Concentration	0.018	100	0	100	0.018
Catchment Area (50)	SWMH29		Time of Concentration	0.014	100	0	100	0.014
TOTAL		0.0		0.879				0.879

Avon Park:	Date: 09/04/2026		
	Designed CE	Checked by:	
Report Details: Type: Network Design Criteria Storm Phase: BH Catchments	Symmetrys:		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

FSR

Type: FSR

Return Period (years)	100.0
Region	England And Wales
M5-60 (mm)	21.0
Ratio R	0.357

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	0.600
Min. Slope (1:X)	500.00
Max. Slope (1:X)	15.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐
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Avon Park:	Date: 09/04/2026		
	Designed CE	Checked by:	
Report Title: Rainfall Analysis Criteria	Symmetrys:		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH	Type: FEH	
Site Location	GB 379303 160887 ST 79303 60887	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	45.000
30.0	40.000
10.0	0.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area (4)	FEH: 100 years: +45 %: 15 mins: Summer	0.04	35.6	15.428
Catchment Area (1)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	13.7	5.932
Catchment Area (2)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	15.0	6.526
Catchment Area (3)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	19.0	8.236
Catchment Area	FEH: 100 years: +45 %: 15 mins: Summer	0.02	15.9	6.886
Catchment Area (5)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.4	3.199
Catchment Area (6)	FEH: 100 years: +45 %: 15 mins: Summer	0.08	65.2	28.286
Catchment Area (7)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	13.5	5.863
Catchment Area (8)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	17.5	7.600
Catchment Area (9)	FEH: 100 years: +45 %: 15 mins: Summer	0.03	27.6	11.984
Catchment Area (10)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	11.4	4.960
Catchment Area (11)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	12.8	5.539
Catchment Area (12)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	13.9	6.034
Catchment Area (13)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.5	3.262
Catchment Area (14)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	14.3	6.205
Catchment Area (15)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	17.1	7.414

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			

Catchment Area (16)	FEH: 100 years: +45 %: 15 mins: Summer	0.00	3.9	1.698
Catchment Area (17)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	5.0	2.148
Catchment Area (18)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	5.2	2.265
Catchment Area (19)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	16.5	7.171
Catchment Area (20)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	14.4	6.253
Catchment Area (21)	FEH: 100 years: +45 %: 15 mins: Summer	0.04	28.4	12.335
Catchment Area (22)	FEH: 100 years: +45 %: 15 mins: Summer	0.03	20.4	8.866
Catchment Area (23)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	5.0	2.163
Catchment Area (24)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	16.3	7.063
Catchment Area (25)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	14.1	6.118
Catchment Area (26)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	8.6	3.733
Catchment Area (27)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	16.2	7.030
Catchment Area (28)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	8.0	3.457
Catchment Area (29)	FEH: 100 years: +45 %: 15 mins: Winter	0.01	9.3	4.321
Catchment Area (30)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	12.1	5.236
Catchment Area (31)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	9.4	4.063
Catchment Area (32)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	10.9	4.744
Catchment Area (42)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.4	3.205
Catchment Area (33)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	13.8	6.010
Catchment Area (34)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	9.1	3.937

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			

Catchment Area (35)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	13.2	5.752
Catchment Area (36)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	19.7	8.566
Catchment Area (37)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	17.3	7.492
Catchment Area (39)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	8.6	3.751
Catchment Area (40)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	9.5	4.102
Catchment Area (41)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	9.5	4.117
Catchment Area (43)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.6	3.319
Catchment Area (44)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.2	3.117
Catchment Area (45)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	9.3	4.048
Catchment Area (46)	FEH: 100 years: +45 %: 15 mins: Summer	0.02	12.8	5.560
Catchment Area (47)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	7.0	3.024
Catchment Area (38)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	10.2	4.408
Catchment Area (48)	FEH: 100 years: +45 %: 15 mins: Winter	0.01	3.9	1.797
Catchment Area (49)	FEH: 100 years: +45 %: 15 mins: Winter	0.02	11.7	5.401
Catchment Area (50)	FEH: 100 years: +45 %: 15 mins: Summer	0.01	11.1	4.837

Avon Park:	Date: 09/04/2026			 SYMMETRYS STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area (4)	FEH: 30 years: +40 %: 15 mins: Summer	0.04	26.9	11.695
Catchment Area (1)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.4	4.494
Catchment Area (2)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	11.4	4.944
Catchment Area (3)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	14.4	6.244
Catchment Area	FEH: 30 years: +40 %: 15 mins: Summer	0.02	12.0	5.218
Catchment Area (5)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.6	2.421
Catchment Area (6)	FEH: 30 years: +40 %: 15 mins: Summer	0.08	49.4	21.446
Catchment Area (7)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.2	4.446
Catchment Area (8)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	13.3	5.764
Catchment Area (9)	FEH: 30 years: +40 %: 15 mins: Summer	0.03	20.9	9.082
Catchment Area (10)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	8.7	3.762
Catchment Area (11)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	9.7	4.197
Catchment Area (12)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.5	4.572
Catchment Area (13)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.7	2.475
Catchment Area (14)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.8	4.704
Catchment Area (15)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	12.9	5.620

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			

Catchment Area (16)	FEH: 30 years: +40 %: 15 mins: Summer	0.00	3.0	1.287
Catchment Area (17)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	3.8	1.632
Catchment Area (18)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	4.0	1.719
Catchment Area (19)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	12.5	5.440
Catchment Area (20)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.9	4.743
Catchment Area (21)	FEH: 30 years: +40 %: 15 mins: Summer	0.04	21.5	9.349
Catchment Area (22)	FEH: 30 years: +40 %: 15 mins: Summer	0.03	15.5	6.721
Catchment Area (23)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	3.8	1.641
Catchment Area (24)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	12.3	5.353
Catchment Area (25)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.7	4.641
Catchment Area (26)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	6.5	2.832
Catchment Area (27)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	12.3	5.332
Catchment Area (28)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	6.0	2.619
Catchment Area (29)	FEH: 30 years: +40 %: 15 mins: Winter	0.01	7.1	3.276
Catchment Area (30)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	9.1	3.969
Catchment Area (31)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	7.1	3.081
Catchment Area (32)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	8.3	3.594
Catchment Area (42)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.6	2.427
Catchment Area (33)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.5	4.554
Catchment Area (34)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	6.9	2.982

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			

Catchment Area (35)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	10.0	4.356
Catchment Area (36)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	15.0	6.496
Catchment Area (37)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	13.1	5.680
Catchment Area (39)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	6.6	2.847
Catchment Area (40)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	7.2	3.108
Catchment Area (41)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	7.2	3.123
Catchment Area (43)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.8	2.514
Catchment Area (44)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.4	2.361
Catchment Area (45)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	7.1	3.069
Catchment Area (46)	FEH: 30 years: +40 %: 15 mins: Summer	0.02	9.7	4.215
Catchment Area (47)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	5.3	2.289
Catchment Area (38)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	7.7	3.339
Catchment Area (48)	FEH: 30 years: +40 %: 15 mins: Winter	0.01	2.9	1.359
Catchment Area (49)	FEH: 30 years: +40 %: 15 mins: Winter	0.02	8.9	4.095
Catchment Area (50)	FEH: 30 years: +40 %: 15 mins: Summer	0.01	8.4	3.666

Avon Park:	Date: 09/04/2026			 SYMMETRYS STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area (4)	FEH: 10 years: +0 %: 15 mins: Summer	0.04	14.4	6.262
Catchment Area (1)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.5	2.407
Catchment Area (2)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	6.1	2.650
Catchment Area (3)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	7.7	3.340
Catchment Area	FEH: 10 years: +0 %: 15 mins: Summer	0.02	6.4	2.794
Catchment Area (5)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.0	1.293
Catchment Area (6)	FEH: 10 years: +0 %: 15 mins: Summer	0.08	26.4	11.480
Catchment Area (7)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.5	2.380
Catchment Area (8)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	7.1	3.085
Catchment Area (9)	FEH: 10 years: +0 %: 15 mins: Summer	0.03	11.2	4.864
Catchment Area (10)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	4.6	2.013
Catchment Area (11)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.2	2.247
Catchment Area (12)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.6	2.446
Catchment Area (13)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.1	1.326
Catchment Area (14)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.8	2.518
Catchment Area (15)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	6.9	3.007

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			

Catchment Area (16)	FEH: 10 years: +0 %: 15 mins: Summer	0.00	1.6	0.687
Catchment Area (17)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	2.0	0.873
Catchment Area (18)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	2.1	0.918
Catchment Area (19)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	6.7	2.911
Catchment Area (20)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.8	2.539
Catchment Area (21)	FEH: 10 years: +0 %: 15 mins: Summer	0.04	11.5	5.002
Catchment Area (22)	FEH: 10 years: +0 %: 15 mins: Summer	0.03	8.3	3.598
Catchment Area (23)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	2.0	0.879
Catchment Area (24)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	6.6	2.869
Catchment Area (25)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.7	2.482
Catchment Area (26)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.5	1.518
Catchment Area (27)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	6.6	2.854
Catchment Area (28)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.2	1.404
Catchment Area (29)	FEH: 10 years: +0 %: 15 mins: Winter	0.01	3.8	1.752
Catchment Area (30)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	4.9	2.127
Catchment Area (31)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.8	1.644
Catchment Area (32)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	4.4	1.926
Catchment Area (42)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.0	1.302
Catchment Area (33)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.6	2.440
Catchment Area (34)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.7	1.599

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Inflows Summary Storm Phase: BH Catchments	Symmetrys:			

Catchment Area (35)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.4	2.338
Catchment Area (36)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	8.0	3.475
Catchment Area (37)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	7.0	3.043
Catchment Area (39)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.5	1.524
Catchment Area (40)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.8	1.662
Catchment Area (41)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.9	1.674
Catchment Area (43)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.1	1.347
Catchment Area (44)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	2.9	1.266
Catchment Area (45)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	3.8	1.641
Catchment Area (46)	FEH: 10 years: +0 %: 15 mins: Summer	0.02	5.2	2.259
Catchment Area (47)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	2.8	1.227
Catchment Area (38)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	4.1	1.791
Catchment Area (48)	FEH: 10 years: +0 %: 15 mins: Winter	0.01	1.6	0.726
Catchment Area (49)	FEH: 10 years: +0 %: 15 mins: Winter	0.02	4.7	2.193
Catchment Area (50)	FEH: 10 years: +0 %: 15 mins: Summer	0.01	4.5	1.959

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Junctions Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flooded Volume

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SWMH5	FEH: 100 years: +45 %: 15 mins: Summer	122.028	120.307	120.572	0.265	119.5	0.300	0.000	116.7	63.672	OK
SWMH6	FEH: 100 years: +45 %: 15 mins: Summer	121.683	120.115	120.242	0.127	151.7	0.144	0.000	150.8	82.181	OK
SWMH15	FEH: 100 years: +45 %: 15 mins: Summer	121.416	120.550	120.681	0.131	31.7	0.149	0.000	30.5	14.974	OK
SWMH49	FEH: 100 years: +45 %: 15 mins: Summer	121.598	120.848	121.064	0.216	20.4	0.245	0.000	18.5	8.865	Surcharged
SWMH41	FEH: 100 years: +45 %: 15 mins: Summer	121.388	120.338	121.187	0.849	4.6	0.960	0.000	3.1	1.198	Flood Risk
SWMH42	FEH: 100 years: +45 %: 15 mins: Summer	121.379	120.146	121.152	1.006	10.0	1.138	0.000	6.5	3.856	Flood Risk
SWMH40	FEH: 100 years: +45 %: 15 mins: Summer	121.500	119.818	119.976	0.158	86.8	0.179	0.000	85.8	43.970	OK
SWMH46	FEH: 100 years: +45 %: 15 mins: Summer	121.500	120.750	120.829	0.079	19.5	0.089	0.000	19.2	8.473	OK
SWMH1	FEH: 100 years: +45 %: 15 mins: Summer	123.970	122.840	122.950	0.110	65.2	0.125	0.000	64.7	28.285	OK
SWMH2	FEH: 100 years: +45 %: 15 mins: Summer	122.760	121.640	121.766	0.126	78.2	0.142	0.000	77.4	34.131	OK
SWMH3	FEH: 100 years: +45 %: 15 mins: Summer	121.885	120.450	120.952	0.502	111.0	0.568	0.000	108.2	53.224	Surcharged
SWMH10	FEH: 100 years: +45 %: 15 mins: Summer	121.598	120.950	121.041	0.091	11.4	0.103	0.000	11.5	4.958	OK
EXSWMH3	FEH: 100 years: +45 %: 15 mins: Summer	121.623	120.622	120.953	0.331	16.8	0.374	0.000	15.1	10.496	Surcharged
SWMH18	FEH: 100 years: +45 %: 15 mins: Summer	122.000	121.050	121.629	0.579	19.0	0.655	0.000	12.8	10.873	Surcharged
SWMH19	FEH: 100 years: +45 %: 15 mins: Summer	121.550	120.400	120.508	0.108	45.5	0.123	0.000	45.0	24.938	OK
SWMH22	FEH: 100 years: +45 %: 15 mins: Summer	121.550	120.810	120.841	0.031	11.1	0.035	0.000	11.1	4.819	OK
SWMH16	FEH: 100 years: +45 %: 15 mins: Summer	121.415	120.241	120.403	0.161	41.2	0.183	0.000	39.0	19.588	OK
SWMH17	FEH: 100 years: +45 %: 15 mins: Summer	121.580	120.024	120.190	0.165	47.6	0.187	0.000	45.4	23.300	OK
SWMH26	FEH: 100 years: +45 %: 15 mins: Summer	121.500	120.597	120.681	0.084	16.3	0.095	0.000	15.9	7.061	OK
SWMH27	FEH: 100 years: +45 %: 15 mins: Summer	121.650	120.383	120.561	0.177	39.7	0.201	0.000	31.7	17.401	OK
SWMH32	FEH: 100 years: +45 %: 15 mins: Summer	121.650	120.374	121.158	0.783	43.5	0.886	0.000	32.7	21.779	Surcharged
SWMH31	FEH: 100 years: +45 %: 15 mins: Summer	121.500	120.500	121.187	0.687	12.1	0.777	0.000	8.0	5.239	Surcharged
SWMH45	FEH: 100 years: +45 %: 15 mins: Summer	121.500	120.450	121.247	0.797	22.7	0.901	0.000	15.6	9.866	Flood Risk
SWMH43	FEH: 100 years: +45 %: 15 mins: Summer	121.400	120.090	121.102	1.012	48.6	1.145	0.000	32.4	29.623	Flood Risk
SWMH44	FEH: 100 years: +45 %: 15 mins: Summer	121.500	120.288	121.200	0.912	15.6	1.031	0.000	13.7	9.873	Surcharged

Avon Park:		Date: 09/04/2026			
		Designed CE	Checked by:	Approved	
Report Details: Type: Junctions Summary Storm Phase: BH Catchments		Symmetrys:			

SWMH35	FEH: 100 years: +45 %: 15 mins: Summer	121.63 0	120.88 0	120.93 2	0.052	8.9	0.058	0.000	8.7	3.838	OK
SWMH39	FEH: 100 years: +45 %: 15 mins: Summer	121.40 0	119.97 5	120.19 6	0.221	55.6	0.250	0.000	53.1	29.462	OK
SWMH38	FEH: 100 years: +45 %: 15 mins: Summer	121.32 6	120.11 1	120.40 2	0.292	49.0	0.330	0.000	48.0	26.154	Surcharged
SWMH37	FEH: 100 years: +45 %: 15 mins: Summer	121.23 9	120.40 3	120.61 7	0.214	42.6	0.242	0.000	35.2	20.151	OK
SWMH28	FEH: 100 years: +45 %: 15 mins: Summer	121.65 0	120.20 1	120.48 7	0.286	42.6	0.324	0.000	42.2	22.124	Surcharged
SWMH36	FEH: 100 years: +45 %: 15 mins: Summer	121.36 9	120.63 3	120.96 5	0.332	29.2	0.376	0.000	25.4	12.661	Surcharged
SWMH30	FEH: 100 years: +45 %: 15 mins: Summer	121.63 3	120.60 0	121.15 6	0.556	19.0	0.629	0.000	15.5	8.234	Surcharged
SWMH29	FEH: 100 years: +45 %: 15 mins: Summer	121.59 9	120.55 9	120.86 9	0.310	26.6	0.350	0.000	24.7	13.058	Surcharged
SWMH25	FEH: 100 years: +45 %: 15 mins: Summer	121.50 0	120.75 0	120.75 0	0.000	0.0	0.000	0.000	0.0	0.000	OK
SWMH23	FEH: 100 years: +45 %: 15 mins: Summer	121.60 0	120.60 0	120.77 3	0.173	26.7	0.196	0.000	26.0	11.580	Surcharged
SWMH24	FEH: 100 years: +45 %: 15 mins: Summer	121.60 0	120.55 7	120.61 0	0.052	26.0	0.059	0.000	25.9	11.577	OK
SWMH20	FEH: 100 years: +45 %: 15 mins: Summer	121.60 0	120.85 0	121.13 2	0.282	28.4	0.319	0.000	22.0	12.853	Surcharged
SWMH21	FEH: 100 years: +45 %: 15 mins: Summer	121.60 0	120.65 8	120.72 7	0.069	38.2	0.078	0.000	37.9	19.346	OK
SWMH7	FEH: 100 years: +45 %: 15 mins: Summer	121.45 0	120.75 0	121.06 4	0.314	3.6	0.355	0.000	3.1	0.586	Surcharged
SWMH8	FEH: 100 years: +45 %: 15 mins: Summer	121.50 0	120.66 8	121.09 7	0.429	12.8	0.486	0.000	8.8	6.144	Surcharged
SWMH9	FEH: 100 years: +45 %: 15 mins: Summer	121.70 0	120.60 4	121.03 4	0.429	19.2	0.486	0.000	16.1	11.489	Surcharged
EXSWMH4	FEH: 100 years: +45 %: 15 mins: Summer	121.87 9	120.50 7	120.85 6	0.349	15.1	0.395	0.000	17.7	10.489	Surcharged
SWMH4	FEH: 100 years: +45 %: 15 mins: Summer	122.10 8	120.35 8	120.80 6	0.448	121.2	0.506	0.000	119.5	63.704	Surcharged
SWMH47	FEH: 100 years: +45 %: 15 mins: Summer	121.18 7	119.82 4	120.26 1	0.437	32.4	0.495	0.000	32.7	26.821	Surcharged
SWMH48	FEH: 100 years: +45 %: 15 mins: Summer	121.13 0	119.78 3	120.04 6	0.263	32.7	0.297	0.000	32.8	26.656	Surcharged
SWMH14	FEH: 100 years: +45 %: 15 mins: Summer	121.53 8	120.72 6	120.84 8	0.122	18.5	0.139	0.000	17.6	8.860	OK
SWMH33	FEH: 100 years: +45 %: 15 mins: Summer	121.80 5	120.80 5	121.03 7	0.233	3.4	0.263	0.000	3.1	0.537	Surcharged
SWMH34	FEH: 100 years: +45 %: 15 mins: Summer	121.81 6	120.77 3	121.05 3	0.279	6.9	0.316	0.000	6.4	1.662	Surcharged
SWMH50	FEH: 100 years: +45 %: 15 mins: Summer	121.65 0	120.95 0	121.10 5	0.155	4.0	0.175	0.000	0.4	0.694	Surcharged
SWMH51	FEH: 100 years: +45 %: 15 mins: Summer	121.56 8	121.05 0	121.06 3	0.013	1.2	0.015	0.000	0.1	0.185	OK
EXSWMH2	FEH: 100 years: +45 %: 15 mins: Summer	121.61 3	120.66 1	120.95 7	0.296	6.6	0.335	0.000	8.3	4.954	Surcharged
EXSWMH1	FEH: 100 years: +45 %: 15 mins: Summer	121.69 2	120.83 8	120.97 7	0.138	11.5	0.156	0.000	6.6	4.956	OK
SWMH13	FEH: 100 years: +45 %: 15 mins: Summer	121.98 0	120.25 5	120.56 6	0.311	8.7	0.088	0.000	9.2	6.520	Surcharged
SWMH12	FEH: 100 years: +45 %: 15 mins: Summer	121.98 0	120.35 0	120.75 5	0.405	11.1	0.115	0.000	8.7	6.521	Surcharged

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				Designed CE	Checked by:	Approved					
Report Details: Type: Junctions Summary Storm Phase: BH Catchments				Symmetrys:							
SWMH11	FEH: 100 years: +45 %: 15 mins: Summer	122.02 0	120.43 3	120.98 9	0.556	15.0	0.157	0.000	11.1	6.523	Surcharged

Avon Park:	Date: 09/04/2026			
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Report Details: Type: Junctions Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flooded Volume

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SWMH5	FEH: 30 years: +40 %: 15 mins: Summer	122.02 8	120.30 7	120.52 0	0.214	90.9	0.242	0.000	89.3	48.256	OK
SWMH6	FEH: 30 years: +40 %: 15 mins: Summer	121.68 3	120.11 5	120.22 5	0.110	116.8	0.125	0.000	116.4	62.285	OK
SWMH15	FEH: 30 years: +40 %: 15 mins: Summer	121.41 6	120.55 0	120.66 2	0.112	24.9	0.126	0.000	23.8	11.352	OK
SWMH49	FEH: 30 years: +40 %: 15 mins: Summer	121.59 8	120.84 8	120.97 4	0.126	15.5	0.142	0.000	14.8	6.721	OK
SWMH41	FEH: 30 years: +40 %: 15 mins: Summer	121.38 8	120.33 8	120.73 2	0.394	3.2	0.446	0.000	2.3	0.699	Surcharged
SWMH42	FEH: 30 years: +40 %: 15 mins: Summer	121.37 9	120.14 6	120.70 1	0.555	6.9	0.628	0.000	4.9	2.369	Surcharged
SWMH40	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	119.81 8	119.95 4	0.137	68.8	0.155	0.000	67.6	33.528	OK
SWMH46	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	120.75 0	120.81 7	0.067	14.8	0.076	0.000	14.5	6.422	OK
SWMH1	FEH: 30 years: +40 %: 15 mins: Summer	123.97 0	122.84 0	122.93 3	0.093	49.4	0.105	0.000	49.0	21.446	OK
SWMH2	FEH: 30 years: +40 %: 15 mins: Summer	122.76 0	121.64 0	121.74 6	0.106	59.2	0.119	0.000	58.7	25.888	OK
SWMH3	FEH: 30 years: +40 %: 15 mins: Summer	121.88 5	120.45 0	120.75 8	0.308	85.4	0.349	0.000	81.0	40.354	Surcharged
SWMH10	FEH: 30 years: +40 %: 15 mins: Summer	121.59 8	120.95 0	121.02 6	0.076	8.7	0.086	0.000	8.4	3.762	OK
EXSWMH3	FEH: 30 years: +40 %: 15 mins: Summer	121.62 3	120.62 2	120.79 2	0.169	15.1	0.192	0.000	13.2	7.952	Surcharged
SWMH18	FEH: 30 years: +40 %: 15 mins: Summer	122.00 0	121.05 0	121.28 9	0.239	14.2	0.271	0.000	10.6	8.136	Surcharged
SWMH19	FEH: 30 years: +40 %: 15 mins: Summer	121.55 0	120.40 0	120.49 1	0.091	35.3	0.103	0.000	35.1	18.819	OK
SWMH22	FEH: 30 years: +40 %: 15 mins: Summer	121.55 0	120.81 0	120.83 7	0.027	8.4	0.031	0.000	8.4	3.653	OK
SWMH16	FEH: 30 years: +40 %: 15 mins: Summer	121.41 5	120.24 1	120.37 4	0.133	31.9	0.151	0.000	30.0	14.842	OK
SWMH17	FEH: 30 years: +40 %: 15 mins: Summer	121.58 0	120.02 4	120.16 5	0.140	36.5	0.159	0.000	34.5	17.653	OK
SWMH26	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	120.59 7	120.67 0	0.073	12.3	0.082	0.000	11.9	5.351	OK
SWMH27	FEH: 30 years: +40 %: 15 mins: Summer	121.65 0	120.38 3	120.50 7	0.123	30.0	0.140	0.000	28.8	13.185	OK
SWMH32	FEH: 30 years: +40 %: 15 mins: Summer	121.65 0	120.37 4	120.92 8	0.554	33.5	0.626	0.000	26.8	16.121	Surcharged
SWMH31	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	120.50 0	120.95 0	0.450	9.1	0.509	0.000	6.6	3.971	Surcharged
SWMH45	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	120.45 0	120.83 4	0.384	17.2	0.435	0.000	12.5	7.456	Surcharged
SWMH43	FEH: 30 years: +40 %: 15 mins: Summer	121.40 0	120.09 0	120.70 2	0.613	38.1	0.693	0.000	26.7	22.113	Surcharged
SWMH44	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	120.28 8	120.74 1	0.453	12.5	0.512	0.000	10.7	7.462	Surcharged

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Report Details: Type: Junctions Summary Storm Phase: BH Catchments	Symmetrys:			

SWMH35	FEH: 30 years: +40 %: 15 mins: Summer	121.63 0	120.88 0	120.92 4	0.044	6.7	0.050	0.000	6.6	2.910	OK
SWMH39	FEH: 30 years: +40 %: 15 mins: Summer	121.40 0	119.97 5	120.15 0	0.175	45.1	0.198	0.000	43.3	22.307	OK
SWMH38	FEH: 30 years: +40 %: 15 mins: Summer	121.32 6	120.11 1	120.30 4	0.194	43.3	0.219	0.000	39.4	19.816	OK
SWMH37	FEH: 30 years: +40 %: 15 mins: Summer	121.23 9	120.40 3	120.55 5	0.152	34.1	0.172	0.000	32.8	15.279	OK
SWMH28	FEH: 30 years: +40 %: 15 mins: Summer	121.65 0	120.20 1	120.41 1	0.210	37.0	0.238	0.000	33.8	16.758	OK
SWMH36	FEH: 30 years: +40 %: 15 mins: Summer	121.36 9	120.63 3	120.77 1	0.138	22.1	0.156	0.000	21.1	9.604	OK
SWMH30	FEH: 30 years: +40 %: 15 mins: Summer	121.63 3	120.60 0	120.93 2	0.332	14.4	0.375	0.000	12.2	6.241	Surcharged
SWMH29	FEH: 30 years: +40 %: 15 mins: Summer	121.59 9	120.55 9	120.74 5	0.185	20.7	0.210	0.000	18.6	9.895	Surcharged
SWMH25	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	120.75 0	120.75 0	0.000	0.0	0.000	0.000	0.0	0.000	OK
SWMH23	FEH: 30 years: +40 %: 15 mins: Summer	121.60 0	120.60 0	120.73 2	0.132	20.2	0.149	0.000	19.6	8.788	OK
SWMH24	FEH: 30 years: +40 %: 15 mins: Summer	121.60 0	120.55 7	120.60 3	0.046	19.6	0.052	0.000	20.0	8.789	OK
SWMH20	FEH: 30 years: +40 %: 15 mins: Summer	121.60 0	120.85 0	121.00 7	0.157	21.5	0.177	0.000	18.1	9.487	Surcharged
SWMH21	FEH: 30 years: +40 %: 15 mins: Summer	121.60 0	120.65 8	120.71 9	0.061	30.4	0.069	0.000	30.4	14.674	OK
SWMH7	FEH: 30 years: +40 %: 15 mins: Summer	121.45 0	120.75 0	120.86 5	0.115	2.1	0.130	0.000	0.3	0.265	Surcharged
SWMH8	FEH: 30 years: +40 %: 15 mins: Summer	121.50 0	120.66 8	120.87 6	0.208	9.7	0.236	0.000	5.5	4.480	Surcharged
SWMH9	FEH: 30 years: +40 %: 15 mins: Summer	121.70 0	120.60 4	120.81 3	0.209	15.9	0.236	0.000	13.4	8.706	Surcharged
EXSWMH4	FEH: 30 years: +40 %: 15 mins: Summer	121.87 9	120.50 7	120.71 5	0.208	13.2	0.235	0.000	11.9	7.944	Surcharged
SWMH4	FEH: 30 years: +40 %: 15 mins: Summer	122.10 8	120.35 8	120.67 1	0.313	92.9	0.354	0.000	90.9	48.289	Surcharged
SWMH47	FEH: 30 years: +40 %: 15 mins: Summer	121.18 7	119.82 4	120.09 3	0.269	26.7	0.304	0.000	26.2	20.422	Surcharged
SWMH48	FEH: 30 years: +40 %: 15 mins: Summer	121.13 0	119.78 3	119.87 7	0.093	26.2	0.106	0.000	26.4	20.396	OK
SWMH14	FEH: 30 years: +40 %: 15 mins: Summer	121.53 8	120.72 6	120.82 7	0.102	14.8	0.115	0.000	14.2	6.714	OK
SWMH33	FEH: 30 years: +40 %: 15 mins: Summer	121.80 5	120.80 5	120.82 7	0.022	2.6	0.025	0.000	0.1	0.206	OK
SWMH34	FEH: 30 years: +40 %: 15 mins: Summer	121.81 6	120.77 3	120.88 5	0.111	4.2	0.126	0.000	0.3	0.674	Surcharged
SWMH50	FEH: 30 years: +40 %: 15 mins: Summer	121.65 0	120.95 0	120.99 9	0.049	1.4	0.055	0.000	0.0	0.142	OK
SWMH51	FEH: 30 years: +40 %: 15 mins: Summer	121.56 8	121.05 0	121.05 0	0.000	0.0	0.000	0.000	0.0	0.000	OK
EXSWMH2	FEH: 30 years: +40 %: 15 mins: Summer	121.61 3	120.66 1	120.79 7	0.135	8.4	0.153	0.000	5.4	3.755	OK
EXSWMH1	FEH: 30 years: +40 %: 15 mins: Summer	121.69 2	120.83 8	120.89 8	0.060	8.4	0.068	0.000	8.4	3.758	OK
SWMH13	FEH: 30 years: +40 %: 15 mins: Summer	121.98 0	120.25 5	120.42 0	0.165	7.3	0.047	0.000	7.3	4.938	Surcharged
SWMH12	FEH: 30 years: +40 %: 15 mins: Summer	121.98 0	120.35 0	120.55 7	0.207	8.9	0.059	0.000	7.3	4.940	Surcharged

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SWMH11	FEH: 30 years: +40 %: 15 mins: Summer	122.02 0	120.43 3	120.76 0	0.327	11.4	0.092	0.000	8.9	4.942	Surcharged	

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FEH: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SWMH5	FEH: 10 years: +0 %: 15 mins: Summer	122.02 8	120.30 7	120.46 1	0.155	54.1	0.175	0.000	52.6	25.807	OK
SWMH6	FEH: 10 years: +0 %: 15 mins: Summer	121.68 3	120.11 5	120.20 0	0.085	69.1	0.096	0.000	68.6	33.328	OK
SWMH15	FEH: 10 years: +0 %: 15 mins: Summer	121.41 6	120.55 0	120.62 7	0.077	13.3	0.087	0.000	12.6	6.069	OK
SWMH49	FEH: 10 years: +0 %: 15 mins: Summer	121.59 8	120.84 8	120.92 9	0.081	8.3	0.091	0.000	8.0	3.598	OK
SWMH41	FEH: 10 years: +0 %: 15 mins: Summer	121.38 8	120.33 8	120.34 1	0.003	0.0	0.003	0.000	0.0	0.003	OK
SWMH42	FEH: 10 years: +0 %: 15 mins: Summer	121.37 9	120.14 6	120.27 5	0.129	2.5	0.146	0.000	0.9	0.362	Surcharged
SWMH40	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	119.81 8	119.91 4	0.096	36.6	0.109	0.000	35.7	17.932	OK
SWMH46	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	120.75 0	120.79 8	0.048	7.9	0.054	0.000	7.7	3.437	OK
SWMH1	FEH: 10 years: +0 %: 15 mins: Summer	123.97 0	122.84 0	122.90 5	0.065	26.4	0.074	0.000	26.2	11.480	OK
SWMH2	FEH: 10 years: +0 %: 15 mins: Summer	122.76 0	121.64 0	121.71 5	0.075	31.7	0.085	0.000	31.2	13.861	OK
SWMH3	FEH: 10 years: +0 %: 15 mins: Summer	121.88 5	120.45 0	120.62 0	0.170	48.6	0.193	0.000	47.0	21.604	OK
SWMH10	FEH: 10 years: +0 %: 15 mins: Summer	121.59 8	120.95 0	121.00 3	0.053	4.6	0.060	0.000	4.5	2.013	OK
EXSWMH3	FEH: 10 years: +0 %: 15 mins: Summer	121.62 3	120.62 2	120.70 3	0.080	9.3	0.091	0.000	8.9	4.250	OK
SWMH18	FEH: 10 years: +0 %: 15 mins: Summer	122.00 0	121.05 0	121.11 5	0.065	7.4	0.073	0.000	7.1	4.161	OK
SWMH19	FEH: 10 years: +0 %: 15 mins: Summer	121.55 0	120.40 0	120.46 7	0.067	20.3	0.076	0.000	20.1	9.888	OK
SWMH22	FEH: 10 years: +0 %: 15 mins: Summer	121.55 0	120.81 0	120.83 0	0.020	4.5	0.022	0.000	4.5	1.956	OK
SWMH16	FEH: 10 years: +0 %: 15 mins: Summer	121.41 5	120.24 1	120.33 1	0.089	17.0	0.101	0.000	15.9	7.934	OK
SWMH17	FEH: 10 years: +0 %: 15 mins: Summer	121.58 0	120.02 4	120.12 1	0.097	19.4	0.110	0.000	18.0	9.433	OK
SWMH26	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	120.59 7	120.65 0	0.053	6.6	0.060	0.000	6.3	2.867	OK
SWMH27	FEH: 10 years: +0 %: 15 mins: Summer	121.65 0	120.38 3	120.46 8	0.084	16.0	0.095	0.000	15.3	7.064	OK
SWMH32	FEH: 10 years: +0 %: 15 mins: Summer	121.65 0	120.37 4	120.56 0	0.185	17.6	0.209	0.000	15.6	8.381	Surcharged
SWMH31	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	120.50 0	120.56 5	0.065	4.9	0.073	0.000	3.2	2.126	OK
SWMH45	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	120.45 0	120.53 0	0.080	9.2	0.090	0.000	8.9	4.003	OK
SWMH43	FEH: 10 years: +0 %: 15 mins: Summer	121.40 0	120.09 0	120.29 0	0.200	24.5	0.226	0.000	18.9	11.305	Surcharged
SWMH44	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	120.28 8	120.35 6	0.068	8.9	0.077	0.000	8.5	3.992	OK

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SWMH35	FEH: 10 years: +0 %: 15 mins: Summer	121.63 0	120.88 0	120.91 1	0.031	3.6	0.035	0.000	3.5	1.571	OK
SWMH39	FEH: 10 years: +0 %: 15 mins: Summer	121.40 0	119.97 5	120.08 9	0.114	24.1	0.129	0.000	22.9	11.923	OK
SWMH38	FEH: 10 years: +0 %: 15 mins: Summer	121.32 6	120.11 1	120.23 1	0.120	23.0	0.136	0.000	21.0	10.598	OK
SWMH37	FEH: 10 years: +0 %: 15 mins: Summer	121.23 9	120.40 3	120.50 6	0.103	18.5	0.116	0.000	17.3	8.179	OK
SWMH28	FEH: 10 years: +0 %: 15 mins: Summer	121.65 0	120.20 1	120.33 3	0.132	19.7	0.150	0.000	17.9	8.969	OK
SWMH36	FEH: 10 years: +0 %: 15 mins: Summer	121.36 9	120.63 3	120.71 4	0.081	11.8	0.091	0.000	11.5	5.137	OK
SWMH30	FEH: 10 years: +0 %: 15 mins: Summer	121.63 3	120.60 0	120.72 6	0.126	7.7	0.143	0.000	7.2	3.338	Surcharged
SWMH29	FEH: 10 years: +0 %: 15 mins: Summer	121.59 9	120.55 9	120.66 0	0.101	11.7	0.114	0.000	11.1	5.285	OK
SWMH25	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	120.75 0	120.75 0	0.000	0.0	0.000	0.000	0.0	0.000	OK
SWMH23	FEH: 10 years: +0 %: 15 mins: Summer	121.60 0	120.60 0	120.68 5	0.085	10.8	0.096	0.000	10.6	4.700	OK
SWMH24	FEH: 10 years: +0 %: 15 mins: Summer	121.60 0	120.55 7	120.59 0	0.033	10.6	0.037	0.000	10.6	4.701	OK
SWMH20	FEH: 10 years: +0 %: 15 mins: Summer	121.60 0	120.85 0	120.94 4	0.094	11.5	0.106	0.000	11.1	4.998	OK
SWMH21	FEH: 10 years: +0 %: 15 mins: Summer	121.60 0	120.65 8	120.70 5	0.047	17.7	0.053	0.000	17.5	7.854	OK
SWMH7	FEH: 10 years: +0 %: 15 mins: Summer	121.45 0	120.75 0	120.75 0	0.000	0.0	0.000	0.000	0.0	0.000	OK
SWMH8	FEH: 10 years: +0 %: 15 mins: Summer	121.50 0	120.66 8	120.74 2	0.074	5.2	0.084	0.000	4.9	2.257	OK
SWMH9	FEH: 10 years: +0 %: 15 mins: Summer	121.70 0	120.60 4	120.67 0	0.065	10.5	0.074	0.000	10.3	4.661	OK
EXSWMH4	FEH: 10 years: +0 %: 15 mins: Summer	121.87 9	120.50 7	120.56 6	0.059	8.9	0.066	0.000	8.5	4.244	OK
SWMH4	FEH: 10 years: +0 %: 15 mins: Summer	122.10 8	120.35 8	120.55 5	0.197	55.5	0.222	0.000	54.1	25.837	OK
SWMH47	FEH: 10 years: +0 %: 15 mins: Summer	121.18 7	119.82 4	119.95 1	0.127	18.9	0.143	0.000	18.6	10.932	OK
SWMH48	FEH: 10 years: +0 %: 15 mins: Summer	121.13 0	119.78 3	119.86 3	0.080	18.6	0.090	0.000	18.6	10.930	OK
SWMH14	FEH: 10 years: +0 %: 15 mins: Summer	121.53 8	120.72 6	120.79 3	0.067	8.0	0.076	0.000	7.6	3.591	OK
SWMH33	FEH: 10 years: +0 %: 15 mins: Summer	121.80 5	120.80 5	120.80 5	0.000	0.0	0.000	0.000	0.0	0.000	OK
SWMH34	FEH: 10 years: +0 %: 15 mins: Summer	121.81 6	120.77 3	120.77 3	0.000	0.0	0.000	0.000	0.0	0.000	OK
SWMH50	FEH: 10 years: +0 %: 15 mins: Summer	121.65 0	120.95 0	120.95 0	0.000	0.0	0.000	0.000	0.0	0.000	OK
SWMH51	FEH: 10 years: +0 %: 15 mins: Summer	121.56 8	121.05 0	121.05 0	0.000	0.0	0.000	0.000	0.0	0.000	OK
EXSWMH2	FEH: 10 years: +0 %: 15 mins: Summer	121.61 3	120.66 1	120.71 9	0.058	4.3	0.066	0.000	4.1	2.005	OK
EXSWMH1	FEH: 10 years: +0 %: 15 mins: Summer	121.69 2	120.83 8	120.88 2	0.043	4.5	0.049	0.000	4.3	2.010	OK
SWMH13	FEH: 10 years: +0 %: 15 mins: Summer	121.98 0	120.25 5	120.33 3	0.078	5.5	0.022	0.000	5.3	2.642	OK
SWMH12	FEH: 10 years: +0 %: 15 mins: Summer	121.98 0	120.35 0	120.43 3	0.083	5.8	0.023	0.000	5.5	2.645	OK

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				09/04/2026								
				Designed	Checked by:		Approved					
				CE								
Report Details:				Symmetrys:								
Type: Junctions Summary												
Storm Phase: BH Catchments												
SWMH11	FEH: 10 years: +0 %:	122.02	120.43	120.52	0.088	6.1	0.025	0.000	5.8	2.647	OK	
	15 mins: Summer	0	3	1								

Avon Park:	Date: 09/04/2026			 SYMMETRYS STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
BH2 A1	FEH: 100 years: +45 %: 1440 mins: Winter	119.318	119.318	1.088	1.088	10.0	328.738	0.000	0.000	0.6	28.897	9.511	OK
BH2	FEH: 100 years: +45 %: 1440 mins: Winter	119.318	119.318	26.818	26.818	0.6	0.840	0.000	28.057	0.0	0.001	2.739	OK
BH1	FEH: 100 years: +45 %: 1440 mins: Winter	120.330	120.330	28.750	28.750	1.0	0.901	0.000	51.235	0.0	0.011	1.531	OK
BH3	FEH: 100 years: +45 %: 1440 mins: Winter	120.284	120.284	28.704	28.704	2.2	0.899	0.000	45.899	0.0	0.004	4.080	OK
BH4	FEH: 100 years: +45 %: 1440 mins: Winter	120.891	120.891	29.521	29.521	0.8	0.925	0.000	59.967	0.0	0.000	2.281	OK
BH1 A4	FEH: 100 years: +45 %: 1440 mins: Winter	120.331	120.331	1.331	1.331	11.1	354.001	0.000	0.000	1.0	52.143	11.522	OK
BH3 A1	FEH: 100 years: +45 %: 1440 mins: Winter	120.284	120.284	1.284	1.284	7.3	234.118	0.000	0.000	2.2	46.797	14.773	OK
BH4 A1	FEH: 100 years: +45 %: 1440 mins: Winter	120.892	120.892	1.392	1.392	7.9	251.107	0.000	0.000	0.8	60.888	7.385	OK
Porous Paving	FEH: 100 years: +45 %: 60 mins: Summer	122.868	122.866	0.316	0.316	8.2	6.647	0.000	0.000	2.0	8.668	16.174	OK
Porous Paving (1)	FEH: 100 years: +45 %: 60 mins: Summer	122.216	122.029	0.395	0.209	6.2	3.020	0.270	0.000	4.0	13.065	10.863	Flood

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
BH2 A1	FEH: 30 years: +40 %: 1440 mins: Winter	119.013	119.013	0.783	0.783	7.3	236.585	0.000	0.000	0.6	28.502	34.877	OK
BH2	FEH: 30 years: +40 %: 1440 mins: Winter	119.013	119.013	26.513	26.513	0.6	0.831	0.000	27.672	0.0	0.001	3.845	OK
BH1	FEH: 30 years: +40 %: 1440 mins: Winter	119.961	119.961	28.381	28.381	1.1	0.889	0.000	49.282	0.0	0.012	2.798	OK
BH3	FEH: 30 years: +40 %: 1440 mins: Winter	119.927	119.927	28.347	28.347	2.0	0.888	0.000	43.364	0.0	0.002	5.270	OK
BH4	FEH: 30 years: +40 %: 1440 mins: Winter	120.485	120.485	29.115	29.115	0.7	0.912	0.000	59.065	0.0	0.000	3.626	OK
BH1 A4	FEH: 30 years: +40 %: 1440 mins: Winter	119.961	119.961	0.961	0.961	8.1	255.664	0.000	0.000	1.1	50.180	36.100	OK
BH3 A1	FEH: 30 years: +40 %: 1440 mins: Winter	119.927	119.927	0.927	0.927	5.4	169.175	0.000	0.000	2.0	44.249	38.415	OK
BH4 A1	FEH: 30 years: +40 %: 1440 mins: Winter	120.485	120.485	0.985	0.985	6.1	177.800	0.000	0.000	0.7	59.972	34.423	OK
Porous Paving	FEH: 30 years: +40 %: 60 mins: Summer	122.781	122.779	0.230	0.229	6.1	4.826	0.000	0.000	1.7	6.514	39.138	OK
Porous Paving (1)	FEH: 30 years: +40 %: 60 mins: Summer	122.092	121.981	0.271	0.161	4.7	2.338	0.000	0.000	3.2	9.790	31.014	OK

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Stormwater Controls Storm Phase: BH Catchments	Symmetrys:			



FEH: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
BH2 A1	FEH: 10 years: +0 %: 1440 mins: Winter	118.650	118.650	0.420	0.420	4.1	126.864	0.000	0.000	0.4	27.845	65.079	OK
BH2	FEH: 10 years: +0 %: 1440 mins: Winter	118.650	118.650	26.150	26.150	0.4	0.819	0.000	27.027	0.0	0.000	5.162	OK
BH1	FEH: 10 years: +0 %: 1440 mins: Winter	119.515	119.515	27.935	27.935	1.1	0.875	0.000	46.078	0.0	0.009	4.323	OK
BH3	FEH: 10 years: +0 %: 15 mins: Summer	91.580	91.580	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000	100.000	OK
BH4	FEH: 10 years: +0 %: 1440 mins: Winter	120.009	120.009	28.639	28.639	0.5	0.897	0.000	57.655	0.0	0.000	5.200	OK
BH1 A4	FEH: 10 years: +0 %: 1440 mins: Winter	119.516	119.516	0.516	0.516	4.5	137.239	0.000	0.000	1.1	46.959	65.699	OK
BH3 A1	FEH: 10 years: +0 %: 1440 mins: Winter	119.563	119.563	0.563	0.563	3.0	102.698	0.000	0.000	0.0	0.000	62.614	OK
BH4 A1	FEH: 10 years: +0 %: 1440 mins: Winter	120.010	120.010	0.510	0.510	3.6	92.019	0.000	0.000	0.5	58.548	66.061	OK
Porous Paving	FEH: 10 years: +0 %: 120 mins: Summer	122.674	122.673	0.123	0.123	2.4	2.587	0.000	0.000	1.1	4.898	67.369	OK
Porous Paving (1)	FEH: 10 years: +0 %: 120 mins: Summer	122.005	121.925	0.185	0.105	2.3	1.560	0.000	0.000	1.7	7.403	53.953	OK

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
P1.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH5	SWMH6	122.028	120.572	0.196	63.672	2.4	1.02	116.7	OK
P1.005	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH6	BH2 A1	121.683	120.242	0.154	82.181	6.8	0.28	150.8	OK
P8.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH25	SWMH26	121.500	120.750	0.042	0.000	0.0	0	0.0	OK
Pipe (3)	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving (1)	SWMH18	122.930	122.208	0.100	13.023	1.3	0.16	4.0	Flood
P8.004	FEH: 100 years: +45 %: 600 mins: Summer	Pipe	BH3 A1	BH3	123.077	120.039	0.225	19.318	1.1	0.07	5.0	Surcharged
Pipe (6)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH51	SWMH50	121.568	121.063	0.081	0.009	0.2	0.03	0.1	OK
Pipe (2)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH44	SWMH43	121.500	121.200	0.150	9.873	0.8	0.7	13.7	Surcharged
P1.006	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	BH2 A1	BH2	120.396	118.589	0.100	1.303	1.0	0.21	2.1	Surcharged
P9.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH32	BH3 A1	121.650	121.158	0.150	20.652	1.8	2.4	32.7	Surcharged
P14.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH46	SWMH40	121.500	120.829	0.119	8.473	1.3	0.54	19.2	OK
P1.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1	SWMH2	123.970	122.950	0.118	28.285	3.1	0.43	64.7	OK
P1.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2	SWMH3	122.760	121.766	0.225	34.131	1.9	0.59	77.4	OK
P1.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3	SWMH4	121.885	120.952	0.300	53.224	1.5	0.97	108.2	Surcharged
P3.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH10	EXSWMH1	121.598	121.041	0.115	4.958	0.8	0.61	11.5	OK
P3.001	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	EXSWMH3	EXSWMH4	121.623	120.878	0.150	13.990	1.0	0.89	15.7	Surcharged
P5.003	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	SWMH18	SWMH19	122.000	121.730	0.100	17.264	1.7	1.37	13.4	Flood Risk

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P7.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2 0	SWMH21	121.600	121.132	0.150	12.332	1.4	1.24	22.0	Surchar ged
P6.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2 4	BH1 A4	121.600	120.610	0.150	11.577	3.5	0.27	25.9	OK
P5.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1 9	BH1 A4	121.550	120.508	0.150	24.938	3.5	0.8	45.0	OK
P15.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4 2	SWMH43	121.379	121.152	0.100	0.000	0.8	1.08	6.5	Flood Risk
P4.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	BH1 A4	BH1	121.547	119.311	0.100	1.200	0.8	1.04	6.2	Surchar ged
P5.000	FEH: 100 years: +45 %: 60 mins: Summer	Pipe	Porous Paving	Porous Paving (1)	123.545	122.866	0.100	8.639	0.3	0.11	2.0	Surchar ged
P4.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4 9	SWMH14	121.598	121.064	0.150	8.865	1.0	1.2	18.5	Surchar ged
P4.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1 5	SWMH16	121.416	120.681	0.146	14.974	1.1	0.59	30.5	OK
P4.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1 6	SWMH17	121.415	120.403	0.163	19.588	1.3	0.75	39.0	OK
P4.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1 7	BH1 A4	121.580	120.190	0.157	23.300	1.2	0.5	45.4	OK
P8.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2 6	SWMH27	121.500	120.681	0.131	7.061	0.7	0.3	15.9	OK
P8.002	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 7	SWMH28	121.650	120.537	0.212	17.403	0.9	0.65	33.7	OK
P10.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3 0	SWMH29	121.633	121.156	0.100	8.234	2.0	2.29	15.5	Surchar ged
P9.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3 1	SWMH32	121.500	121.187	0.150	5.239	0.5	0.45	8.0	Surchar ged
P11.000	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH3 5	BH3 A1	121.630	120.933	0.100	4.297	1.8	0.55	9.2	OK
P16.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4 5	SWMH44	121.500	121.247	0.150	9.866	0.9	0.88	15.6	Flood Risk
P13.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3 6	SWMH37	121.369	120.965	0.150	12.661	1.4	1.14	25.4	Surchar ged
P10.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2 9	BH3 A1	121.599	120.869	0.150	13.058	1.4	1.39	24.7	Surchar ged
P13.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3 9	SWMH40	121.400	120.196	0.190	29.462	1.5	1.04	53.1	OK
Pipe (1) (1)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4 8	BH4 A1	121.130	120.046	0.150	26.656	3.0	0.75	32.8	Surchar ged

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P8.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2 8	BH3 A1	121.650	120.487	0.225	22.124	1.1	1.41	42.2	Surchar
P13.001	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH3 7	SWMH38	121.239	120.581	0.225	20.144	0.9	0.87	36.7	OK
P13.004	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4 0	BH4 A1	121.500	119.976	0.225	43.970	2.9	0.42	85.8	OK
P13.005	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	BH4 A1	BH4	121.129	120.007	0.100	1.962	1.9	0.34	5.9	Surchar
P15.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4 1	SWMH42	121.388	121.187	0.100	0.013	0.4	0.51	3.1	Flood Risk
P6.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2 3	SWMH24	121.600	120.773	0.113	11.580	1.8	1.46	26.0	Surchar
P13.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3 8	SWMH39	121.326	120.402	0.225	26.154	1.2	1.13	48.0	Surchar
P7.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH2 1	BH1 A4	121.600	120.727	0.150	19.346	4.3	0.42	37.9	OK
P2.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH7	SWMH8	121.450	121.064	0.100	0.000	0.4	0.52	3.1	Surchar
P2.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH8	SWMH9	121.500	121.097	0.100	5.559	1.1	1.45	8.8	Surchar
P2.002	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	SWMH9	SWMH3	121.700	120.869	0.150	15.311	1.0	0.67	17.2	Surchar
P3.002	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	EXSWM H4	SWMH4	121.879	120.856	0.150	10.489	1.0	0.68	17.7	Surchar
P1.003	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4	SWMH5	122.108	120.806	0.300	63.704	1.7	1.67	119.5	Surchar
Pipe	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	SWMH4 3	SWMH47	121.400	121.147	0.150	35.857	1.9	1.88	33.4	Flood Risk
Pipe (1)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH4 7	SWMH48	121.187	120.261	0.150	26.821	1.8	1.84	32.7	Surchar
P4.000 (1)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1 4	SWMH15	121.538	120.848	0.127	8.860	1.1	0.87	17.6	OK
Pipe (4)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3 3	SWMH34	121.805	121.037	0.100	0.000	0.4	0.51	3.1	Surchar
Pipe (5)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH3 4	SWMH32	121.816	121.053	0.100	0.000	0.8	0.44	6.4	Surchar
Pipe (7)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH5 0	SWMH20	121.650	121.105	0.100	0.000	0.1	0.05	0.4	Surchar
Pipe (8)	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	SWMH2 2	BH1 A4	121.550	120.842	0.100	5.398	3.1	0.25	11.6	OK

Avon Park:	Date: 09/04/2026			 SYMMETRYS STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P3.000 (1)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	EXSWM H2	EXSWMH 3	121.613	120.957	0.150	4.954	0.5	0.5	8.3	Surchar ged
P3.000 (2)	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	EXSWM H1	EXSWMH 2	121.692	120.904	0.147	6.610	0.8	0.3	7.4	OK
Pipe (9)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1 1	SWMH12	122.020	120.989	0.100	6.523	1.4	1.83	11.1	Surchar ged
Pipe (10)	FEH: 100 years: +45 %: 30 mins: Summer	Pipe	SWMH1 2	SWMH13	121.980	120.742	0.100	8.697	1.1	1.47	8.9	Surchar ged
Pipe (11)	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	SWMH1 3	SWMH6	121.980	120.566	0.100	6.520	1.2	1.52	9.2	Surchar ged

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
P1.004	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH5	SWMH6	122.028	120.520	0.162	48.256	2.3	0.78	89.3	OK
P1.005	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH6	BH2 A1	121.683	120.225	0.120	62.285	6.5	0.21	116.4	OK
P8.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH25	SWMH26	121.500	120.750	0.036	0.000	0.0	0	0.0	OK
Pipe (3)	FEH: 30 years: +40 %: 60 mins: Summer	Pipe	Porous Paving (1)	SWMH18	122.930	122.036	0.067	9.757	1.2	0.13	3.2	Surcharged
P8.004	FEH: 30 years: +40 %: 960 mins: Summer	Pipe	BH3 A1	BH3	123.077	119.856	0.225	29.518	0.9	0.04	2.7	Surcharged
Pipe (6)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH51	SWMH50	121.568	121.050	0.024	0.000	0.0	0	0.0	OK
Pipe (2)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH44	SWMH43	121.500	120.741	0.150	7.462	0.6	0.54	10.7	Surcharged
P1.006	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	BH2 A1	BH2	120.396	118.433	0.100	1.021	1.0	0.78	7.8	Surcharged
P9.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH32	BH3 A1	121.650	120.928	0.150	15.653	1.5	1.97	26.8	Surcharged
P14.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH46	SWMH40	121.500	120.817	0.102	6.422	1.1	0.41	14.5	OK
P1.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1	SWMH2	123.970	122.933	0.099	21.446	2.9	0.33	49.0	OK
P1.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2	SWMH3	122.760	121.746	0.207	25.888	1.5	0.45	58.7	OK
P1.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3	SWMH4	121.885	120.758	0.300	40.354	1.1	0.73	81.0	Surcharged
P3.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH10	EXSWMH1	121.598	121.026	0.068	3.762	1.1	0.45	8.4	OK
P3.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	EXSWMH3	EXSWMH4	121.623	120.792	0.150	7.952	1.0	0.74	13.2	Surcharged
P5.003	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH18	SWMH19	122.000	121.289	0.100	8.136	1.6	1.08	10.6	Surcharged

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P7.000	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	SWMH2 0	SWMH21	121.600	120.992	0.101	9.343	1.5	1.03	18.3	OK
P6.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2 4	BH1 A4	121.600	120.603	0.118	8.789	3.5	0.21	20.0	OK
P5.004	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 9	BH1 A4	121.550	120.491	0.129	18.819	3.4	0.62	35.1	OK
P15.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 2	SWMH43	121.379	120.701	0.100	0.000	0.6	0.81	4.9	Surchar ged
P4.004	FEH: 30 years: +40 %: 180 mins: Summer	Pipe	BH1 A4	BH1	121.547	119.576	0.100	6.455	0.8	0.8	4.8	Surchar ged
P5.000	FEH: 30 years: +40 %: 60 mins: Summer	Pipe	Porous Paving	Porous Paving (1)	123.545	122.779	0.100	6.493	0.2	0.09	1.7	Surchar ged
P4.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 9	SWMH14	121.598	120.974	0.114	6.721	1.0	0.96	14.8	OK
P4.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 5	SWMH16	121.416	120.662	0.122	11.352	1.1	0.46	23.8	OK
P4.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 6	SWMH17	121.415	120.374	0.137	14.842	1.2	0.58	30.0	OK
P4.003	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 7	BH1 A4	121.580	120.165	0.134	17.653	1.1	0.38	34.5	OK
P8.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2 6	SWMH27	121.500	120.670	0.098	5.351	0.7	0.23	11.9	OK
P8.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2 7	SWMH28	121.650	120.507	0.167	13.185	0.9	0.55	28.8	OK
P10.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 0	SWMH29	121.633	120.932	0.100	6.241	1.6	1.81	12.2	Surchar ged
P9.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 1	SWMH32	121.500	120.950	0.150	3.971	0.4	0.37	6.6	Surchar ged
P11.000	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	SWMH3 5	BH3 A1	121.630	120.925	0.100	3.261	1.8	0.42	6.9	OK
P16.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 5	SWMH44	121.500	120.834	0.150	7.456	0.8	0.71	12.5	Surchar ged
P13.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 6	SWMH37	121.369	120.771	0.145	9.604	1.2	0.95	21.1	OK
P10.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2 9	BH3 A1	121.599	120.745	0.150	9.895	1.1	1.05	18.6	Surchar ged
P13.003	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 9	SWMH40	121.400	120.150	0.156	22.307	1.5	0.85	43.3	OK
Pipe (1) (1)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 8	BH4 A1	121.130	119.877	0.150	20.396	2.9	0.6	26.4	OK

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P8.003	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2 8	BH3 A1	121.650	120.411	0.182	16.758	1.0	1.13	33.8	OK
P13.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 7	SWMH38	121.239	120.555	0.173	15.279	1.0	0.78	32.8	OK
P13.004	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 0	BH4 A1	121.500	119.954	0.158	33.528	2.7	0.33	67.6	OK
P13.005	FEH: 30 years: +40 %: 30 mins: Winter	Pipe	BH4 A1	BH4	121.129	119.881	0.100	1.933	1.7	0.2	3.4	Surchar ged
P15.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 1	SWMH42	121.388	120.732	0.100	0.010	0.3	0.38	2.3	Surchar ged
P6.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2 3	SWMH24	121.600	120.732	0.089	8.788	1.8	1.11	19.6	OK
P13.002	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 8	SWMH39	121.326	120.304	0.184	19.816	1.1	0.93	39.4	OK
P7.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH2 1	BH1 A4	121.600	120.719	0.119	14.674	4.2	0.33	30.4	OK
P2.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH7	SWMH8	121.450	120.865	0.100	0.000	0.1	0.05	0.3	Surchar ged
P2.001	FEH: 30 years: +40 %: 30 mins: Summer	Pipe	SWMH8	SWMH9	121.500	120.787	0.100	5.542	0.9	1.04	6.3	Surchar ged
P2.002	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	SWMH9	SWMH3	121.700	120.783	0.150	8.705	0.8	0.54	13.9	Surchar ged
P3.002	FEH: 30 years: +40 %: 30 mins: Summer	Pipe	EXSWM H4	SWMH4	121.879	120.638	0.150	10.456	0.7	0.46	12.1	OK
P1.003	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4	SWMH5	122.108	120.671	0.263	48.289	1.4	1.27	90.9	Surchar ged
Pipe	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 3	SWMH47	121.400	120.702	0.150	20.431	1.5	1.5	26.7	Surchar ged
Pipe (1)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH4 7	SWMH48	121.187	120.093	0.150	20.422	1.5	1.48	26.2	Surchar ged
P4.000 (1)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 4	SWMH15	121.538	120.827	0.107	6.714	1.1	0.7	14.2	OK
Pipe (4)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 3	SWMH34	121.805	120.827	0.067	0.000	0.3	0.02	0.1	OK
Pipe (5)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH3 4	SWMH32	121.816	120.885	0.100	0.000	0.0	0.02	0.3	Surchar ged
Pipe (7)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH5 0	SWMH20	121.650	120.999	0.100	0.000	0.0	0	0.0	OK
Pipe (8)	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	SWMH2 2	BH1 A4	121.550	120.838	0.100	4.094	3.1	0.19	8.8	OK

Avon Park:	Date: 09/04/2026			 SYMMETRYS STRUCTURAL / CIVIL ENGINEERS
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P3.000 (1)	FEH: 30 years: +40 %: 30 mins: Summer	Pipe	EXSWM H2	EXSWMH 3	121.613	120.736	0.087	4.940	0.5	0.34	5.7	OK
P3.000 (2)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	EXSWM H1	EXSWMH 2	121.692	120.898	0.098	3.758	0.7	0.34	8.4	OK
Pipe (9)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 1	SWMH12	122.020	120.760	0.100	4.942	1.1	1.46	8.9	Surchar ged
Pipe (10)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 2	SWMH13	121.980	120.557	0.100	4.940	0.9	1.2	7.3	Surchar ged
Pipe (11)	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	SWMH1 3	SWMH6	121.980	120.420	0.100	4.938	0.9	1.21	7.3	Surchar ged

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			



FEH: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
P1.004	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH5	SWMH6	122.028	120.461	0.120	25.807	2.0	0.46	52.6	OK
P1.005	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH6	BH2 A1	121.683	120.200	0.069	33.328	6.4	0.13	68.6	OK
P8.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH25	SWMH26	121.500	120.750	0.026	0.000	0.0	0	0.0	OK
Pipe (3)	FEH: 10 years: +0 %: 180 mins: Summer	Pipe	Porous Paving (1)	SWMH18	122.930	121.960	0.031	8.786	1.0	0.07	1.7	Surcharged
P8.004	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	BH3 A1	BH3	123.077	119.133	0.000	0.000	0.0	0	0.0	OK
Pipe (6)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH51	SWMH50	121.568	121.050	0.000	0.000	0.0	0	0.0	OK
Pipe (2)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH44	SWMH43	121.500	120.356	0.134	3.992	0.5	0.43	8.5	OK
P1.006	FEH: 10 years: +0 %: 15 mins: Winter	Pipe	BH2 A1	BH2	120.396	118.337	0.100	1.002	1.1	0.32	3.2	Surcharged
P9.001	FEH: 10 years: +0 %: 15 mins: Winter	Pipe	SWMH32	BH3 A1	121.650	120.545	0.143	8.381	0.9	1.15	15.6	Surcharged
P14.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH46	SWMH40	121.500	120.798	0.072	3.437	0.9	0.22	7.7	OK
P1.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1	SWMH2	123.970	122.905	0.070	11.480	2.5	0.18	26.2	OK
P1.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2	SWMH3	122.760	121.715	0.123	13.861	1.4	0.24	31.2	OK
P1.002	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3	SWMH4	121.885	120.620	0.184	21.604	1.0	0.42	47.0	OK
P3.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH10	EXSWMH1	121.598	121.003	0.048	2.013	0.9	0.24	4.5	OK
P3.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	EXSWMH3	EXSWMH4	121.623	120.703	0.069	4.250	1.1	0.5	8.9	OK
P5.003	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH18	SWMH19	122.000	121.115	0.066	4.161	1.3	0.72	7.1	OK

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P7.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 0	SWMH21	121.600	120.944	0.070	4.998	1.4	0.62	11.1	OK
P6.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 4	BH1 A4	121.600	120.590	0.065	4.701	3.3	0.11	10.6	OK
P5.004	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 9	BH1 A4	121.550	120.467	0.072	9.888	3.1	0.36	20.1	OK
P15.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 2	SWMH43	121.379	120.275	0.100	0.000	0.2	0.14	0.9	Surchar ged
P4.004	FEH: 10 years: +0 %: 240 mins: Summer	Pipe	BH1 A4	BH1	121.547	119.346	0.100	7.964	0.6	0.49	2.9	Surchar ged
P5.000	FEH: 10 years: +0 %: 120 mins: Summer	Pipe	Porous Paving	Porous Paving (1)	123.545	122.673	0.100	4.894	0.1	0.06	1.1	Surchar ged
P4.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 9	SWMH14	121.598	120.929	0.074	3.598	0.9	0.52	8.0	OK
P4.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 5	SWMH16	121.416	120.627	0.083	6.069	0.9	0.24	12.6	OK
P4.002	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 6	SWMH17	121.415	120.331	0.093	7.934	1.0	0.31	15.9	OK
P4.003	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 7	BH1 A4	121.580	120.121	0.094	9.433	1.0	0.2	18.0	OK
P8.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 6	SWMH27	121.500	120.650	0.069	2.867	0.6	0.12	6.3	OK
P8.002	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 7	SWMH28	121.650	120.468	0.108	7.064	0.8	0.29	15.3	OK
P10.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3 0	SWMH29	121.633	120.726	0.100	3.338	0.9	1.07	7.2	Surchar ged
P9.000	FEH: 10 years: +0 %: 15 mins: Winter	Pipe	SWMH3 1	SWMH32	121.500	120.553	0.112	2.126	0.3	0.21	3.7	OK
P11.000	FEH: 10 years: +0 %: 15 mins: Winter	Pipe	SWMH3 5	BH3 A1	121.630	120.912	0.069	1.757	1.7	0.22	3.7	OK
P16.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 5	SWMH44	121.500	120.530	0.074	4.003	1.0	0.5	8.9	OK
P13.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3 6	SWMH37	121.369	120.714	0.092	5.137	1.0	0.52	11.5	OK
P10.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 9	BH3 A1	121.599	120.660	0.089	5.285	1.0	0.62	11.1	OK
P13.003	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3 9	SWMH40	121.400	120.089	0.105	11.923	1.3	0.45	22.9	OK
Pipe (1) (1)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 8	BH4 A1	121.130	119.863	0.093	10.930	2.6	0.43	18.6	OK

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

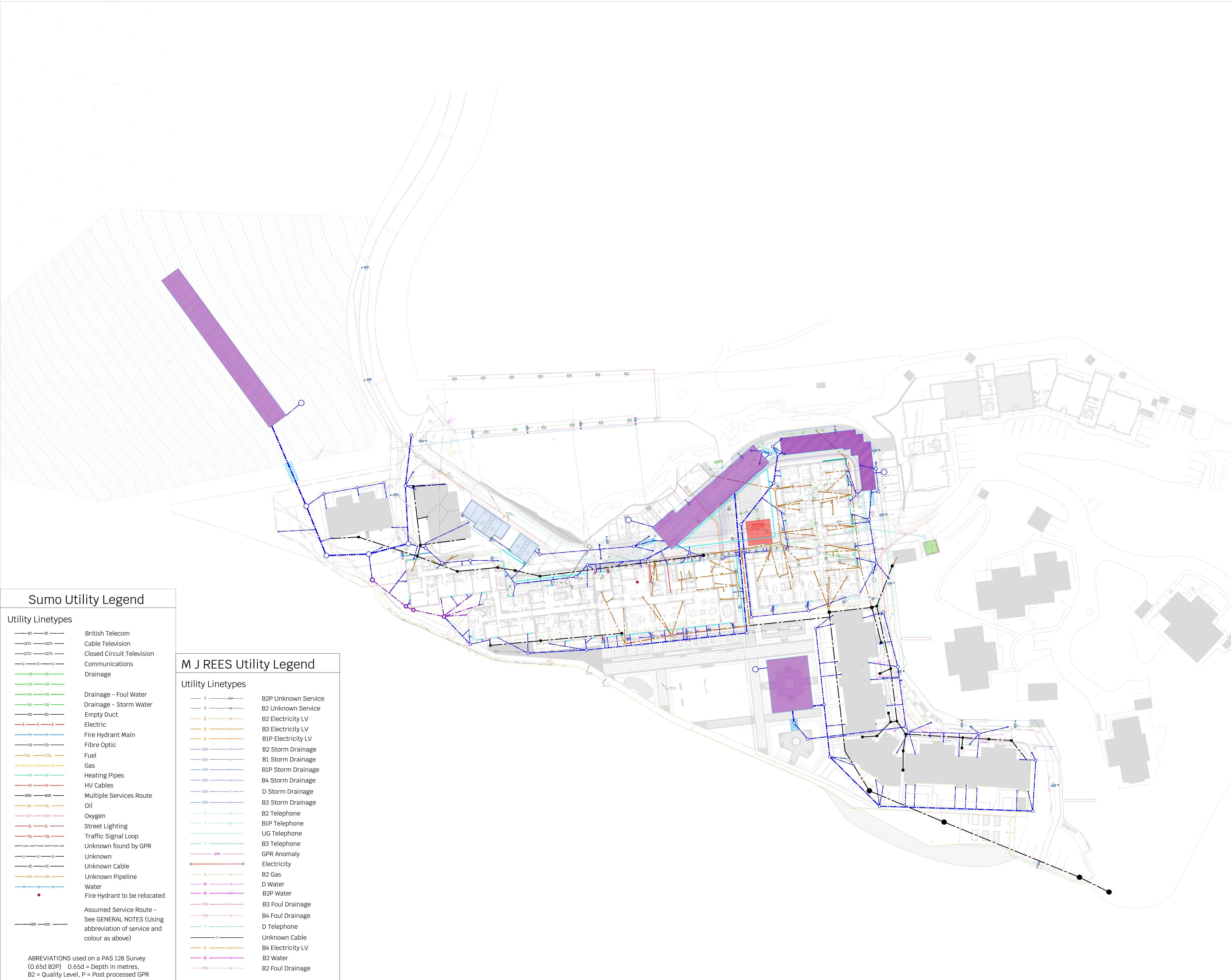
P8.003	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 8	BH3 A1	121.650	120.333	0.121	8.969	0.8	0.6	17.9	OK
P13.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3 7	SWMH38	121.239	120.506	0.112	8.179	0.9	0.41	17.3	OK
P13.004	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 0	BH4 A1	121.500	119.914	0.093	17.932	2.6	0.17	35.7	OK
P13.005	FEH: 10 years: +0 %: 15 mins: Winter	Pipe	BH4 A1	BH4	121.129	119.653	0.100	1.322	2.1	0.49	8.4	Surchar ged
P15.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 1	SWMH42	121.388	120.341	0.065	0.000	0.0	0	0.0	OK
P6.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 3	SWMH24	121.600	120.685	0.059	4.700	1.7	0.6	10.6	OK
P13.002	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3 8	SWMH39	121.326	120.231	0.117	10.598	1.0	0.5	21.0	OK
P7.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH2 1	BH1 A4	121.600	120.705	0.067	7.854	3.9	0.19	17.5	OK
P2.000	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH7	SWMH8	121.450	120.750	0.037	0.000	0.0	0	0.0	OK
P2.001	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH8	SWMH9	121.500	120.742	0.070	2.257	0.8	0.82	4.9	OK
P2.002	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH9	SWMH3	121.700	120.670	0.118	4.661	0.7	0.4	10.3	OK
P3.002	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	EXSWM H4	SWMH4	121.879	120.566	0.128	4.244	0.5	0.33	8.5	OK
P1.003	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4	SWMH5	122.108	120.555	0.176	25.837	1.3	0.76	54.1	OK
Pipe	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 3	SWMH47	121.400	120.290	0.150	10.944	1.1	1.07	18.9	Surchar ged
Pipe (1)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH4 7	SWMH48	121.187	119.951	0.103	10.932	1.4	1.05	18.6	OK
P4.000 (1)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 4	SWMH15	121.538	120.793	0.072	3.591	0.9	0.38	7.6	OK
Pipe (4)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3 3	SWMH34	121.805	120.805	0.000	0.000	0.0	0	0.0	OK
Pipe (5)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH3 4	SWMH32	121.816	120.773	0.093	0.000	0.0	0	0.0	OK
Pipe (7)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH5 0	SWMH20	121.650	120.950	0.047	0.000	0.0	0	0.0	OK
Pipe (8)	FEH: 10 years: +0 %: 15 mins: Winter	Pipe	SWMH2 2	BH1 A4	121.550	120.830	0.064	2.193	3.2	0.1	4.7	OK

Avon Park:	Date: 09/04/2026			
	Designed CE	Checked by:	Approved	
Report Details: Type: Connections Summary Storm Phase: BH Catchments	Symmetrys:			

P3.000 (1)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	EXSWM H2	EXSWMH 3	121.613	120.719	0.069	2.005	0.5	0.24	4.1	OK
P3.000 (2)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	EXSWM H1	EXSWMH 2	121.692	120.882	0.051	2.010	0.8	0.17	4.3	OK
Pipe (9)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 1	SWMH12	122.020	120.521	0.086	2.647	0.8	0.95	5.8	OK
Pipe (10)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 2	SWMH13	121.980	120.433	0.080	2.645	0.8	0.92	5.5	OK
Pipe (11)	FEH: 10 years: +0 %: 15 mins: Summer	Pipe	SWMH1 3	SWMH6	121.980	120.333	0.081	2.642	0.8	0.88	5.3	OK

APPENDIX E

PROPOSED BELOW GROUND DRAINAGE PLANS



Sumo Utility Legend

Utility Linetypes

BT

BT

British Telecom

CATV

CATV

Cable Television

CCTV

CCTV

Closed Circuit Television

C

C

Communications

DR

DR

Drainage

DW

DW

Drainage - Foul Water

FW

FW

Drainage - Storm Water

ED

ED

Empty Duct

E

E

Electric

FH

FH

Fire Hydrant Main

FO

FO

Fibre Optic

FUEL

FUEL

Fuel

G

G

Gas

HP

HP

Heating Pipes

HV

HV

HV Cables

MSR

MSR

Multiple Services Route

OL

OL

Oil

OXY

OXY

Oxygen

SL

SL

Street Lighting

TSL

TSL

Traffic Signal Loop

U

U

Unknown found by GPR

U

U

Unknown

UC

UC

Unknown Cable

UPL

UPL

Unknown Pipeline

W

W

Water

W

W

Fire Hydrant to be relocated

ASR

ASR

Assumed Service Route - See GENERAL NOTES (Using abbreviation of service and colour as above)

ABREVIATIONS used on a PAS 128 Survey (0.65d B2P) 0.65d = Depth in metres, B2 = Quality Level, P = Post processed GPR

M J REES Utility Legend

Utility Linetypes

?

?

B2P Unknown Service

?

?

B2 Unknown Service

E

E

B2 Electricity LV

E

E

B3 Electricity LV

E

E

B1P Electricity LV

SW

SW

B2 Storm Drainage

SW

SW

B1 Storm Drainage

SW

SW

B1P Storm Drainage

SW

SW

B4 Storm Drainage

SW

SW

D Storm Drainage

SW

SW

B3 Storm Drainage

T

T

B2 Telephone

T

T

B1P Telephone

T

T

UG Telephone

T

T

B3 Telephone

GPR

GPR

GPR Anomaly

?

?

Electricity

G

G

B2 Gas

W

W

D Water

W

W

B2P Water

FW

FW

B3 Foul Drainage

FW

FW

B4 Foul Drainage

T

T

D Telephone

?

?

Unknown Cable

E

E

B4 Electricity LV

W

W

B2 Water

FW

FW

B2 Foul Drainage

Key Plan

Notes

1.

This drawing is to be read in conjunction with all relevant Architects & Engineers drawings and specifications

2.

Do not scale from this drawing

3.

All cover and invert levels are in mAOD

4.

See drawing 24082-SYM-XX-XX-DR-C-0010 for general notes

LEGEND

Proposed surface water drainage

Proposed foul water drainage

Existing surface water drainage

Existing combined water drainage

Proposed surface water manhole/inspection chamber

Proposed foul water manhole

Existing combined water manhole

Proposed cellular storage

Proposed permeable paving

Proposed road gully

Proposed Floor Gully

Proposed Filter Drain

Proposed aco channel

Existing channel drain to be Retained

Proposed SS/SVP

Proposed rainwater pipe

Existing rainwater pipe

C2	09.04.26	CN	CE	FOR CONSTRUCTION
C1	05.03.26	JW	CE	FOR CONSTRUCTION
Rev	Date	Drwn	Chkd	Amendments

Drawing Status

FOR CONSTRUCTION

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STRUCTURAL / CIVIL ENGINEERS

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Job Title

Avonpark Retirement Village

Winsley, Bath, BA2 7FF

Drawing Title

Below Ground Drainage

Deep Borehole Soakaway

Site Plan

Project	Company	Zones	Level	Type	Role	Number
24082 - SYM - XX - XX - DR - C						0100

Scale: 1:500 AT A1

Date: APR 26

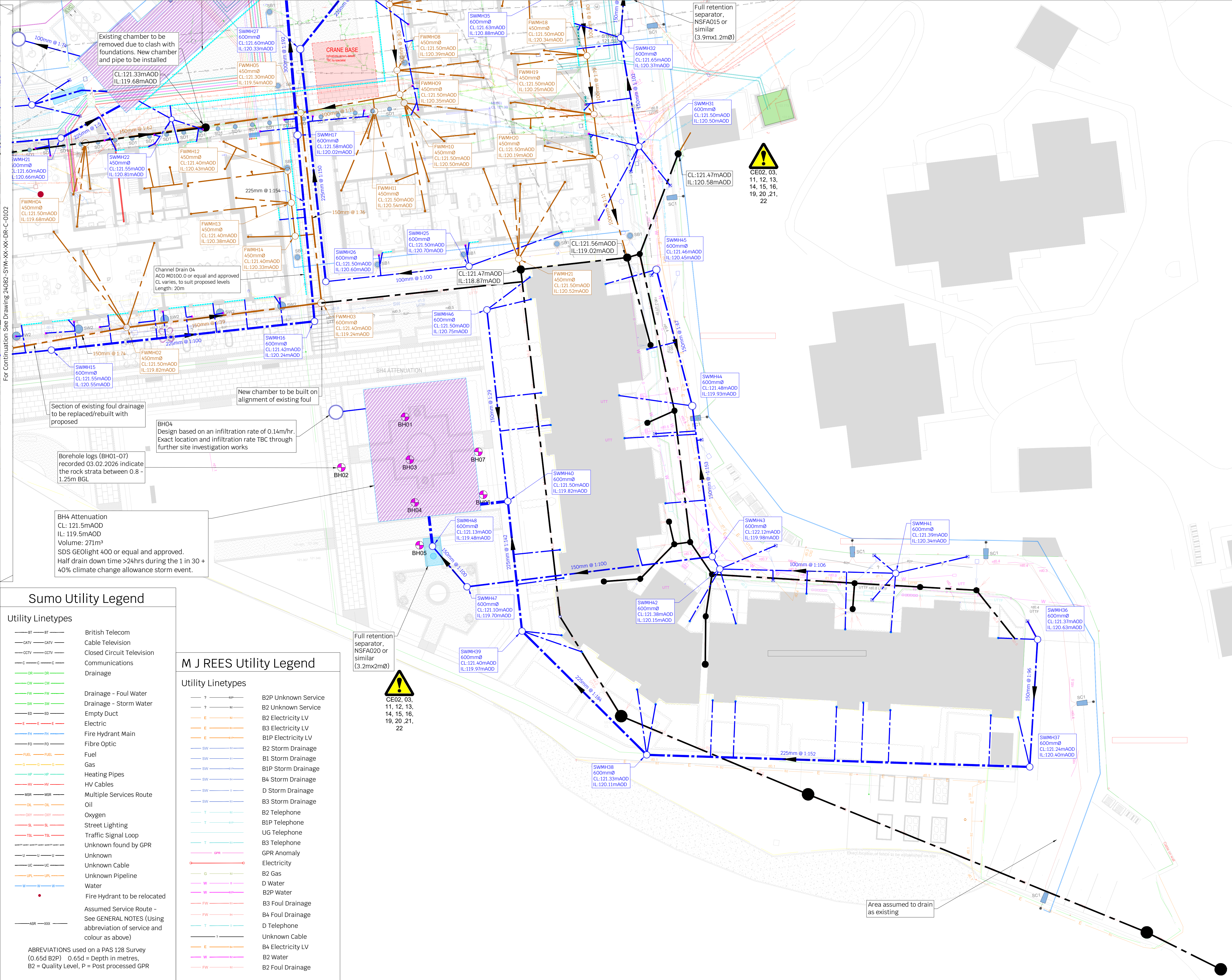
Drawn By: CN

Checked By: CE

Revision :

C2

Company No. 5873122 VAT Registration No. 894 2993 61 Registered in England And Wales



Sumo Utility Legend

Utility Linetypes

BT	British Telecom
CATV	Cable Television
CCTV	Closed Circuit Television
C	Communications
DR	Drainage
FW	Drainage - Foul Water
SW	Drainage - Storm Water
ED	Empty Duct
E	Electric
FH	Fire Hydrant Main
FO	Fibre Optic
FUEL	Fuel
G	Gas
HP	Heating Pipes
HV	HV Cables
MSR	Multiple Services Route
OK	Oil
OX	Oxygen
SL	Street Lighting
TSL	Traffic Signal Loop
U	Unknown found by GPR
UC	Unknown Cable
UPL	Unknown Pipeline
W	Water
ASR	Assumed Service Route - See GENERAL NOTES (Using abbreviation of service and colour as above)

ABBREVIATIONS used on a PAS 128 Survey
(0.65d B2P) 0.65d = Depth in metres,
B2 = Quality Level, P = Post processed GPR

M J REES Utility Legend

Utility Linetypes

?	B2P Unknown Service
?	B2 Unknown Service
E	B2 Electricity LV
E	B3 Electricity LV
E	B1P Electricity LV
SW	B2 Storm Drainage
SW	B1 Storm Drainage
SW	B1P Storm Drainage
SW	B4 Storm Drainage
SW	D Storm Drainage
SW	B3 Storm Drainage
T	B2 Telephone
T	B1P Telephone
T	UG Telephone
T	B3 Telephone
GPR	GPR Anomaly
G	Electricity
G	B2 Gas
W	D Water
W	B2P Water
FW	B3 Foul Drainage
FW	B4 Foul Drainage
T	D Telephone
?	Unknown Cable
E	B4 Electricity LV
W	B2 Water
FW	B2 Foul Drainage

Key Plan

Notes

- This drawing is to be read in conjunction with all relevant Architects & Engineers drawings and specifications
- Do not scale from this drawing
- All cover and invert levels are in mAOD
- See drawing 24082-SYM-XX-XX-DR-C-0010 for general notes

LEGEND

Proposed surface water drainage	Proposed foul water drainage	Existing surface water drainage	Existing combined water drainage
Proposed surface water manhole/inspection chamber	Proposed foul water manhole	Existing combined water manhole	Proposed cellular storage
Proposed permeable paving	Proposed road gully	Proposed Floor Gully	Proposed Filter Drain
Proposed aco channel	Existing channel drain to be Retained	Proposed SS/SVP	Proposed rainwater pipe
Existing rainwater pipe			

Construction Hazard. Refer to DHEMR ref 24082-SYM-XX-XX-HS-Z-0001 - DHEMR.

CEXX

C2	09.04.26	CN	CE	FOR CONSTRUCTION
C1	05.03.26	JW	CE	FOR CONSTRUCTION
Rev	Date	Drwn	Chkd	Amendments

Drawing Status **FOR CONSTRUCTION**

SYMMETRY
STRUCTURAL / CIVIL ENGINEERS

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Job Title

Avonpark Retirement Village

Winsley, Bath, BA2 7FF

Drawing Title

Below Ground Drainage
Deep Borehole Soakaway
Sheet 1

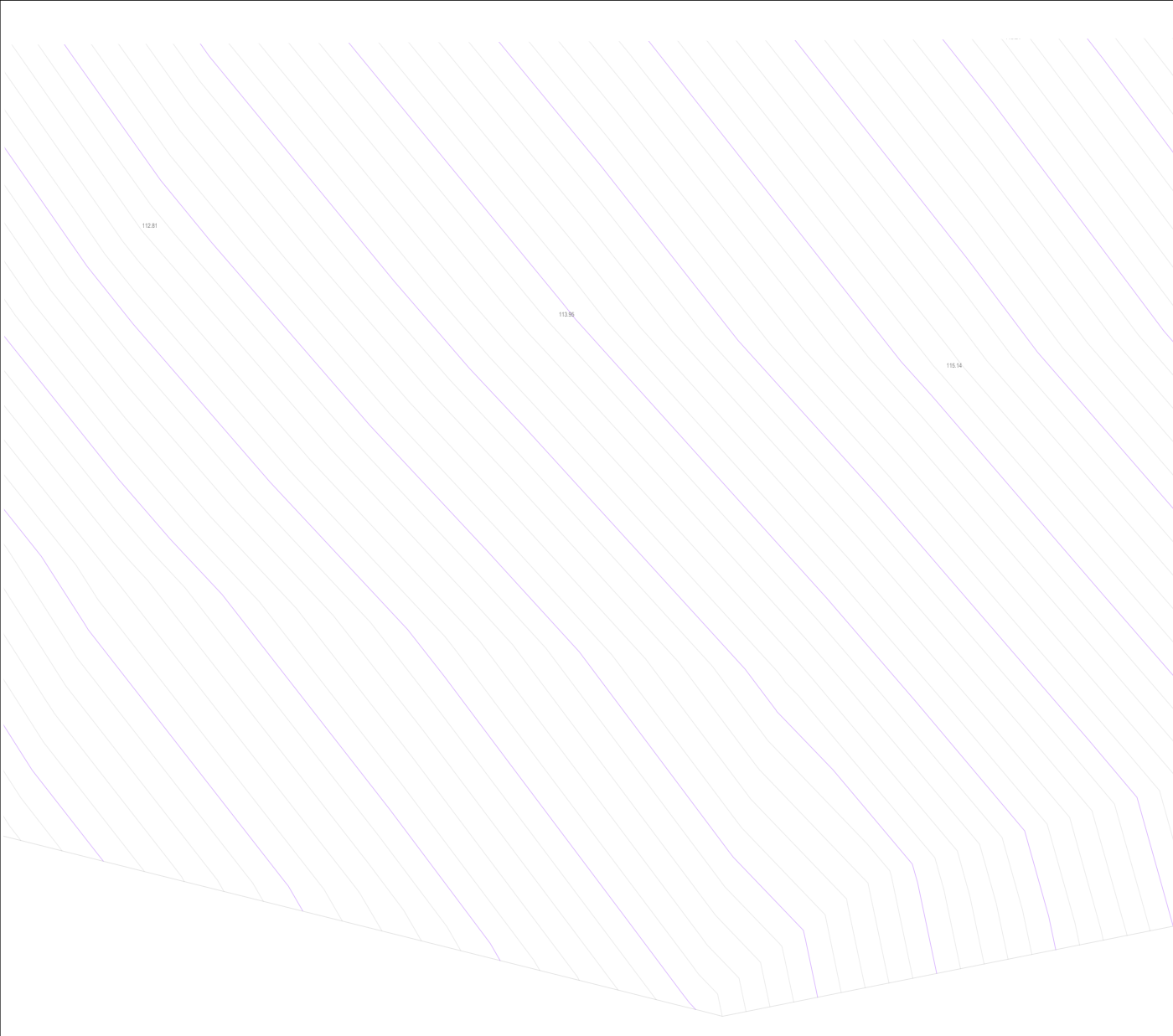
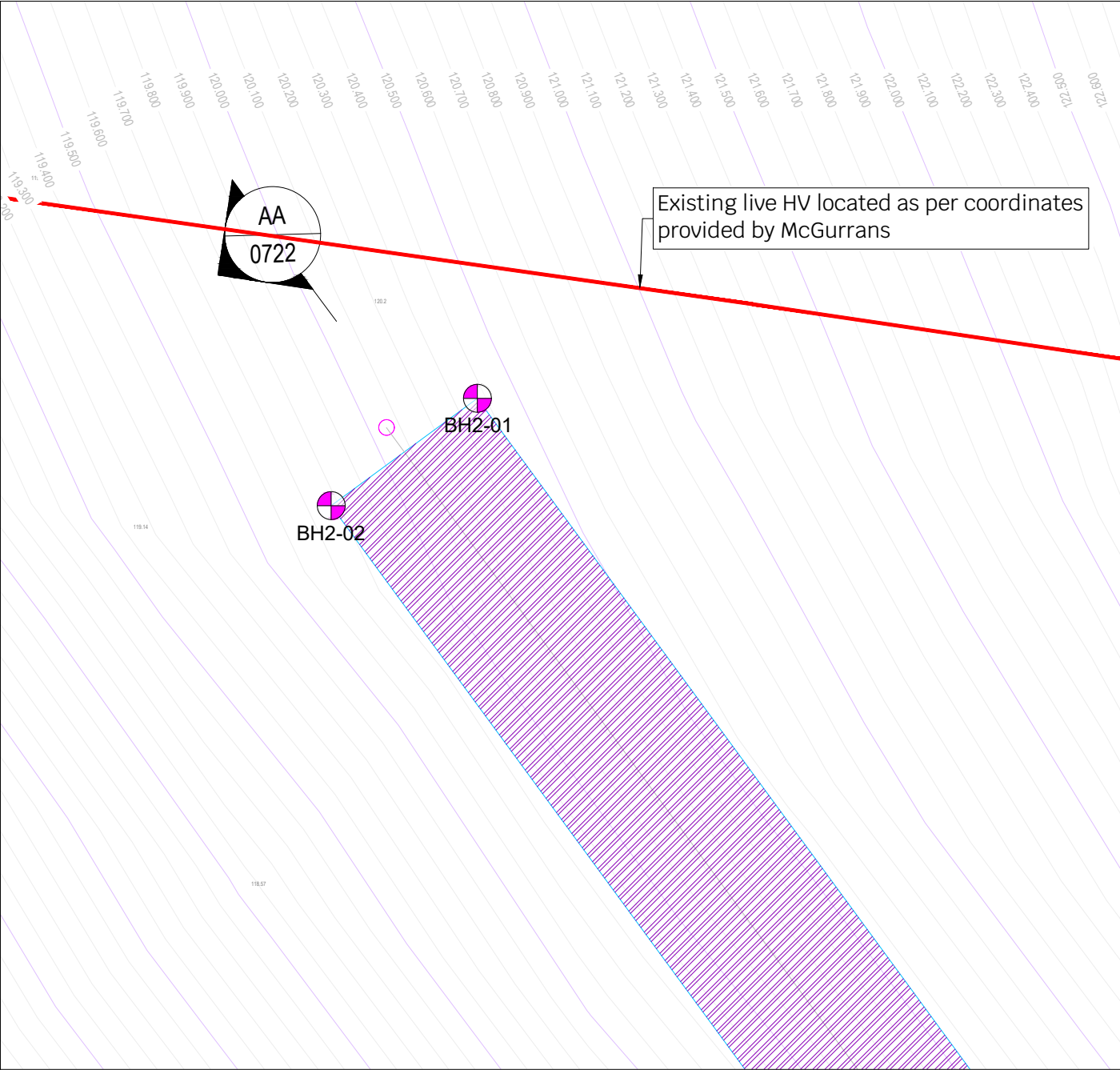
Project	Company	Zones	Level	Type	Role	Number
24082 - SYM - XX - XX - DR - C						0101

Scale: 1:200 AT A1
Date: APR 26

Drawn By: CN
Checked By: CE

Revision: **C2**

Company No. 5873122 VAT Registration No. 894 2993 61 Registered in England And Wales



Sumo Utility Legend

Utility Linetypes

BT

BT

British Telecom

CATV

CATV

Cable Television

CCTV

CCTV

Closed Circuit Television

C

C

Communications

DR

DR

Drainage

FW

FW

Drainage - Foul Water

SW

SW

Drainage - Storm Water

ED

ED

Empty Duct

E

E

Electric

FH

FH

Fire Hydrant Main

FO

FO

Fibre Optic

FUEL

FUEL

Fuel

G

G

Gas

HP

HP

Heating Pipes

HV

HV

HV Cables

MSR

MSR

Multiple Services Route

OL

OL

Oil

OXY

OXY

Oxygen

SL

SL

Street Lighting

TSL

TSL

Traffic Signal Loop

U

U

Unknown found by GPR

UC

UC

Unknown

UPL

UPL

Unknown Cable

W

W

Unknown Pipeline

W

W

Water

W

W

Fire Hydrant to be relocated

ASR

ASR

Assumed Service Route - See GENERAL NOTES (Using abbreviation of service and colour as above)

ABREVIATIONS used on a PAS 128 Survey (0.65d B2P) 0.65d = Depth in metres, B2 = Quality Level, P = Post processed GPR

M J REES Utility Legend

Utility Linetypes

?

?

B2P Unknown Service

?

?

B2 Unknown Service

E

E

B2 Electricity LV

E

E

B3 Electricity LV

E

E

B1P Electricity LV

SW

SW

B2 Storm Drainage

SW

SW

B1 Storm Drainage

SW

SW

B1P Storm Drainage

SW

SW

B4 Storm Drainage

SW

SW

D Storm Drainage

SW

SW

B3 Storm Drainage

T

T

B2 Telephone

T

T

B1P Telephone

T

T

UG Telephone

T

T

B3 Telephone

GPR

GPR

GPR Anomaly

G

G

Electricity

W

W

B2 Gas

W

W

D Water

W

W

B2P Water

FW

FW

B3 Foul Drainage

FW

FW

B4 Foul Drainage

T

T

D Telephone

?

?

Unknown Cable

E

E

B4 Electricity LV

W

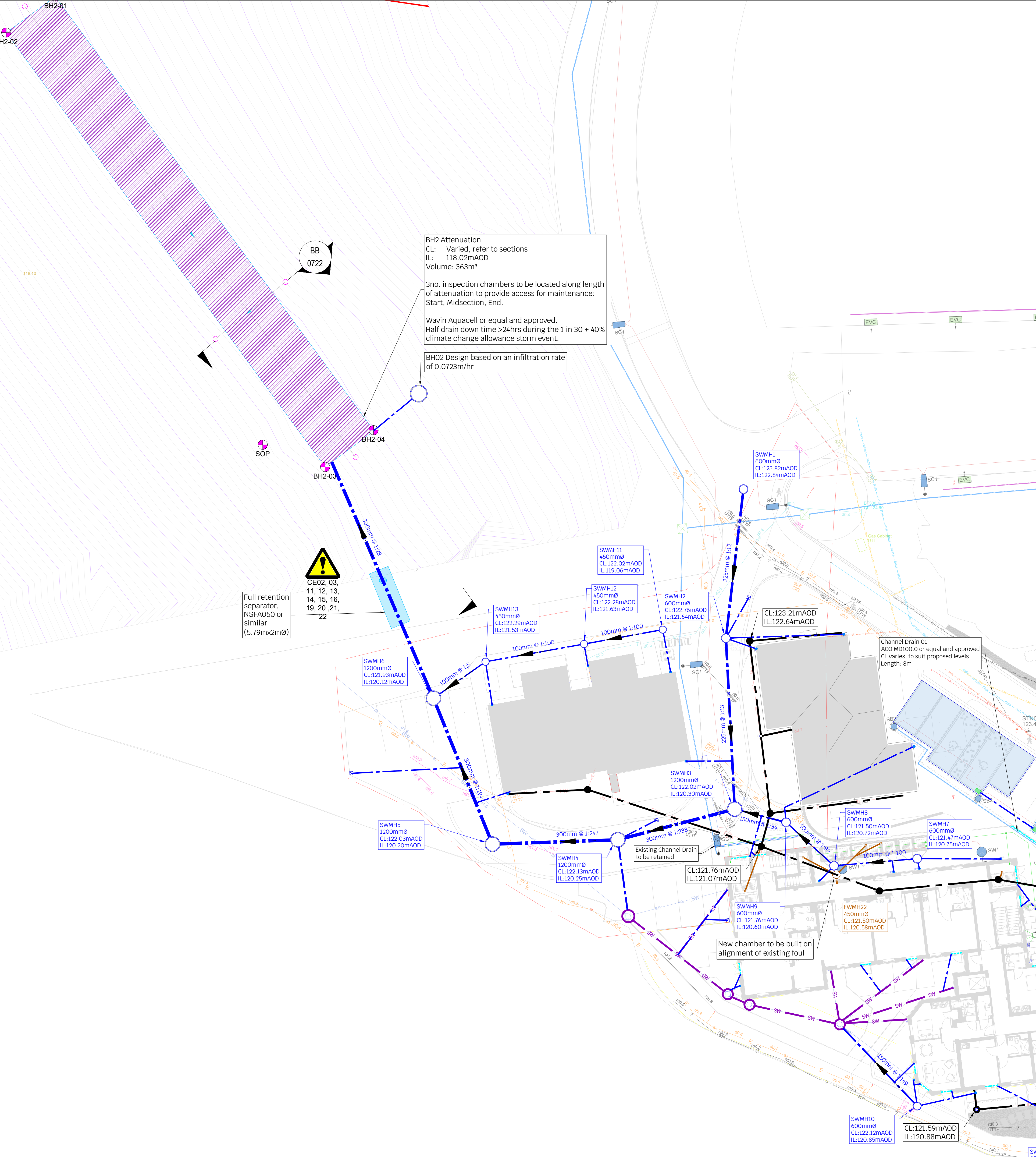
W

B2 Water

FW

FW

B2 Foul Drainage



Key Plan

Notes

1. This drawing is to be read in conjunction with all relevant Architects & Engineers drawings and specifications

2. Do not scale from this drawing

3. All cover and invert levels are in mAOD

4. See drawing 24082-SYM-XX-XX-DR-C-0010 for general notes

LEGEND

Proposed surface water drainage

Proposed foul water drainage

Existing surface water drainage

Existing combined water drainage

Proposed surface water manhole/inspection chamber

Proposed foul water manhole

Existing combined water manhole

Proposed cellular storage

Proposed permeable paving

Proposed road gully

Proposed Floor Gully

Proposed Filter Drain

Proposed aco channel

Existing channel drain to be Retained

Proposed SS/SVP

Proposed rainwater pipe

Existing rainwater pipe

For Continuation See Drawing 24082-SYM-XX-XX-DR-C-0102

Construction Hazard. Refer to DHEMR ref 24082-SYM-XX-XX-HS-Z-0001 - DHEMR. CEXX

C2

09.04.26

CN

CE

FOR CONSTRUCTION

C1

05.03.26

JW

CE

FOR CONSTRUCTION

Rev

Date

Drwn

Chkd

Amendments

Drawing Status

FOR CONSTRUCTION

S

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STRUCTURAL / CIVIL ENGINEERS

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Job Title

Avonpark Retirement Village

Winsley, Bath BA2 7FF

Drawing Title

Below Ground Drainage

Deep Borehole Soakaway

Sheet 4

Project

Company

Zones

Level

Type

Role

Number

24082 - SYM - XX - XX - DR - C - 0103

Scale: 1:200 AT A1

Date: APR 26

Drawn By: CN

Checked By: CE

Revision : C2

Company No. 5873122 VAT Registration No. 894 2993 61 Registered in England And Wales

Surface Water Manhole Schedule									
Manhole Ref	Cover Level (mAOD)	Invert Level (mAOD)	Incoming Pipe Invert Level (mAOD)	Incoming Pipe Diameter (mm)	Outgoing Pipe Invert Level (mAOD)	Outgoing Pipe Diameter (mm)	Manhole Diameter & Type (mm)	Cover Class	Easting & Northing
BH1 MH	121.50	118.40	118.90	100			1400	D400	E: 379259 N: 160903
BH2 MH	121.40	117.86	117.86	100			1400	B125	E: 379164 N: 160937
BH3 MH	121.50	118.48	118.98	100			1400	D400	E: 379333 N: 160917
BH4 MH	121.50	118.90	119.40	100			1400	B125	E: 379296 N: 160860
SWMH1	123.82	122.84			122.84	225	600	D400	E: 379196 N: 160928
SWMH2	122.76	121.64	121.64 121.80 121.80 121.80	225 100 100 100	121.64	225	600	D400	E: 379194 N: 160913
SWMH3	122.02	120.30	120.38 120.45	225 150	120.30	300	1200	D400	E: 379195 N: 160896
SWMH4	122.13	120.25	120.25 120.40 120.45	300 150 100	120.25	300	1200	D400	E: 379184 N: 160893
SWMH5	122.03	120.20	120.20	300	120.20	300	1200	B125	E: 379171 N: 160893
SWMH6	121.93	120.12*	120.12 120.32	300 100	120.12	300	1200	D400	E: 379165 N: 160907
SWMH7	121.47	120.75	120.80 120.80	100 100	120.80	100	600	B125	E: 379213 N: 160891
SWMH8	121.50	120.72	120.72 120.72	100 100	120.72	100	600	B125	E: 379205 N: 160891
SWMH9	121.76	120.60	120.65 120.62	100 100	120.60	150	600	B125	E: 379200 N: 160895
SWMH10	122.12	120.85	121.01 121.01	100 100	120.96	150	600	B125	E: 379213 N: 160867
SWMH11	122.02	119.06	121.75	100	121.75	100	450	B125	E: 379188 N: 160914
SWMH12	122.28	121.63	121.67 121.67	100 100	121.63	100	450	B125	E: 379180 N: 160912
SWMH13	122.29	121.53	121.53 121.53	100 100	121.53	100	450	B125	E: 379171 N: 160911
SWMH14	121.55	120.62	120.90 120.90 120.62	100 100 150	120.85	150	600	B125	E: 379247 N: 160865
SWMH15	121.55	120.55	120.62	150	120.55	225	600	B125	E: 379263 N: 160867
SWMH16	121.42	120.24	120.24	225	120.24	225	600	B125	E: 379293 N: 160870
SWMH17	121.58	120.02*	120.10	225	120.02	300	600	B125	E: 379291 N: 160892
SWMH18	121.38	120.80	120.80 120.80	100 100	120.80	100	600	B125	E: 379233 N: 160893
SWMH19	121.50	120.40*	120.45 120.45 120.45	100 100 100	120.40	150	600	D400	E: 379261 N: 160895
SWMH20	121.60	120.85	120.90 120.90 120.85	100 100 150	120.85	150	600	B125	E: 379247 N: 160890
SWMH21	121.60	120.66*	120.66	150	120.66	225	600	B125	E: 379264 N: 160892
SWMH22	121.55	120.81*	120.81 120.81 120.81	100 100 100	120.81	100 100	450	B125	E: 379277 N: 160894
SWMH23	121.60	120.60	120.60 120.60	100 100	120.60	100	600	D400	E: 379298 N: 160923
SWMH24	121.60	120.56*	120.56	100	120.56	100	600	D400	E: 379300 N: 160922

Note:
* Chamber to be built with Catchpit

Surface Water Manhole Schedule									
Manhole Ref	Cover Level (mAOD)	Invert Level (mAOD)	Incoming Pipe Invert Level (mAOD)	Incoming Pipe Diameter (mm)	Outgoing Pipe Invert Level (mAOD)	Outgoing Pipe Diameter (mm)	Manhole Diameter & Type (mm)	Cover Class	Easting & Northing
SWMH25	121.50	120.70	120.75 120.70	100 100	120.75	100	600	B125	E: 379311 N: 160877
SWMH26	121.50	120.60	120.58	100	120.51	225	600	B125	E: 379295 N: 160875
SWMH27	121.60	120.33	120.33	225	120.33	225	600	B125	E: 379292 N: 160902
SWMH28	121.65	120.20	120.20 120.20	225 100	120.20	225	600	B125	E: 379301 N: 160914
SWMH29	120.79	120.06*	120.26 120.13	100 225	120.13	225	600	D400	E: 379302 N: 160922
SWMH30	121.63	120.60	120.60 120.60	100 100	120.60	100	600	D400	E: 379301 N: 160924
SWMH31	121.50	120.50	120.55 120.55 120.55 120.55	100 100 100 100	120.50	150	600	D400	E: 379331 N: 160891
SWMH32	121.65	120.37*	120.37 120.42	150 100	120.37	150	600	D400	E: 379329 N: 160903
SWMH33	121.65	120.70	120.70 120.70	100 100	120.70	100	600	D400	E: 379331 N: 160918
SWMH34	121.65	120.63*	120.63	100	120.63	100	600	D400	E: 379332 N: 160911
SWMH35	121.63	120.88	120.88 120.88 120.88	100 100 100	120.88	100	600	B125	E: 379325 N: 160910
SWMH36	121.37	120.63	120.68 120.68	100 100	120.63	150	600	B125	E: 379377 N: 160833
SWMH37	121.24	120.40	120.48 120.53	150 100	120.40	225	600	D400	E: 379376 N: 160818
SWMH38	121.33	120.11	120.11 120.24 120.24	225 100 100	120.11	225	600	B125	E: 379332 N: 160820
SWMH39	121.40	119.97	120.00 120.12 120.12	225 100 100	120.00	225	600	B125	E: 379317 N: 160834
SWMH40	121.50	119.82	119.89 119.89 119.97	225 225 150	119.82	300	600	B125	E: 379316 N: 160849
SWMH41	121.39	120.34	120.34 120.34 120.34 120.34	100 100 100 100	120.34	100	600	D400	E: 379361 N: 160841
SWMH42	121.38	120.15	120.15 120.15 120.15 120.15	100 100 100 100	120.15	100	600	D400	E: 379340 N: 160841
SWMH43	122.12	119.98	120.09	100	120.09 119.98	150 150	600	D400	E: 379340 N: 160843
SWMH44	121.48	119.93	119.98 119.93 119.98	150 150 100			600	D400	E: 379337 N: 160860
SWMH45	121.46	120.45	120.50 120.50	100 100	120.45	150	600	D400	E: 379333 N: 160876
SWMH46	121.50	120.75	120.80 120.80	100 100	120.75	150	600	B125	E: 379313 N: 160872
SWMH47*	121.10	119.70	119.70	150	119.70	150	600	B125	E: 379311 N: 160839
SWMH48	121.13	119.48	119.63	150	119.48	300	600	B125	E: 379307 N: 160844
SWMH49	121.34	120.85	121.01 121.01	100 100	120.85	150	600	B125	E: 379230 N: 160864
SWMH50	121.65	120.95	120.95	150	120.95	150	600	B125	E: 379244 N: 160886
SWMH51	121.55	121.05	121.10 121.10	100 100	121.05	150	600	B125	E: 379226 N: 160884

Note:
* Chamber to be built with Catchpit

Key Plan

Notes

1. This drawing is to be read in conjunction with all relevant Architects & Engineers drawings and specifications
2. Do not scale from this drawing
3. All cover and invert levels are in mAOD

C209.04.26CNCEFOR CONSTRUCTION

C105.03.26JWCEFOR CONSTRUCTION

RevDateDrwnChkdAmendments

Drawing StatusFOR CONSTRUCTION



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Job Title

Avonpark Retirement Village

Winsley, Bath, BA2 7FF

Drawing Title

Below Ground Drainage
Surface Water
Manhole Schedule

ProjectCompanyZonesLevelTypeRoleNumber

24082 - SYM - XX - XX - DR - C - 0110

Scale:Date: APR 26

Drawn By:Checked By: CE

Revision :C2

Foul Water Manhole Schedule									
Manhole Ref	Cover Level (mAOD)	Invert Level (mAOD)	Incoming Pipe Invert Level (mAOD)	Incoming Pipe Diameter (mm)	Outgoing Pipe Invert Level (mAOD)	Outgoing Pipe Diameter (mm)	Manhole Diameter & Type (mm)	Cover Class	Easting & Northing
FWMH01	120.21	118.72	120.01 120.01	100 100	120.01	150	450	B125	E: 379258 N: 160867
FWMH02	121.50	119.82	119.82 119.82 119.82 119.82	100 100 150 100	119.82	150	450	B125	E: 379272 N: 160870
FWMH03	121.40	119.24	119.24 119.24	150 150	119.30	150	600	B125	E: 379294 N: 160872
FWMH04	121.50	119.68	119.95 119.95 119.95	100 100 100	119.95	150	450	B125	E: 379267 N: 160891
FWMH05	121.30	119.54	119.59 119.54	100 150	119.54	150	450	B125	E: 379292 N: 160894
FWMH06	121.50	120.53	120.59 120.53 120.53	100 100 100	120.53	100	450	B125	E: 379302 N: 160912
FWMH07	121.50	120.47	120.47 120.47 120.47 120.47	100 100 100 100	120.47	100	450	B125	E: 379302 N: 160907
FWMH08	121.50	120.39	120.37 120.37 120.37	100 100 100	120.37	100	450	B125	E: 379303 N: 160899
FWMH09	121.50	120.35	120.34 120.34	100 100	120.34	100	450	B125	E: 379303 N: 160897
FWMH10	121.50	120.50	120.50 120.50 120.50 120.50	100 100 100 100	120.50	100	450	B125	E: 379304 N: 160896
FWMH11	121.50	120.54	120.56 120.54	100 100	120.70 120.54	100 100	450	B125	E: 379300 N: 160895
FWMH12	121.40	120.43	120.43 120.43	100 100	120.43	100	450	B125	E: 379290 N: 160888
FWMH13	121.40	120.38	120.38 120.38 120.38	100 100 100	120.38	100	450	B125	E: 379291 N: 160884
FWMH14	121.40	120.33	120.33 120.33	100 100	120.33	100	450	B125	E: 379291 N: 160880
FWMH15	121.50	120.65	120.60	100	120.60	100	450	B125	E: 379323 N: 160920
FWMH16	121.50	120.53	120.55 120.55 120.55	100 100 100	120.55	100	450	B125	E: 379323 N: 160918
FWMH17	121.50	120.37	120.46 120.46 120.46 120.46	100 100 100 100	120.46	100	450	B125	E: 379324 N: 160910
FWMH18	121.50	120.34	120.34 120.34 120.34 120.34	100 100 100 100	120.34	100	450	B125	E: 379325 N: 160901
FWMH19	121.50	120.25	120.25 120.25 120.25 120.25	100 100 100 100	120.25	100	450	B125	E: 379326 N: 160894
FWMH20	121.50	120.19	120.19 120.19 120.19	100 100 100	120.19	100	450	B125	E: 379326 N: 160889
FWMH21	121.50	120.52	120.52 120.52 120.52 120.52	100 100 100 100	120.52	100	450	B125	E: 379317 N: 160877
FWMH22	121.50	120.58	120.97 120.97	100 100			450	B125	E: 379205 N: 160890

Key Plan

Notes

1.

This drawing is to be read in conjunction with all relevant Architects & Engineers drawings and specifications

2.

Do not scale from this drawing

3.

All cover and invert levels are in mAOD

C2

09.04.26

CN

CE

FOR CONSTRUCTION

C1

05.03.26

JW

CE

FOR CONSTRUCTION

Rev

Date

Drwn

Chkd

Amendments

Drawing Status

FOR CONSTRUCTION

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STRUCTURAL / CIVIL ENGINEERS

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Job Title

Avonpark Retirement Village

Winsley, Bath, BA2 7FF

Drawing Title

Below Ground Drainage

Foul Water

Manhole Schedule

Project

Company

Zones

Level

Type

Role

Number

24082

- SYM

- XX

- XX

- DR

- C

- 0111

Scale:

Date: APR 26

Drawn By: JW

Checked By: CE

Revision:

C1

Company No. 5873122

VAT Registration No. 8942993 61

Registered In England And Wales

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OR EMAIL US AT [INFO@SYMMETRYS.COM](mailto:info@symmetrys.com)**