

Surface Water Management Plan

St. Richard Gwyn Catholic High School

4 June 2025

Morgan Sindall Construction &
Infrastructure Limited

Green Meadow Springs Business Park
5 Cae Gwyrdd
Cardiff
CF15 7AB



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Distribution

Morgan Sindall Construction & Infrastructure Limited

Mark Cowley



1 Introduction

1.1 Authorisation and Context

Ashfield Solutions Limited (“Ashfield”) have been commissioned by Morgan Sindall Construction & Infrastructure Limited (“Morgan Sindall” or “the client”), to provide a Surface Water Management Plan (“SWMP”) for the construction-phase of the proposed redevelopment of St. Richard Gwyn Catholic High School, Argae Lane, St Andrews Major, Barry, Vale of Glamorgan. CF63 1BL (“the site”).

Figure 1 – Site Location



1.2 Aim and Objectives

The aim of this SWMP is to outline how surface water is managed throughout the construction phase of the site development, to minimise any potential impact on local receptors/environment. This has been achieved through meeting the following objectives:

- Outline roles and responsibilities regarding the SWMP during the project;
- Outline consideration for pollution prevention and water treatment on site; and,
- Outline consideration for flood and weather alerts and registration to these services.

Important: Ashfield understands that the upcoming Sustainable Drainage Systems Approving Body (“SAB”) application will involve the conditioning of a SWMP. Accordingly, this report will fulfil two roles; 1. It will be used by Morgan Sindall to manage any surface water produced during the development and 2. Support any upcoming SAB planning requirements/conditions.

This document is intended to be a live and working document that should be continually updated to reflect the developing nature of the site. This will ensure that surface water risk will be managed appropriately throughout the duration of the project and the principal contractor (Morgan Sindall) should instruct the relevant party to update this plan when deemed necessary.

1.3 Report Limitations

This report has been prepared with reasonable due care and diligence in accordance with industry best practice and guidance. This report has been prepared for the exclusive benefit of the client and those parties designated by them for the purpose of providing information on the measures to be undertaken during the construction phases of the development.

The conclusions presented in this report represent Ashfield’s best professional judgement based upon the information available and conditions existing as of the date of this report and with due regard to the limitations of third-party data.

2 Site Information

2.1 Site Location

The site details are discussed in Table 1.

Table 1 – Summary of Site Details

Site Address:	St. Richard Gwyn RC High School, Argae Lane, St. Andrews Major, Barry, Vale of Glamorgan. CF63 1BL
National Grid Reference:	313758, 169898
Site Description:	The site comprises a rectangular plot of land comprising the footprint of the current St. Richard Gwyn School and surrounding fields.
Ground Cover:	The northern area of the site comprises the school building with areas of hardstanding immediately surrounding the building. To the south of the site is a large grass playing field and a MUGA pitch is located to the east of the site.
Surrounding Land Uses:	The southern boundary of the site adjoins a large solar farm, with the A4231 roadway and residential properties located to the southwest. To the north, northwest, northeast, and east, the site is bordered by agricultural land, with a driving range also situated to the east.

2.2 Proposed Development

The proposed redevelopment involves the replacement of St. Richard Gwyn Catholic High School located at Argae Lane, St. Andrews Major, CF63 1BL. The approved plans include the demolition of the existing school and construction of a new school building, alongside associated works such as access roads, parking, landscaping, and the provision of formal and informal recreation spaces.

The Council has granted planning consent for this development under application number 2023/00285/RG3. According to the decision notice:

“Proposed replacement St. Richard Gwyn Catholic High School including access, parking, landscape works, formal and informal recreation space, and demolition of the existing school at St. Richard Gwyn RC High School, Argae Lane, St. Andrews Major.”

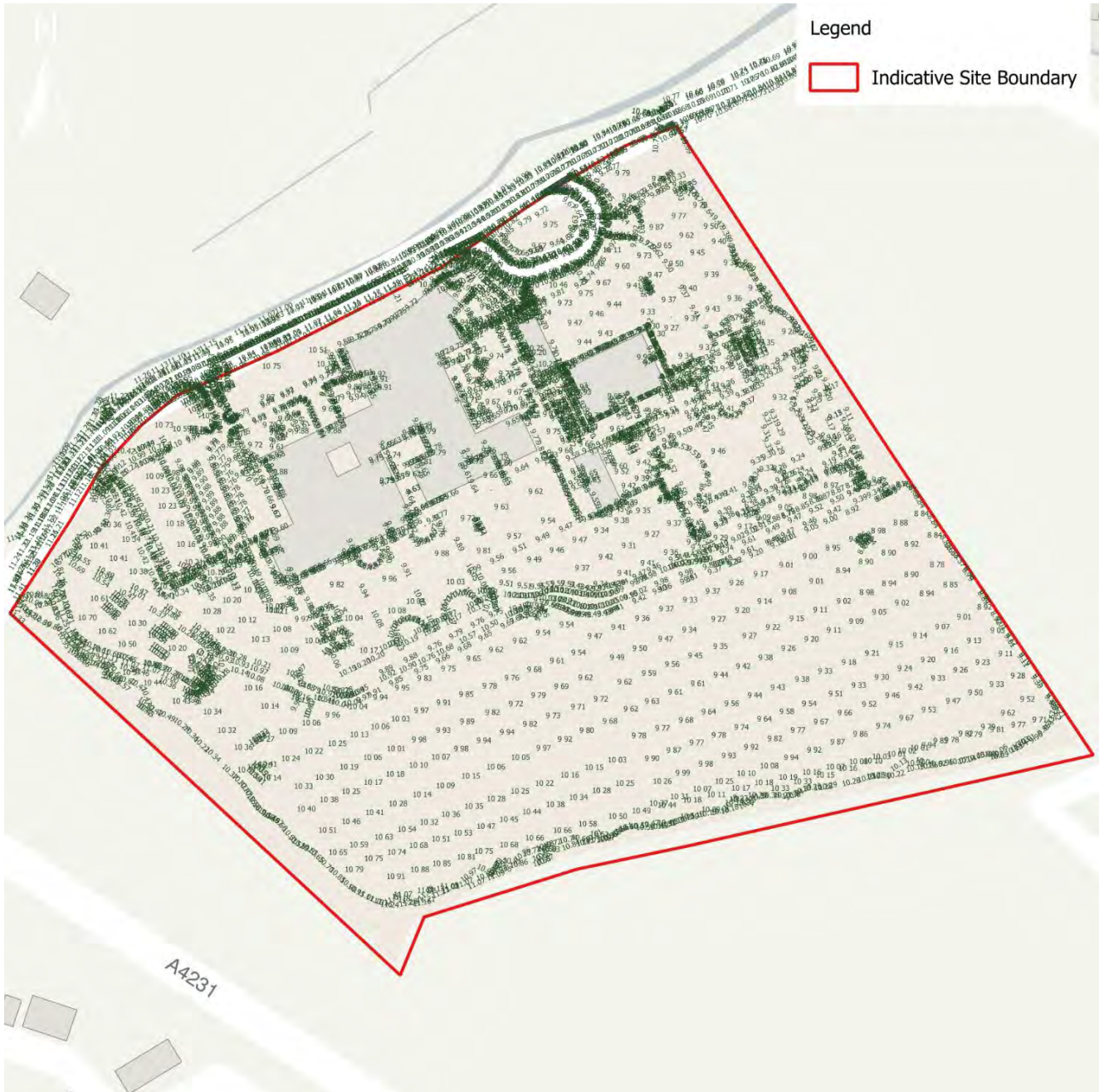
2.3 Topography Analysis

Ashfield has generated a ground level plan to show the elevation change across the site. The elevation data shown on the site map, indicates a generally sloping terrain:

- The northern and northwestern parts of the site show higher elevations (108-110 m AOD);

- The elevation gradually decreases toward the southeastern and southern areas, where values drop to approximately 93-95m meters. This indicates a gentle elevation decline from the northwest to the southeast.

Figure 2 – Existing Ground Levels

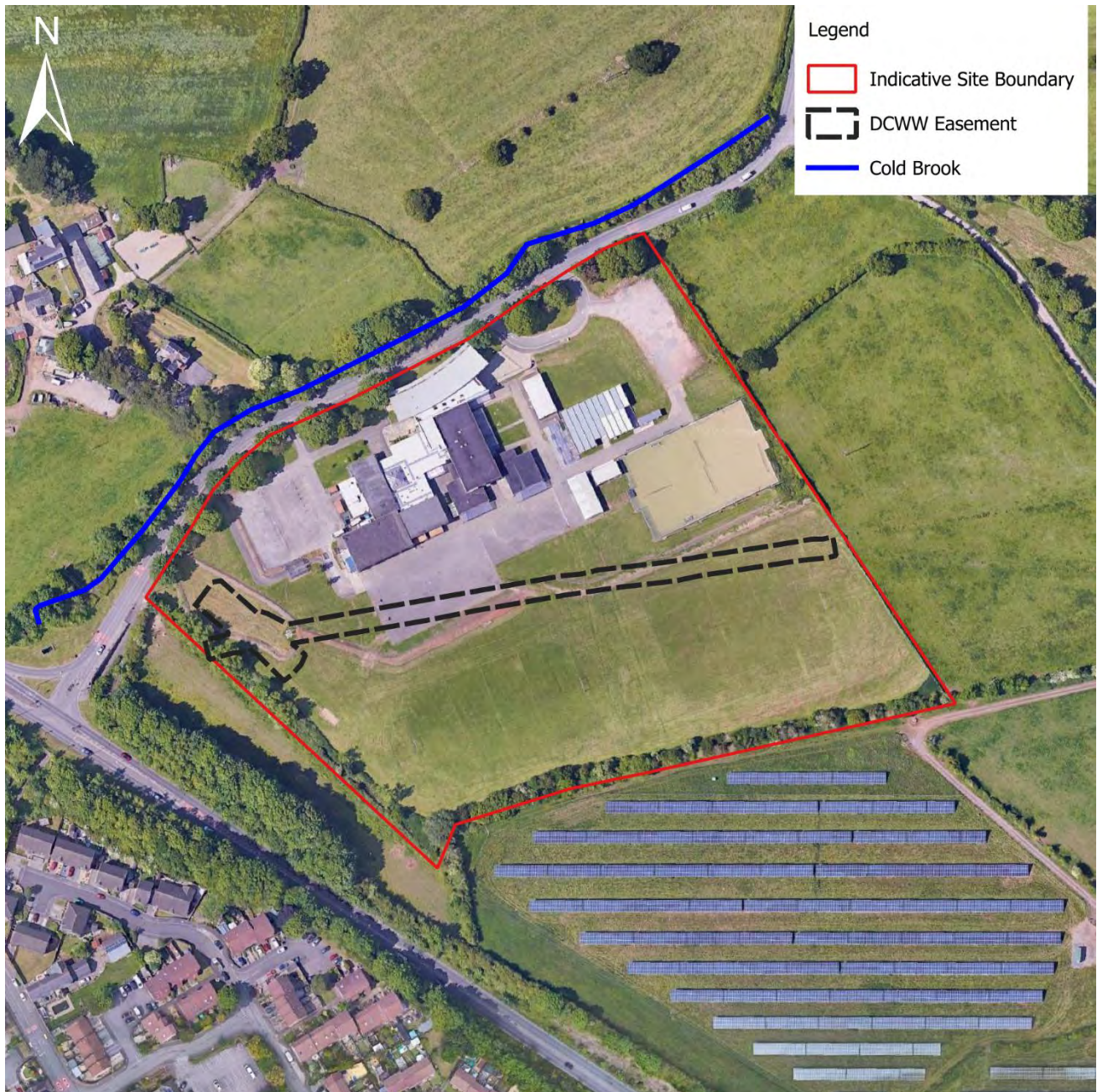


2.4 Hydrology & Hydrogeology

Based upon the received Hydrock Phase 1 Desk Study Report¹, the Cold Brook Stream is situated 10m from the site and runs parallel with the northern boundary. This is outlined in Figure 3 overleaf.

¹ Hydrock Consultants Limited (02 December 2022) St Richard Gwyn High School Phase 1 Ground Conditions Desk Study for Vale of Glamorgan Council

Figure 3 – Existing Site Layout



According to the Hydrock Phase 1 Desk Study Report, the site is underlain by superficial deposits consisting of low-permeability, fine-grained clays and silts, interspersed with medium to high-permeability layers of sand and occasional gravels, classified as a Secondary A Aquifer². Beneath these superficial deposits lies the Mercia Mudstone Group, which predominantly comprises low-permeability, low-porosity clay. This formation also contains interbedded layers of sandstone with moderate to high permeability and is designated as a Secondary B Aquifer.

² Secondary A Aquifers are defined as permeable layers capable of supporting water supplies at a local scale and in some cases forming an important source of base flow to rivers.

As identified in the subsequent Hydrock Phase 2 Ground Investigation³, the ground conditions at the site consist of Alluvium overlying bedrock of the Mercia Mudstone Group. The Mercia Mudstone Group was encountered at depths of between 1.0 – 1.30m. Small areas of Made Ground were also identified. Groundwater was encountered at shallow depths, with levels recorded from 2.30m to 0.57 metres below ground level (mbgl). A total of ten infiltration tests were carried out within the Alluvium and Mercia Mudstone strata, all of which demonstrated negligible infiltration rates.

The southern portion of the site is situated within a groundwater Source Protection Zone (Zone 1).

There are two active licensed groundwater abstractions within a radius of 1km of the site. Approximately 231m to the north is an agricultural abstraction of spray irrigation and 788m east lies a potable public water supply.

2.5 Existing Drainage

The existing drainage system at the site includes a network of private foul sewers, for the current school building. These connect to a large combined public sewer system running along the south of the site. Multiple manholes are positioned along the private foul lines. Clean water infrastructure is present to the north along the adjacent road to the site. Additionally, a DCWW easement runs through the middle of the site in a northeast-southwest direction, as shown in Figure 3. For a plan of existing drainage, please refer to Appendix D.

2.6 Flood Alleviation works

The proposed flood alleviation works are illustrated in the Flood Alleviation General Arrangement Sheet in Appendix E. These works include retaining walls along the southern and western boundaries of the site. Additionally, several swales will be constructed to the northwest, adjacent to the existing school car park. A series of culverts will be installed beneath the proposed footway to provide connectivity between the flood alleviation swales.

³ St Richard Gwyn Secondary School Phase 2 Ground Investigation Report (GIR) Dated: 28 April 2023

3 Proposed Flow Rate

3.1 Hydrock Temporary Drainage Plan

A Site Phasing Temporary Drainage Management Plan was prepared by Hydrock in May 2025, which is to be implemented during the construction phase of the proposed development. As shown on the plans attached as Appendix F, a surface water drain will be located beneath the centre of the site and there will be seven temporary surface water manholes located along the drain. The drain will flow easterly before discharging into a storage pond located in the north-east region of the site. The flow will be controlled by an Orifice Plate; surface water will then be passed through to a temporary outfall point located in Argae Lane to the north-east of the site.

Table 2 below shows the existing and proposed flow rates calculated by Hydrock. The existing flow rate in the critical 1 in 100 year event of Phases 1, 2 and 3 combined is 72.09 l/s. The proposed discharge of these phases combined is **11.7l/s**.

Table 2 – Flow Rate Summary (Hydrock, May 2025)

Phase	Area (ha)	Existing Flow Rate (l/s)	Existing Pro-Rata Flow Rate (l/s)	Proposed Flow Rate (l/s)	Difference +/- (l/s)
1	2.07	-	16.7	16.7	
2	1.28		10.3	5.6	-4.7
1+2	3.35		27.1	29.1	+2
3	1.78		14.3	11.7	-2.6
1+2+3	5.13		72.09	41.5	11.7

The size of the storage pond will be decided on site due to the position of the modular classrooms.

4 Construction Phasing

The development will be delivered in three overarching phases: enabling works, construction, and demolition. Phase 1 comprises the enabling works and is illustrated across five separate phase drawings (Phases 1 to 5). The construction phase is covered by a single drawing (Phase 6), detailing the development of the new school building. The final project phase is demolition, which is shown in two drawings (Phases 7 and 8) and includes the removal of the existing school. A high-level summary of the phasing is provided in Appendix C.

1. Enabling Works:

- Install new site gates, remove trees, create temporary site cabins and parking.
- Completion of flood alleviation works.
- Establishment of temporary pedestrian footpath to maintain access to site offices.
- Reconfiguration of pupil access routes to public footpaths ensuring separation from contractor car park and main cabin area.
- Initial set-up of main site cabins and container zones and secure site boundaries established.

2. Construction Works

- Expansion of construction zone to include southern half of the site, avoiding the DCWW sewer easement.
- Formation of construction area and delivery access routes.
- Use of existing site cabins and contractor car park maintained during this phase.
- Setup of site construction boundary to separate main works with the existing school.

3. Demolition Phase

- Demolition of existing school building within a defined zone and direction indicated on plan.
- Secure isolation and clearance of demolition area, including fencing and hazard management.

4.1 Proposed Permanent Drainage

The proposed drainage has been set out to manage surface water within the site boundary. The site is divided into multiple drainage catchments. Surface water is to be directed via a combination of linear drainage channels, gullies and manholes into the underlying pipe network that connects to attenuation features. Please refer to Appendix G for the drainage plans.

4.1.1 Permanent Foul Drainage

Foul drainage will be routed around the new school building. All internal foul drainage pipes will be encased in concrete, with a minimum internal diameter of 100mm and laid to a hydraulic gradient of 1 in 40. The proposed foul drainage system will discharge into the existing DCWW combined sewer, subject to approval via a Section 106 Agreement.

5 Roles & Responsibilities

In order for the SWMP to be successfully implemented, that key roles and responsibilities for waste management be clearly defined, documented and communicated. The roles and responsibilities with regards to the SWMP during the project are shown in table below.

Table 3 - Key Project Members

Name	Role and Responsibility	Contact Number	Email Address
Steve Birchenough	<p>Project Director (PD)</p> <p>Undertake both an on-site and off-site role, ensuring that all appointed managers and other positions undertake their duties and achieve the required outcome of the project. Provide guidance and direction to the project team.</p>	07970844853	Steven.Birchenough@morgansindall.com
Paul Hugill	<p>Health and Safety Manager (HS)</p> <p>Assist both the office and site-based teams to meeting their legal duties under the Construction (Design and Management) Regulations 2015 and all other relevant Acts, Regulations, Approved Codes or Practise and Industry Specifications, providing competent Health and Safety Advice for the Project Management Team, as and when required, and undertaking audits of the project to monitor site performance.</p>	07712868047	Paul.Hugill@MorganSindall.com
Mark Stephens	<p>Operations Manager (OM)</p> <p>Based off site, planning for and overseeing the project, ensuring all members of the project team prepare for and deliver the project to the highest standards.</p> <p>Liaising with the project team to ensure that all specification / issues are either delivered or resolved.</p>	07765207651	Mark.Stephens@morgansindall.com
Alex Smith	<p>Project Manager (PM)</p> <p>Based both on and off site. Liaises with the project team to ensure that communication of site issues is correctly managed and delivered.</p>	07866 146782	Alex.Smith@morgansindall.com
Ian Collins	<p>Project Engineer/Supervisor</p> <p>Supervises/carries out sampling/testing of samples and site conditions through the drilling works.</p> <p>Responsible for system operation and site monitoring.</p>	07773957223	Ian.Collins@morgansindall.com

5.1 Environmental Incident Reporting

5.1.1 Overview

As detailed within Morgan Sindall's Construction Environmental Management Plan (CEMP)⁴, this section outlines the procedure for managing and reporting environmental incidents that may occur during construction activities. Major incidents include, but are not limited to:

- Fire damage
- Flooding
- Sewage contamination
- Decontamination requirements
- Oil spillage
- Chemical spillage

The following staged response process is to be followed in the event of any such incident.

5.1.2 Stage 1 – Initial Notification

In the event of a major environmental incident, Ideal Response must be contacted immediately on 0800 088 4180. Provide the following information:

- Site name: St Richard Gwyn Catholic High School
- Address: Argae Lane, Barry, CF63 1BL
- Contract references: Morgan Sindall Agreement SA GF24 and Clydach ALN School Contract TM26CC09
- On-site emergency contact number
- Description of the incident, including the nature, scale, and immediate risks.

Ideal Response will provide initial advice to the project team on immediate actions required to contain and mitigate pollution risks while their response team is mobilised.

Following contact with Ideal Response, the Morgan Sindall Operations Manager and Safety, Health and Environmental (SHE) Manager must be informed (see contact details in Table 3).

5.1.3 Stage 2 – Response Management

Ideal Response will attend site to:

- Implement containment measures and prevent further pollution; and
- Undertake clean-up and decontamination activities as required.

⁴ SRG Catholic High School CEMP

Regular updates will be provided by Ideal Response regarding their estimated time of arrival and the progress of the response.

5.1.4 Stage 3 – Completion and Reporting

Upon completion of works, Ideal Response will issue a detailed Incident Response Report. This will include:

- A summary of the incident and actions taken;
- Details of the clean-up process and equipment used; and
- Photographic evidence of works undertaken.

Incident reporting will be coordinated by the Safety, Health and Environmental Manager, who will ensure all internal and external reporting requirements are fulfilled in accordance with company and regulatory procedures.

6 Hazard Risk Assessment & Controls

Excavations as part of the foundations, drainage works, and general earthworks may result in the generation of silt laden water which will require removal and discharge. As a result, it can be assumed that the groundwater encountered in excavations, equipment wash down, and run-off may be contaminated with silt and will require control measures prior to its discharge.

The table below outlines the hazards/risk associated with the construction phase and the control measures needed to mitigate their impact.

Table 4 - Summary Hazard and Control Measures

Hazard/Risk	Control Measure
<p>Surface Water Run-off/Overland Flow</p> <p>The site will be excavated and filled to facilitate the new development. This process exposes the topsoil making it susceptible to surface water run-off and erosion, which can result in silt entering adjacent properties of surface water features.</p>	<ul style="list-style-type: none"> ▪ Exposed soil to be sealed to minimise silty run-off. ▪ Contoured berms to be installed to prevent whole area run-off and prevent erosion. ▪ Geotextile barriers (silt barriers) and silt fences to be used to stop the migration of silts and surface water run-off. ▪ Drain covers to prevent excess surface water flow into drains as well as preventing any silty water entering.
<p>Excavations & Dewatering</p> <p>Surface water or groundwater may enter the excavation as locations are advanced. This water will require removal to allow safe excavation and facilitate the installation of foundations or services. During dewatering, the water can pick up sediment and suspended soils from the excavation site, carrying them in surface water.</p>	<ul style="list-style-type: none"> ▪ Excavation depth and area to be minimised to prevent large volumes of groundwater ingress. ▪ Excavation will not be left for significant periods of time. ▪ Excavation edges will have bunded edges to prevent overland flow. ▪ Pumped water will be treated and undertake silt separation measures prior to discharge. Methods of water treatment are discussed in Section 6 of this report.
<p>Welfare Unit (if present)</p> <p>Units are likely to contain soap and bacteria arising from the washing of hands which may contain contaminants associated with the site works (e.g. diesel).</p>	<ul style="list-style-type: none"> ▪ Locate welfare unit away from the know surface water features. ▪ Ensure all waste from the welfare unit, including sewage and greywater, is collected and disposed of properly through a licensed waste management service. ▪ Use sealed tanks for sewage and greywater to prevent leaks and spills. ▪ Install bunds or secondary containment around welfare units to catch any potential spills or leaks if at high risk. ▪ Use silt fences, sediment traps, or other erosion control measures to manage surface water run-off and prevent it from carrying contaminants into nearby water bodies. ▪ Remove significant contamination with specialist wipes before washing hands with water. ▪ Position welfare unit on hard standing away from drainage gullies where possible. Use of neoprene drainage mats. ▪ Welfare unit to be serviced weekly.

<p>Refuelling</p> <p>Water within drip trays/bunds contaminated with hydrocarbons.</p>	<ul style="list-style-type: none"> ▪ Establish specific refuelling zones away from any know surface water features. ▪ Use containment areas with impermeable surfaces to prevent fuel seepage into the ground. ▪ Install secondary containment systems such as bunds or spill trays around refuelling areas to catch any fuel spills. ▪ Use spill kits containing absorbent materials, booms, and other tools to manage spills promptly. ▪ Store fuel in approved, double-walled tanks that are resistant to leaks and equipped with spill containment features. ▪ Excess wastewater generated during drilling will be pumped directly into a bunded Intermediate Bulk Container (IBC).
<p>Haul Road Run-off</p> <p>Wastewater generated from rainfall/surface water run-off.</p>	<ul style="list-style-type: none"> ▪ Program the installation of a solid haulage roads early in the project program. ▪ Design haul roads with proper grading to direct run-off towards controlled drainage systems. ▪ Minimise the site haul roads length. ▪ Use gravel or crushed stone to surface haul roads, which reduces dust, erosion, and sediment run-off. ▪ Establish vegetative cover along the sides of haul roads to stabilize soil and reduce erosion. Use fast-growing grasses or ground covers. ▪ Install silt fences along the perimeter of haul roads to trap sediment and prevent it from leaving the site. ▪ Use sediment traps to capture and retain sediments from road run-off.
<p>Wheel Wash</p> <p>Provides a source of silt water which has the potential to cause issues within local watercourses. Wheel wash may also be a source of contaminants arising from the vehicles that pass over the unit in terms of diesel or engine oil leaks.</p>	<ul style="list-style-type: none"> ▪ Install the wheel wash station away from watercourses, drainage systems, and environmentally sensitive areas. ▪ Design the wheel wash area with impermeable surfaces and containment systems to capture and contain wash water. ▪ Ensure the area is graded to direct all wash water to a containment system or treatment facility. ▪ Filling or top up of the wash tank to be level controlled. ▪ Routine maintenance undertaken including silt removal. ▪ Spray reduction measures to be in place to reduce water loss. ▪ Unit to be equipped with a sediment trap. ▪ Require all vehicles to pass through the wheel wash station before exiting the site to minimize soil and sediment tracking.
<p>Wash Down Areas</p> <p>Required when site equipment and plant become coated in mud or contamination and will require washing down prior to moving positions to avoid cross contamination.</p>	<ul style="list-style-type: none"> ▪ Locate washdown of plant/equipment away from the culvert. ▪ Area to bunded for redirecting of wastewater away from known surface water features. ▪ Drains to be covered using neoprene drain mats and/or spill booms.
<p>Run-off from Concreting</p> <p>Can occur when water comes in contact with uncured or freshly poured concrete.</p>	<ul style="list-style-type: none"> ▪ <u>No concrete washout used on site will enter the watercourse.</u>

- Employ sediment traps and silt barriers within the concrete washout areas to prevent untreated water entering known surface water features.
- Treat water prior to discharge to remove sediment.

6.1 Site Personnel Control Measures

The following personnel measure are good practice⁵ to increase awareness and ensure that surface water management activities are sufficiently documented and maintained throughout the works.

- All groundworker subcontractors should ideally consider minimisation of silt and its management within their Risk Assessment Method Statement (“RAMS”) for their work.
- Specific site-based awareness training (or Toolbox Talks) on the management of surface water and silt activities could be provided for groundwork subcontractors.
- Site induction folder ideally should include items relating to silt management and surface water bund protection measures so they can be maintained throughout the works.
- Surface water checks could be undertaken weekly to ensure that risk items are identified early on and managed prior to potential incidents (gully monitoring, potential receptors, maintenance of drainage/treatment systems).

6.2 Dust suppression

Dust suppression measures will be used in dry conditions in order to prevent dust from being carried into watercourses and other sensitive neighbouring habitats/residential properties. Dust suppression measures will be clearly communicated to all contractors involving strictly enforcing on-Site speed limits, dampening down the road at regular intervals by spraying water, scraping dust collected on roads and sealing stockpile materials. The frequency of the suppression measures (excluding the speed limit) will be varied dependant on the weather conditions and ground conditions within the working areas.

6.3 Controlling Noise

All works will be carried out and monitored in accordance with BS5228 Pt. 1 ‘Control of Noise & Vibration on Construction and Open Sites’⁶. Noise and vibration will be assessed and suitable control measures defined to protect the workforce and the general public in each individual activity’s Risk Assessment / Method Statement (RAMS) prepared by the subcontractor and approved by the Project Manager.

In the event that BS5228 Pt 1 monitored limits are exceeded we will stop work and adjust the activity in order to adhere to the recommended limits. If we receive a legitimate complaint from neighbours, we will investigate, and cease works as necessary and find an alternative means of construction or mitigate to suit. The way in which this will be monitored and implemented will be set out within our Project Execution Plan [SE PLN1]. The nearest residential properties are circa 65 metres from the southwest site boundary and 90 metres from the new building. The existing trees between the site and the nearest properties will provide some acoustic shielding with acoustic barriers added to the fence where required.

⁵ DEFRA (March 2010) Surface Water Management Plan Technical Guidance.

⁶ BS5228 Pt. 1 Control of Noise & Vibration on Construction and Open Sites

All construction activities are restricted to between 8:00am and 6:00pm, Monday to Friday with any weekend working taking place on Saturdays between 8:00am and 1:00pm. There will be no construction works on Sunday's or bank holidays unless agreed in advance with the Local Authority.

6.4 Ecological Protection

Retained ecological feature within the site boundary are protected with fencing throughout the works. Fencing will primarily be Heras fencing near ecologically sensitive areas which prevents unauthorised access but permits the passage of wildlife. Invasive species have not been identified as present on the site in the Preliminary Ecology Assessment or in subsequent site visits by the contractor.

Replacement of tree planting is included in the project to replace trees removed as part of the works. Additional trees are also included within the development to increase biodiversity on the site.

6.5 Soil Management

Soil is to be managed under a Materials Management Plan⁷ which has been prepared by Ashfield. Site won topsoil will be banded ready for testing and where necessary soil improvement ready for reuse. Topsoil recovered from site will be reused for the flood alleviation works and excess topsoil will be removed from site and disposed of at a suitably licensed transfer station. Topsoil required for planning will be imported to the site. Subsoil will be excavated and placed immediately, and excess subsoil will be removed from site to a suitably licensed transfer station.

⁷ Ashfield Solutions Ltd 224125 S03 – SRG Materials Management Plan

7 Dewatering of Excavations

7.1 Regulator Correspondence

Ashfield has initiated pre-application discussions with Natural Resources Wales (“NRW”) Dŵr Cymru Welsh Water (DCWW) to establish a compliant methodology for managing surface water generated from excavations on site.

DCWW confirmed, in reference to planning application 2023/00285/RG3, that no surface water flows will be permitted to discharge into the public combined sewer network, including the section crossing into the site. DCWW also emphasised the need for any discharge containing silt or contaminants is to be treated via a Siltbuster before release with the aim of reducing pollution and managing flows at the highest priority levels possible. As a guide, as much of the water run-off should be discharged to each destination of the following hierarchy before a lower priority destination is considered:

- Priority Level 1: Water run-off is collected for use.
- Priority Level 2: Water run-off is infiltrated to the ground.
- Priority Level 3: Water run-off is discharged to a surface water body.
- Priority Level 4: Water Run-off is discharged to a surface water sewer; highway drain or another drainage system.
- Priority Level 5: Water run-off is discharged to a combined sewer.

For larger volumes of water, a temporary discharge permit from NRW would be required to facilitate discharge to the Cold Brook stream throughout the construction period. Morgan Sindall have already got permission from NRW to discharge small volumes of water to the nearby farmers field so long as the water is free of contamination, does not cause flooding and does not cause a pollution event.

Hydrock held pre-application discussions with the Vale of Glamorgan Council acting as the SuDS Approval Body (SAB), in support of the proposed drainage strategy. The SAB previously raised no objection to a proposed discharge rate of 22.7 L/s to Cold Brook; however, the current design adopts a more conservative limit of 11.7 L/s in accordance with Hydrock’s drainage strategy.

In summary, the only remaining available route for discharging NRW Temporary Discharge Permit into the nearby Cold Brook.

It is understood that Morgan Sindall will occupy the grassland field adjacent to the site to the east. Discharge of smaller volumes to adjacent grassland has been permitted by NRW so long as flooding does not occur, the water is free of contaminants, and the water does not enter any nearby drains. For larger volumes of water, an NRW Temporary Discharge Permit is required to discharge water to the Cold Brook.

For all relevant regulatory correspondence, please refer to Appendix H.

7.2 Management of day-to-day excavation water

Water from excavations should be collected and discharged at a controlled rate of **11.7L/s** to the adjacent Cold Brook Watercourse, subject to the necessary permitting from Natural Resources Wales. The following outlines the process:

- Water will be directed to a sediment lagoon via French drains and sumps;
- Water will be treated in the sediment lagoon before passing into a lamella separation system where finer sediment will be removed. Treatment of water can be taken directly from the lamella separation system following treatment;
- Water will then be directed to a storage attenuation tank before the controlled release into the Cold Brook with the use of an Orifice plate flow control chamber. A surface water drain will be constructed beneath the road to connect to a temporary outfall at the Cold Brook;
- The discharge rate will be limited to 11.7l/s as calculated Hydrock. This limit that will unlikely be required.
- The strategy only involves the removal of suspended solids, as such there is no detailed monitoring programme (as you would if contaminated water was being treated). However, a visual turbidity assessment will be undertaken during the operation.

Please refer to section 8.2 for further details of the water treatment system.

As agreed by NRW, small volumes of groundwater produced from excavations will be discharged to the grassland adjacent to the site or the nearby farmers field to the east of the site, where Morgan Sindall have been permitted to use.

Water run-off containing silt / debris will be prevented through the use of proprietary drain covers, silt fences and silt trap membranes around the perimeter of the site to manage water flow to prevent it entering the existing drainage system or watercourse.

Discharge to public surface water or combined sewers is not permitted. Treatment of this water will be undertaken via a sedimentation lagoon and a lamella separation system (Please refer to Section 8.0).

A site plan is located in Appendix I.

Important: Site intrusive investigations have not identified significant leachable contaminants of concern within the shallow soils present at site. As there is no identified contamination, the treatment process is purely designed to remove sediment/suspended solids. Ashfield considers it unlikely that any water generated within foundation/utility excavation will not be grossly contaminated and will only need to be treated to remove silt.

8 Water Treatment Methods

Section 5 of this report has outlined control measures prior to significant discharge. This includes storing contaminated water from refuelling and wash down areas in IBCs and preventing polluted water from overland flow and excavation from flowing off site using bunds and silt fences. These measures seek to store contaminated water prior to it passing through the following methods of water treatment, prior to discharge.

This section outlines the water treatment methods that will be placed during the construction phase of the development, should regulatory bodies or the local water/sewage operator require additional treatment these methods could be employed by the site team to minimise contamination (such as excess sediment) entering the foul sewer system. For a site water treatment site plan, please refer to Appendix I. For sediment lagoon calculations, please refer to Appendix J.

8.1 Method 1 – Sedimentation Ponds/Lagoons

Sedimentation ponds are used to slow down the flow of water during construction, allowing sediments and other particulate to settle at the bottom before the water is discharged. This process will reduce the amount of sediment that is discharged.

Contaminated water from excavations will be over pumped from lower levels foundation/trench excavations. From here, water will be treated via the sediment pond. After treatment, the water will be directly discharged via surface infiltration for small volumes.

Design Approach

Sediment lagoons are required during construction to capture silt-laden runoff and allow settlement prior to treatment through the lamella separation system. Following sediment lagoon and lamella separation treatment, the water will be routed to an attenuation pond which provides the final storage before flow control through the orifice plate, limiting discharge to 11.7 L/s in accordance with Hydrock's Temporary Drainage Management Plan (Appendix F).

The Hydrock design is based on the 1 in 100-year event and defines the permitted outflow for the site. However, Hydrock's scope did not include temporary construction phase sediment lagoon sizing. The SWMP quick storage estimates using InfoDrainage Software (Appendix J) provide the most relevant parameters for short term works, as they are derived for a 1 in 30-year rain fall event (9.3mm/hr) and use a volumetric runoff coefficient of 0.750.

By adopting these storage values, the temporary works remain consistent with approved documentation, while continued use of Hydrock's 11.7 L/s discharge limit ensures the overall system is conservative.

Lagoon storage has been estimated using the 1-in-30-year event (InfoDrainage Quick Storage Estimate) appropriate for construction-phase temporary works. Final site discharge remains restricted to **11.7 L/s** in accordance with Hydrock's 1-in-100-year design. Using a lower permitted outflow than the phase outflows assumed within the quick storage estimate is conservative and ensures alignment with the approved drainage strategy.

InfoDrainge Quick Storage Estimates

Table 5 Quick Storage Estimates derived from InfoDrainge

Phase	Catchment Area (ha)	Event Basis	SWMP Storage Range (m ³)
Phase 1	2.07	1 in 30 year	660 – 981
Phase 2	1.28	1 in 30 year	430 – 567
Phase 3	1.78	1 in 30 year	296 – 633

Adopted Construction Lagoon

A single conservative lagoon volume of approximately 981m³ will be provided for all phases. This lagoon will act as the primary settlement basin prior to feeding into the lamella separation system; treated water will then enter the attenuation pond, where discharge will be controlled to 11.7L/s via an orifice plate.

The combined approach is considered appropriate and conservative because the Hydrock discharge rate remains 11.7L/s. Additionally, the attenuation pond and orifice arrangement manage the 1 in 100 year design storm, meaning 1 in 30 year temporary storage during construction is sufficient for settlement and flow attenuation.

The 981 m³ lagoon provides a detention time of around three hours, followed by treatment through the lamella separator. Discharge will only take place to the permanent storage pond when the water at the lamella outlet is visibly clear following a turbidity assessment. Following discharge to the permanent storage pond, water discharge to the Cold Brook will be controlled via an orifice plate.

The Site Manager is responsible for the regular maintenance required to remove accumulated sediments and ensure the pond functions effectively throughout the construction phase. Sediment should be removed when the pond is nearing capacity.

8.2 Method 2 – Lamella Separator

A lamella separation system is a mobile water treatment system designed to remove suspended solids and other contaminants from water before it is discharged into the environment or reused. With regards to this site, a lamella separation system will be used in conjunction with the sediment lagoon mentioned above. As there has been no identified contamination requiring water treatment, the process is purely designed to remove sediment and suspended solids.

The process is as follows:

- Water is pumped into the sediment lagoon;
- Once sediment has settled in the lagoon, water will be abstracted and passed through into the lamella separation system to remove the fine sediment remaining;
- Water will then be pumped to the attenuation tank before controlled discharge to the Cold Brook. When required, the farmers field and kickabout area (playing fields) will also be used to discharge smaller volumes.

8.3 Monitoring and Treatment

It is important to note that there is no use of a flocculants or coagulants in the treatment process. As such, no chemical data sheets have been provided.

As it is only suspended solids being removed, there is no detailed monitoring programme, however, a visual turbidity assessment will be undertaken during the operation before any discharge begins or after heavy rainfall to ensure that discharged water remains clear and free of visible solids. This will be undertaken by BioGenie – the remediation contractors involved in the water treatment process.

When required, water-quality sampling will be carried out at the point of discharge from the lamella separation system, following treatment. The designated monitoring point is located at the lamella separator outlet, as shown on the Site Dewatering Plan (Appendix I).

8.4 Effluent Quality

The following table confirms the expected quality of the effluent. The treatment system is designed solely to remove suspended solids (silt and sediment) from the rainwater run off collected on site. No domestic sewage or chemical trade effluent is present, so additional treatment for organic or chemical pollutants is not required.

Table 6 Effluent Quality

Parameter	Expected Final Effluent Concentration	Treatment Method / Notes
Suspended Solids (SS)	60–90 mg/L	Settlement lagoon & lamella separator
Other substances	Not expected / negligible	Rainwater runoff; no significant organic load or chemical contamination anticipated
BOD	Not applicable	Rainwater, no organic source
Ammonia	Not applicable	Rainwater, no organic source

Summary of Construction Phase Drainage and Water Treatment Strategy

All surface water runoff during construction will be managed through the following treatment:

- Sediment Lagoon → Lamella Separator → Attenuation Pond → Orifice-controlled discharge to Cold Brook.
- Lagoon sizing is based on Info Drainage Quick Storage Estimates for the 1-in-30-year rainfall event. A single 981 m³ lagoon has been adopted for all phases, which provides sufficient capacity when considering the catchment area, the modelled 1-in-100-year flow rates, and the fact that it operates alongside the lamella treatment system and the permanent attenuation pond.
- The lagoon provides primary settlement, with the lamella system giving additional clarification to remove fine suspended solids.
- Treated water then enters the attenuation pond, which provides final storage and flow control limited to 11.7 L/s in accordance with Hydrock's 1-in-100-year design.
- This approach is conservative and fully consistent with approved designs: temporary storage manages water quality, while Hydrock's outflow restriction ensures hydraulic compliance.
- No flocculants or chemical additives are proposed; treatment is physical settlement only.
- BioGenie will carry out turbidity checks before discharge; Ian Collins (Project Engineer/Supervisor as detailed in Section 5.0) will oversee any sampling required by NRW or the site team.
- The Site Manager is responsible for routine maintenance and desludging of the lagoon to maintain effectiveness.

Appendix I shows the site plan for discharging water.

BioGenie will be responsible for the visual turbidity assessment and will be undertaken before discharge to the attenuation pond. For water quality testing, Ian Collins will be responsible for any sampling required. This will be undertaken from an outlet from the lamella separation once water has been treated. For Roles and Responsibilities, please refer to Table 3.

9 Flood & Weather Alerts

The Project Manager and Site Manager should sign up to the Met Office weather warning system. This can be done via the following link: <https://www.metoffice.gov.uk/about-us/news-and-media/media-centre/subscribe-to-email-alerts>

Consulting the DataMapWales⁸ interactive map viewer the site area is not considered to be within a NRW Flood warning area. As such the site should consider the MetOffice alerts as per the link above.

Alert Level	Definition	Action	Responsibility
Yellow: Be Aware	Yellow warnings can be issued for a range of weather situations. Many are issued when it is likely that the weather will cause some low-level impacts, including some disruption to travel in a few places. Other yellow warnings are issued when the weather could bring much more severe impacts to many people but the certainty of those impacts occurring is much lower. It is important to read the content of yellow warnings to determine which weather situation is being covered by the yellow warning.	The Project Manager and Site Supervisor should be signed up to the Met Office weather warnings. Ensure the site is maintained in clean condition. Ensure drains clear with no potential for arisings to block	Project Manager and Site Manager
Amber: Be Prepared	There is an increased likelihood of impacts from severe weather, which could potentially disrupt your works plans. This means there is the possibility of travel delays, road and rail closures, power cuts and the potential risk to life and property.	As Above	Project Manager and Site Manager
Red: Take Action	Dangerous weather is expected and, if you haven't already done so, you should take action now to keep yourself and your workforce safe from the impact of the severe weather. It is very likely that there will be a risk to life, with substantial disruption to travel, energy supplies and possibly widespread. You should avoid travelling, where possible, and follow the advice of the emergency services and local authorities.	As Above	Project Manager and Site Manager

⁸ https://datamap.gov.wales/maps/new?layer=inspire-nrw:NRW_FLOOD_WARNING#/

10 Conclusions

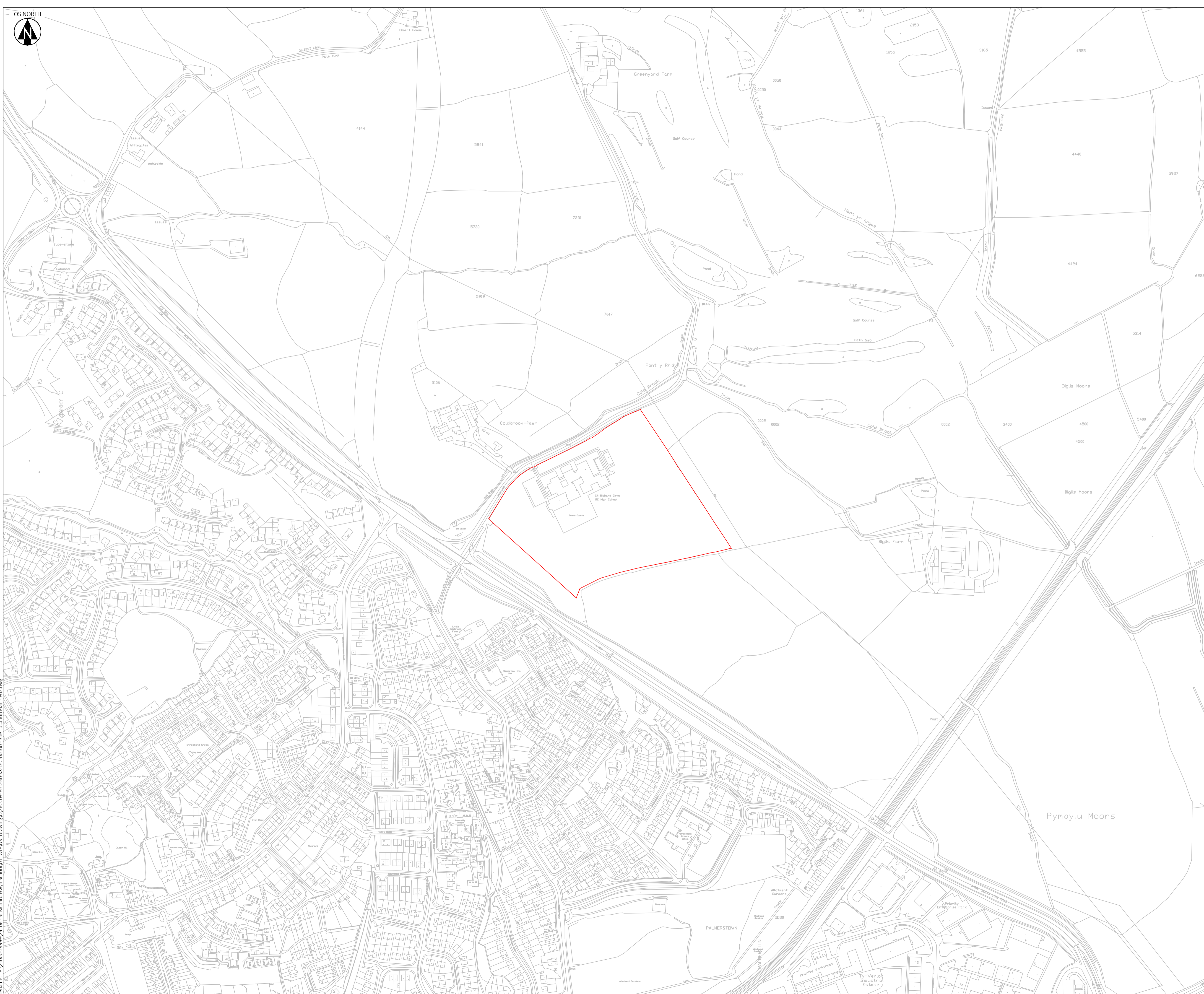
This SWMP has outlined how surface water and groundwater is managed throughout the construction phase of the site development, to minimise any potential impact on local receptors/environment:

- Small volumes of groundwater produced from excavations have been permitted by NRW to discharge over grassland to the adjacent field which will be occupied by Morgan Sindall for the remainder of the works. This is subject to the water being clean and uncontaminated and does not cause any flooding or pollution to nearby drains.
- For larger volumes, re-infiltration is not a viable option; therefore, surface water will need to be treated via a sediment lagoon and Siltbuster and discharged directly to the nearby Cold Brook, subject to regulatory approval.
- Surface water will be directed via a series of French drains and sumps to the sediment lagoon for treatment. Water will then be passed through to a lamella separator before being directed to an attenuation pond where water will be discharged to the Brook at a controlled rate.
- If required, water quality testing can be undertaken at the point of discharge from the lamella separation system.
- Discharge will be capped at 11.7l/s to the Cold Brook, however, with the use of the field or discharging smaller volumes, it is not expected that this rate will be required.

This report outlines numerous localised control measures; however, the main controls on discharge and pollution prevention are the implementation of a sediment pond alongside the use of a silt buster on site during the construction phase. Once the contaminated water has been treated within these systems, the treated water should be discharged via re-infiltration via the surface watercourse.

Appendix A

Site Location



DO NOT SCALE

KEY	
	SITE BOUNDARY

- NOTES:
- DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT PROJECT DRAWINGS AND WITH THE HEALTH AND SAFETY INFORMATION PROVIDED AND/OR WITHIN THE PRE-CONSTRUCTION INFORMATION.
 - USE OF THIS DRAWING DOES NOT ABSOLVE THE CLIENT FROM HIS RESPONSIBILITIES UNDER THE HEALTH AND SAFETY: THE CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015. THE PRINCIPAL DESIGNER IS REQUIRED TO CONTACT HYDROCK CONSULTANTS PRIOR TO PERMITTING THIS DRAWING TO BE USED IN CONNECTION WITH ANY CONSTRUCTION WORKS.
 - BEFORE COMMENCEMENT OF ANY WORKS ASSOCIATED WITH THE DRAWING REFER TO ALL RELEVANT HEALTH AND SAFETY INFORMATION FOR THE WORKS INCLUDING RESIDUAL RISK INFORMATION.
 - THE CONTRACTOR SHOULD COMPLY WITH HS(G) 47 "AVOIDING DANGER FROM UNDERGROUND SERVICES" WHEN PLANNING, LOCATING AND EXCAVATING AROUND EXISTING SERVICES. IT IS KNOWN THAT EXISTING UTILITY COMPANY UNDERGROUND SERVICES AND APPARATUS ARE PRESENT WITHIN THE PROPOSED WORKS AREA AND IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE EXISTING SERVICES ON SITE ACCURATELY.
 - INFORMATION REGARDING THE LOCATION AND DEPTH OF EXISTING SERVICES CANNOT BE GUARANTEED BY THE STATUTORY UNDERTAKER.
 - THE CONTRACTOR SHALL CONDUCT THE WORKS WITH DUE REGARD FOR THE ECOLOGICAL AND ENVIRONMENTAL REQUIREMENTS OF THE SCHEME.
 - THE DRAWING SHALL BE USED FOR THE INTENDED PURPOSE ONLY AND THIS DRAWING HAS BEEN BASED ON INFORMATION PROVIDED BY OTHER PARTIES AND HYDROCK DO NOT WARRANT THE ACCURACY OF THIS INFORMATION. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWING AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DIMENSIONS AND LEVELS ON SITE FOR THE ACTUAL SETTING OUT OF THE WORKS. DIMENSIONS MARKED 'DIMENSIONS TO BE SITE CHECKED' ARE SUBJECT TO CONFIRMATION BY THE CONTRACTOR BEFORE THE WORKS COMMENCE.
 - HYDROCK IS NOT RESPONSIBLE FOR CHECKING DIMENSIONS ON SITE.
 - HYDROCK IS NOT RESPONSIBLE FOR SETTING OUT GRID LINES, BUILDING LINE ETC.
 - HYDROCK IS NOT RESPONSIBLE FOR DIMENSIONS USED IN THE ORDERING AND MANUFACTURING OF EQUIPMENT AND THIS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL FIGURED LEVELS ARE IN METRES AND RELATED TO EXISTING SURVEY GRID & DATUM UNLESS NOTED OTHERWISE.
 - ALL FIGURED DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
 - TEMPORARY WORKS DESIGN ASSOCIATED WITH THE CONSTRUCTION OF THE WORKS SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
 - THE CONTRACTOR SHALL MAINTAIN FREE AND OPEN ACCESS TO PUBLIC HIGHWAY AND ADJACENT LANDS AT ALL TIMES DURING THE COURSE OF THE WORKS UNLESS OTHERWISE AGREED IN WRITING WITH THE INTERESTED PARTIES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL TRAFFIC MANAGEMENT PROPOSALS & PHASING. SUCH DETAILS SHALL BE SUBMITTED TO THE LOCAL HIGHWAY AUTHORITY FOR APPROVAL PRIOR TO THE START OF THE WORKS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS AND ORDERS.
 - CONFLICTING INFORMATION SHOWN ON THE ENGINEER'S DRAWINGS OR DISCREPANCIES BETWEEN THE INFORMATION GIVEN BY THE ENGINEER AND THAT PROVIDED BY OTHERS MUST BE REFERRED TO THE ENGINEER BEFORE THE WORKS COMMENCE.

- NOTES:
- DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT PROJECT DRAWINGS AND SPECIFICATIONS
 - ALL FIGURED LEVELS ARE IN METRES AND RELATED TO EXISTING SURVEY GRID & DATUM UNLESS NOTED OTHERWISE
 - ALL FIGURED DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE, DIMENSION ARE NOT TO BE SCALED.
 - APPROXIMATE MIDDLE OF SITE INFORMATION
 - GRID REFERENCE: ST 13767 69897
 - X (EASTING) 313767, Y (NORTHING) 169897
 - What3Words: USES.EXCHANGES.GROOM

REVISIONS

Rev	Revision Notes	Date	Drawn By	Checked	Approved
P02	Issued for Full SAB Application	26/03/25	PR		CP CP
P01	First Issue	20/12/24	FA		PR CP

 	Third Floor, Wharton Place 13 Wharton Street Cardiff CF10 1GS t: +44(0)2920 023665 e: cardiff@hydrock.com
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CLIENT
**MORGAN SINDALL
VALE OF GLAMORGAN**

PROJECT
ST RICHARD GWYN SCHOOL

TITLE
SITE LOCATION PLAN

HYDROCK PROJECT NO. C-24106	SCALE @ A1 1:2500
STATUS DESCRIPTION SUITABLE FOR INFORMATION	STATUS S2
DRAWING NO. 26CC09-HYD-50-XX-D-C-00100	REVISION P02

File name: P:\24000-24999\24106 - St Richard Gwyn School\01 - WIP\08 - Drawings\26CC09-HYD-50-XX-D-C-00100 - Site Location Plan - R02.dwg

Appendix B
Planning Decision Notice

DEVELOPMENT BY THE VALE OF GLAMORGAN COUNCIL

Town and Country Planning Act 1990
Planning and Compulsory Purchase Act 2004
The Town and Country Planning (Development Management Procedure) (Wales)
Order 2012
Town and Country Planning General Regulations 1992
(Regulation 3)

DEEMED PLANNING CONSENT

Agent:

The Urbanists
Mr. Mark Farrar
The Creative Quarter
8a, Morgan Arcade
Cardiff
CF10 1AF

Applicant:

Vale of Glamorgan Council
Kelly Williams
Sustainable Communities for Learning
Civic Offices
Holton Road
Barry
CF63 4RU

Proposed replacement St. Richard Gwyn Catholic High School including access, parking, landscape works, formal and informal recreation space, and demolition of the existing school at St. Richard Gwyn RC High School, Argae Lane, St. Andrews Major

The Council in pursuance of its powers under the above mentioned Act and Regulations hereby **GRANTS DEEMED PLANNING CONSENT** for the carrying out of the proposed development as described above and in accordance with the plans registered by the Council on 25 April 2023 subject to the following condition(s):

1. The development shall begin no later than five years from the date of this decision.

Reason:

To comply with the requirements of Section 91 of the Town and Country Planning Act 1990.

2. The development shall be carried out in accordance with the following approved plans and documents (save where plans and documents have been amended by condition):

SRG-HLM-XX-00-DR-L-0011-PLANNING ISSUE - SITE LOCATION PLAN
SRG_HYD_XX_XX_DR_C_0001_P03 - Site Constraints
SRG-HLM-XX-00-DR-L-0009-DEMOLITION PLAN
SRG-HLM-XX-00-DR-A-0010-PROPOSED GROUND FLOOR GA PLAN
SRG-HLM-XX-01-DR-A-0011-PROPOSED FIRST FLOOR GA PLAN
SRG-HLM-XX-02-DR-A-0012-PROPOSED SECOND FLOOR GA PLAN

SRG-HLM-XX-03-DR-A-0013-PROPOSED THIRD FLOOR GA PLAN
SRG-HLM-XX-RF-DR-A-0014-PROPOSED ROOF GA PLAN
SRG-HLM-XX-ZZ-DR-A-0030-PROPOSED GA SECTIONS
SRG-HLM-XX-ZZ-VS-A-0060-PROPOSED VISUALS - SHEET 1
SRG-HLM-XX-ZZ-VS-A-0061-PROPOSED VISUALS - SHEET 2
SRG-HLM-XX-ZZ-VS-A-0062-PROPOSED VISUALS - SHEET 3
SRG-HLM-XX-ZZ-VS-A-0063-PROPOSED VISUALS - SHEET 4
SRG-HLM-XX-ZZ-VS-A-0064-PROPOSED VISUALS - SHEET 5
SRG-HLM-XX-ZZ-DR-A-0020-PROPOSED GA ELEVATIONS-S2
INFORMATION-P04
AMENDED SRG-HLM-XX-ZZ-DR-A-0065-External Materials Palette-P02
AMENDED SRG-HLM-XX-00-DR-L-0014-PLANNING ISSUE - P04 TREE
PROTECTION PLAN
AMENDED SRG-HLM-XX-00-DR-L-0015-PLANNING ISSUE - P04
LANDSCAPE BOUNDARY TREATMENT
AMENDED SRG-HLM-XX-00-DR-L-0017-PLANNING ISSUE - P04 HARD
LANDSCAPE STRATEGY
AMENDED SRG-HLM-XX-00-DR-L-0018-PLANNING ISSUE - P04 SOFT
LANDSCAPE STRATEGY
AMENDED SRG-HLM-XX-00-DR-L-0021-PLANNING ISSUE - P04 BLOCK
PLAN
AMENDED SRG-HLM-XX-00-DR-L-0013-PLANNING ISSUE -
LANDSCAPE MASTERPLAN
AMENDED SRG-HLM-ZZ-ZZ-DR-L-00030-SITE SECTIONS
SRG AECOM Visibility Splay Plans
SRG-HLM-XX-00-DR-L-0019-PROPOSED SITE PLAN WITH SEWER
EASEMENT
SRG-HLM-XX-00-DR-L-0025-BOUNDARY TREATMENT PLAN WITH
SEWER EASEMENT
SRG-HYD-XX-XX-SK-C-0005_P01 - EXISTING ON SITE WELSH WATER
ASSETS
AMENDED SRG-HLM-XX-00-DR-L-0022-PLANNING ISSUE - SWALE
SECTIONS.pdf
SRG-HYD-XX-XX-SK-C-0006_P01 - EXISTING ON SITE WELSH WATER
ASSETS EXTRACT
AMENDED SRG-HYD-XX-XX-SK-C-0002_P06 - SuDS Schematic
SRG-HYD-XX-XX-DR-E-9001 - External Lighting Layout
SRG-HYD-XX-XX-DR-ME-9501 - External Utilities Layout
SRG-HYD-XX-XX-SK-C-0003_P02 - Foul Water Schematic
St Richard Gwyn_Preliminary Ecological Appraisal _V.1.0_compressed
HCUK Archaeology Report_compressed
SRG-HLM-ZZ-XX-RP-A-0002-St. Richard Gwyn Catholic High School-
Design and Access Statement-P03_Part 1of4
SRG-HYD-XX-XX-RP-E-0001 - External Lighting Technical Note
SRG-HYD-XX-XX-RP-ME-0001 - Utilities Statement Technical Note
SRG-HYD-XX-XX-RP-ME-0002 - Energy Strategy Report
SRG-HYD-XX-XX-RP-ME-0003 - RIBA Stage 2 Operational Energy
Report_1
SRG-HYD-XX-XX-RP-Y-1001- St Richard Gwyn School - Baseline Noise
Survey

SRG- 01- Landscape & Visual Report
SRG- 02- Landscape Supporting Graphics (Appendix C)
SRG-HLM-XX-XX-RP-A-0002-Site Constraints & Massing Development
Extract
AMENDED St Richard Gwyn Transport Statement v3
SRG Bat Survey Interim Report
SRG-HYD-XX-XX-RP-C-0002-P01 - SuDS and Drainage
Strategy_compressed
SRG- HLM Response re tanks and sewer
AMENDED 24106-HYD-XX-XX-RP-FR-0003 P05 Flood Consequence
Assessment dated 8 February 2024
AMENDED ArbTS Arboricultural Report

Reason:

For the avoidance of doubt as to the approved development and to accord with Circular 016:2014 on The Use of Planning Conditions for Development Management.

3. Notwithstanding the submitted details, prior to their use within the development hereby approved, a schedule of materials (including samples) to be used in the construction of the development hereby approved shall be submitted to and approved in writing by the Local Planning Authority. The development shall be completed in accordance with the approved details prior to the beneficial occupation of the building hereby approved and thereafter retained.

Reason:

To safeguard local visual amenities, as required by Policies SP1 (Delivering the Strategy), SP10 (Built and Natural Environment), Policy MD2 (Design of New Development) and MD8 (Historic Environment) of the Local Development Plan.

4. The landscaping works approved under plan ref: SRG-HLM-XX-00-DR-L-0018 P04 Soft Landscaping Strategy shall be carried out in accordance with the approved details during the first planting season immediately following completion of the development.

Reason:

To ensure satisfactory maintenance of the landscaped area to ensure compliance with the terms of Policies SP1 (Delivering the Strategy) MD1 (Location of New Development) & MD2 (Design of New Developments) of the Local Development Plan.

5. All planting, seeding or turfing comprised in the approved details of landscaping shall be carried out in the first planting and seeding seasons following the occupation of the buildings or the completion of the development, whichever is the sooner; and any trees or plants which within

a period of the number of years as identified in Condition 6 which relates to the landscape management plan following completion of the development die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species.

Reason:

To ensure satisfactory maintenance of the landscaped area to ensure compliance with Policies SP1 (Delivering the Strategy), MD1 (Location of New Development) & MD2 (Design of New Developments) of the Local Development Plan.

6. A landscape management plan, including management responsibilities and maintenance schedules for all landscaped areas shall be submitted to and approved in writing by the Local Planning Authority prior to the first beneficial use of the school. The landscape management plan shall detail the management of the proposed landscaping for at least 15 years following construction and shall be carried out as approved.

Reason:

To ensure satisfactory maintenance of the landscaped area to ensure compliance with Policies SP1 (Delivering the Strategy) & MD2 (Design of New Developments) of the Local Development Plan.

7. All the trees and hedges shown on the landscaping plan SRG-HLM-XX-00-DR-L-0014- P04 PLANNING ISSUE - TREE PROTECTION PLAN as "to be retained" and/or any trees whose canopies overhang the site shall be protected by strong fencing to BRITISH STANDARD 5837:2012 in the locations as identified on the Tree Protection Plan. The fencing shall be erected in accordance with the approved details before any equipment, machinery or materials are brought onto the site for the purposes of the development, and shall be maintained until all equipment, machinery and surplus materials have been removed from the site. Nothing shall be stored or placed within any fenced area.

Reason:

In order to avoid damage to trees on or adjoining the site which are of amenity value to the area and to ensure compliance with Policies SP1 (Delivering the Strategy) MD1 (Location of New Development) & MD2 (Design of New Developments) of the Local Development Plan.

8. The construction and operational phase of the development shall at all times be carried out in accordance with the recommendations contained within the St Richard Gwyn Preliminary Ecological Appraisal V.1.0 January 2023 and SRG Bat Survey Interim Report dated September 2023.

Reason:

In the interests of ecology and to ensure compliance with Policies SP1 (Delivering the Strategy), MG19 (Sites and Species of European Importance) & MD9 - Promoting Biodiversity of the Local Development Plan & the Council's adopted Supplementary Planning Guidance on Biodiversity.

9. Notwithstanding the submitted Preliminary Ecological Appraisal and Interim Bat Report, prior to the first beneficial use of the development, a Biodiversity Enhancement Strategy addressing enhancement measures shall be submitted to and approved in writing by the Local Planning Authority. The development shall thereafter be carried out in accordance with the approved strategy and timings set out within and thereafter retained in accordance with the approved details whilst the development remains in existence. The Strategy shall include the following:
- a) Details of any bird/bat box provision
 - b) Details of any landscaping features
 - c) Details of any additional ecological enhancements

Reason:

In the interests of ecology and to ensure compliance with Policies SP1 (Delivering the Strategy) and MD9 (Promoting Biodiversity) of the Local Development Plan.

10. Prior to the first beneficial use of the development hereby approved, a Travel Plan shall be submitted to and approved in writing by the Local Planning Authority, which shall include a package of measures tailored to the needs of the site and its future users, which aims to widen travel choices by all modes of transport, encourage sustainable transport and cut unnecessary car use. The Travel Plan shall include:
- Measures to encourage and educate a modal shift away from the private car to travel to school.
 - A travel survey to be undertaken not more than six months upon opening of the new school and the results to be provided to the council's transport/highways departments. This should then be carried out on an annual basis.
 - A report to be provided to the Council annually reviewing the effectiveness of the travel plan and shall include any necessary amendments to the travel plan or additional measures to be implemented.
 - Measures to ensure appropriate and effective management of pedestrian and vehicular traffic
 - A timetable for monitoring and review of the travel plan for a period of not less than 5 years from the date of occupation and shall include any new measures as a result of monitoring

The Travel Plan shall thereafter be completed/implemented in accordance with the approved details.

Reason:

To ensure the development accords with sustainability principles, in the interests of highway and pedestrian and safety and to ensure that the site is accessible by a range of modes of transport in accordance with Policies SP1 (Delivering the Strategy), MD1 (Location of New Development) and MD2 (Design of New Developments) of the Local Development Plan.

11. Prior to the first beneficial use of the development hereby approved, a Traffic & Pedestrian Management Plan shall be submitted to and approved in writing by the Local Planning Authority. The plan will need to provide measures to protect pupils and staff during the pick-up and drop off times. The measures should aim to include the following:

- Priority of afternoon egress for buses over cars
- Highlight pupil desire lines and measure to ensure no cutting across the car drop-off area
- Traffic calming features along the pick-up and drop off area
- Publications to staff, parents and pupils
- Any other measures deemed necessary.

The traffic and pedestrian management plan shall thereafter be completed/implemented in accordance with the approved details.

Reason:

In the interests of Highway / Public Safety and in accordance with Policy MD2 (Design of Development) of the Local Development Plan.

12. Notwithstanding the submitted plans, prior to the commencement of any works, the following engineering details shall be submitted to and approved in writing by the local planning authority:

- Details of the proposed vision splay to the western exit (To include the setting back of the mesh boundary fence adjacent to Argae Lane)
- Details of footways/cycleways
- Kerbing
- Crossing points
- Boundary treatments
- Lighting
- Surfacing
- Road markings
- Signage

The agreed details shall be brought into use prior to the beneficial use of the new school site and thereafter retained at all times.

Reason:

To ensure the minimum Design and Construction Standards are achieved in the interests of Public Safety in accordance with Policy MD2 (Design of New Development) and MD7 (Environmental Protection) of the Local Development Plan.

13. Prior to the commencement of any works a Construction Traffic Management Plan shall be submitted to and approved in writing by the Local Highway/Planning Authority. The CTMP shall include but not be limited to:
- Incorporating delivery outside am & pm school pick / drop off times,
 - Access/haulage Route.
 - Compound layout including parking for construction vehicles.
 - Loading and unloading areas for plant and materials on site. No vehicles to park or unload along Argae Lane or the surrounding area.
 - Measures to control water, mud and debris entering the highway.
 - Suitable boundary treatments to protect pupils and staff.
 - Any signage or traffic management required as part of the development.

The CTMP shall include along with the above, proposals to control, manage and monitor the CTMP requirements.

Reason:

To ensure that highway and pupil/staff safety in the area and the existing school as well as the wider public is not adversely affected by the construction of the development and to meet the requirements of Policies SP1 (Delivering the Strategy) MD2 (Design of New Developments) and MD7 (Environmental Protection) of the Local Development Plan.

14. No development shall commence, including any works of demolition, until a Construction Environment Management Plan (CEMP) has been submitted to, and approved in writing by, the Local Planning Authority. The CEMP shall include the following details:
- CEMP Masterplan: details of the extent and phasing of development, having particular regard to the programme of archaeological work referenced in condition 19 and the works required under Condition 18; location of landscape and environmental resources; design proposals and objectives for integration and mitigation measures.
 - General Site Management: details of the construction programme including timetable, details of site clearance; details of site construction drainage, containments areas, appropriately sized buffer zones between storage areas (of spoil, oils, fuels, concrete mixing and washing areas) and any watercourse or surface drain.

- Construction methods: details of materials, how waste generated will be managed
- Traffic Management: details of site deliveries, plant on site, wheel wash facilities, the parking of vehicles of site operatives and visitors, loading and unloading of plant and materials
- Resource Management: details of fuel and chemical storage and containment; details of waste generation and its management; details of water consumption, wastewater and energy use.
- Storage of plant and materials used in constructing the development;
- The erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate;
- Measures to control and mitigate the emission of dust, smoke, other airborne pollutants and dirt during construction
- Soil Management: details of topsoil strip, storage and amelioration for re-use.
- A scheme for recycling/disposing of waste resulting from demolition and construction works.
- Hours of construction;
- Construction Lighting;
- Management, control and mitigation of noise and vibration;
- Odour management and mitigation
- Pollution Prevention: demonstrate how relevant Guidelines for Pollution Prevention and best practice will be implemented, including details of emergency spill procedures and incident response plan.
- How the developer proposes to accord with the Considerate Constructors Scheme (www.considerateconstructorsscheme.org.uk) during the course of the construction of the development
- Details of the persons and bodies responsible for activities associated with the CEMP and emergency contact details – including self-reporting to NRW via the incident hotline and a system for the management of complaints from local residents which will incorporate a reporting system.
- Landscape/ecological clerk of works to ensure construction compliance with approved plans and environmental regulations.

The construction of the development shall be undertaken in accordance with the approved CEMP.

Reason:

To ensure that the construction of the development is undertaken in a neighbourly manner and in the interests of the protection of amenity and the environment and to ensure compliance with the terms of Policies SP1 (Delivering the Strategy) and MD7 (Environmental Protection) of the Local Development Plan.

15. Prior to the first beneficial use of the development hereby approved, a lighting management strategy for all internal and external lighting shall be submitted to an approved in writing by the Local Planning Authority. The

internal and external lighting shall be operated in line with this lighting management strategy for the lifetime of the development.

Reason:

In the interests of residential amenity, ecology, landscape and visual amenity and to ensure compliance with Policy MD1 - Location of Development and MD2 - Design of Development of the Local Development Plan.

16. Notwithstanding the submitted external lighting layout, details of a revised scheme of external lighting which shall show that no lighting columns/bollards will fall within the sewer easement/protection zone shall be submitted to and approved in writing by the Local Planning Authority prior to its installation. All external lighting shall thereafter be in full accordance with the approved details.

Reason:

In order to ensure that DCWW assets are protected as a result of the development and in accordance with MD2 (Design of Development) of the Local Development Plan.

17. Prior to the first beneficial use of the development hereby approved, a management plan demonstrating how the community will be able to access and use the facilities within the school site, shall be submitted and approved in writing by Local Planning Authority. The community access to the proposed facilities shall thereafter be in line with the approved management plan.

Reason:

In order to ensure the development provided community facilities in accordance with Policy MG7 (Provision of Community Facilities) of the Local Development Plan.

18. Prior to the construction of the proposed buildings within the development site, the proposed flood mitigation measures as detailed in Section 4.5.3.1 of the Flood Consequence Assessment's 'Hydraulic Modelling Report' Reference 24106-HYD-XX-XX-RP-FR-0002/P02 dated 10th March 2023 (Appendix B) and Appendix E must be implemented in accordance with the mitigation strategy and the mitigation strategy shall thereafter be retained and maintained for the lifetime of the development.

Reason:

In order to ensure that the proposed development is adequately mitigated against flooding and in accordance with Policy MD1 (Location of Development) and MD7 (Environmental Protection) of the Local Development Plan

19. Prior to the commencement of any development (including demolition and site clearance), a further programme of archaeological works shall be submitted to and approved in writing by the Local Planning Authority. This shall include an archaeological field evaluation of the development site, in accordance with the findings of the report HCUK Archaeological Desk Based Assessment and the Glamorgan Gwent Archaeological Trust consultee response dated 31 January 2024; in addition to any phasing of works and identify any further archaeological works required prior to, during and following the development of the site. The development shall thereafter be carried out in full accordance with the approved details. Where any further fieldwork and mitigation measures as identified through the archaeological works have been undertaken, these details and findings shall be submitted to and approved in writing by the Local Planning Authority.

Reason:

In order to ensure that archaeological operations are undertaken to an acceptable standard and that legitimate archaeological interest in the site is satisfied and to ensure compliance with Policies SP1 (Delivering the Strategy), SP10 (Built and Natural Environment) and MD8 (Historic Environment) of the Local Development Plan.

20. In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing within 2 days to the Local Planning Authority, all associated works must stop, and no further development shall take place unless otherwise agreed in writing until a scheme to deal with the contamination found has been approved. An investigation and risk assessment must be undertaken and where remediation is necessary a remediation scheme and verification plan must be prepared and submitted to and approved in writing by the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report must be submitted to and approved in writing by the Local Planning Authority. The timescale for the above actions shall be agreed with the LPA within 2 weeks of the discovery of any unsuspected contamination.

Reason:

To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with Policies SP1 (Delivering the Strategy) / MD7 (Environmental Protection) of the Local Development Plan.

21. Any topsoil natural or manufactured, or subsoil, to be imported shall be assessed for chemical or other potential contaminants in accordance with a

scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with Pollution Control's Imported Materials Guidance Notes. Subject to approval of the above, sampling of the material received at the development site to verify that the imported soil is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the Local Planning Authority.

Reason:

To ensure that the safety of future occupiers is not prejudiced in accordance with Policies SP1 (Delivering the Strategy) and MD7 (Environmental Protection) of the Local Development Plan.

22. Any aggregate (other than virgin quarry stone) or recycled aggregate material to be imported shall be assessed for chemical or other potential contaminants in accordance with a scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with Pollution Control's Imported Materials Guidance Notes. Subject to approval of the above, sampling of the material received at the development site to verify that the imported soil is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the Local Planning Authority.

Reason:

To ensure that the safety of future occupiers is not prejudiced in accordance with Policies SP1 (Delivering the Strategy) & MD7 (Environmental Protection) of the Local Development Plan.

23. Any site won material including soils, aggregates, recycled materials shall be assessed for chemical or other potential contaminants in accordance with a sampling scheme which shall be submitted to and approved in writing by the Local Planning Authority in advance of the reuse of site won materials. Only material which meets site specific target values approved by the Local Planning Authority shall be reused.

Reason:

To ensure that the safety of future occupiers is not prejudiced in accordance with Policies SP1 (Delivering the Strategy) & MD7 (Environmental Protection) of the Local Development Plan.

24. Prior to commencement of any works a pre-construction condition survey shall be undertaken at the developers expense of the extents fronting the site along Argae Lane for extents to be agreed by the Highways Network Manager which shall undertaken by a suitably qualified and experienced an independent Highway Maintenance Consultant to be approved by the Local Highway / Planning Authority.

Reason:

To ensure that any damage to the adopted highway sustained throughout the development process can be identified and subsequently remedied at the expense of the developer in accordance with Policy MD2 (Design of New Developments) of the Local Development Plan.

25. A Second condition survey shall be undertaken at the developers expense of the agreed extents upon completion of the site or at a time which the Highway Authority instructs. Any defects identified with the second conditions survey that the highway authority considers necessary as a direct result of the works shall be rectified at the developers expense.

Reason:

To ensure that any damage to the adopted highway sustained throughout the development process can be identified and subsequently remedied at the expense of the developer in accordance with Policy MD2 (Design of New Developments) of the Local Development Plan.

26. Prior to the first beneficial use of the development hereby approved, a new Traffic Regulation Order shall have been put into place along Argae Lane to include no waiting and no loading restrictions, school keep clear markings, removal of bus bay markings, signage and any other extents required by the Council's Highway Authority.

Reason:

In the interests of Highway / Public Safety and in accordance with Policy MD2 of the Local Development Plan.

27. Prior to the first beneficial use of the development hereby approved, a potable water scheme to serve the development has been submitted to and approved in writing by the Local Planning Authority. The scheme shall demonstrate that the existing water supply system can suitably accommodate the proposed development. If necessary, a scheme to reinforce the existing public water supply system in order to accommodate the development shall be delivered prior to the occupation of any building. Thereafter, the agreed scheme shall be constructed in full and remain in perpetuity.

Reason:

To ensure the development is served by a suitable potable water supply in accordance with Policy MD2 (Design of Development) of the Local Development Plan.

28. No surface water and/or land drainage shall be allowed to connect directly or indirectly with the public sewerage network.

Reason:

To prevent hydraulic overloading of the public sewerage system, pollution of the environment and to protect the health and safety of existing residents and ensure no detriment to the environment and to comply with the terms of Policies SP1 (Delivering the Strategy), MD1 (Location of New Development) and MD7 (Environmental Protection) of the Local Development Plan.

29. Prior to the first beneficial use of the development hereby approved, a Flood Warning and Evacuation Plan (FWEP) shall be submitted to and approved in writing by the Local Planning Authority, and shall include details of flood warning services and safe evacuation routes. The management and operation of the site shall thereafter be carried out in accordance with the approved details.

Reason:

To protect the health and safety of future users of the development and to comply with the terms of Policies SP1 (Delivering the Strategy), MD1 (Location of New Development) and MD7 (Environmental Protection) of the Local Development Plan

30. Notwithstanding the submitted hard landscaping plan REF: AMENDED SRG-HLM-XX-00-DR-L-0017-PLANNING ISSUE - P04 HARD LANDSCAPE STRATEGY, a revised scheme of hard landscaping which shall show that no permeable paving is to be installed in the western car park (above the drainage tanks) shall be submitted to and approved in writing by the Local Planning Authority prior to undertaking any external works. The hard landscaping shall be installed in full accordance with the approved details prior to the first occupation of the redeveloped school site.

Reason:

In order to ensure that DCWW assets are protected as a result of the development and in accordance with MD2 (Design of Development) of the Local Development Plan.

Reason for Granting Planning Permission

The decision to recommend planning permission has been taken in accordance

with Section 38 of The Planning and Compulsory Purchase Act 2004, which requires that, in determining a planning application the determination must be in accordance with the Development Plan unless material considerations indicate otherwise. The Development Plan for the area comprises the Vale of Glamorgan Adopted Local Development Plan 2011-2026 and Future Wales – the National Plan 2040.

Having regard to Policies SP1 - Delivering the Strategy; SP7 - Transportation; SP9 - Minerals; SP10 - Built and Natural Environment; MG6 - Provision of Educational Facilities; MG7 - Provision of Community Facilities; MG16 - Transport Proposals; MG22 - Development in Minerals Safeguarding Areas; MD1 - Location of New Development; MD2 - Design of New Development; MD7 - Environmental Protection; and MD9 - Promoting Biodiversity of the Vale of Glamorgan Adopted Development Plan 2011-2026, PPW 12, Future Wales – The National Plan 2040, TANs 11, 12, 15, 16 and 18 and the Councils SPG on Biodiversity and Development, Mineral Safeguarding, Parking Standards, Sustainable Development – A Developers Guide, Travel Plans and Trees, Woodlands, Hedgerows and Development, the proposed development, subject to compliance with conditions, is considered acceptable in principle and in respect of design and visual impact, residential amenity, highway and pedestrian safety, parking, traffic, open space and sport facilities, ecology, flooding and drainage, archaeology, and green infrastructure.

Having regard to the Council's duties under the Equality Act 2010 the proposed development does not have any significant implications for, or effect on, persons who share a protected characteristic.

It is considered that the decision complies with the Council's well-being objectives and the sustainable development principle in accordance with the requirements of the Well-being of Future Generations (Wales) Act 2015.

The appropriate marine policy documents have been considered in the determination of this application in accordance with Section 59 of the Marine and Coastal Access Act 2009.

NOTE:

1. The contamination assessments and the effects of unstable land are considered on the basis of the best information available to the Planning Authority and are not necessarily exhaustive. The Authority takes due diligence when assessing these impacts, however you are minded that the responsibility for
 - (i) determining the extent and effects of such constraints;
 - (ii) ensuring that any imported materials (including, topsoils, subsoils, aggregates and recycled or manufactured aggregates/ soils) are chemically suitable for the proposed end use. Under no circumstances should controlled waste be imported. It is an offence under Section 33 of the

Environmental Protection Act 1990 to deposit controlled waste on a site which does not benefit from an appropriate waste management license. The following must not be imported to a development site;

- Unprocessed / unsorted demolition wastes.
- Any materials originating from a site confirmed as being contaminated or potentially contaminated by chemical or radioactive substances.
- Japanese Knotweed stems, leaves and rhizome infested soils. In addition to section 33 above, it is also an offence under the Wildlife and Countryside Act 1981 to spread this invasive weed; and

(iii) the safe development and secure occupancy of the site rests with the developer.

Proposals for areas of possible land instability should take due account of the physical and chemical constraints and may include action on land reclamation or other remedial action to enable beneficial use of unstable land.

The Local Planning Authority has determined the application on the basis of the information available to it, but this does not mean that the land can be considered free from contamination.

2. Warning: An European protected species (EPS) Licence is required for this development.

This planning permission does not provide consent to undertake works that require an EPS licence.

It is an offence to deliberately capture, kill or disturb EPS or to recklessly damage or destroy their breeding sites or resting places. If found guilty of any offences, you could be sent to prison for up to 6 months and/or receive an unlimited fine.

To undertake the works within the law, you can obtain further information on the need for a licence from Natural Resources Wales on 0300 065 3000 or at <https://naturalresources.wales/conservation-biodiversity-and-wildlife/european-protected-species/?lang=en>

3. The attention of the applicant is brought to the fact that a public right of way is affected by the proposal. The grant of planning permission does not entitle one to obstruct, stop or divert a public right of way. Development, in so far as it affects a right of way, must not be commenced until the necessary legal procedures have been completed and confirmed for the diversion or extinguishment of the right of way.
4. New developments of more than one dwelling or where the area covered by construction work equals or exceeds 100 square metres as defined by The Flood and Water Management Act 2010 (Schedule 3), will require SuDS Approval Body (SAB) approval prior to the commencement of construction.

Further information of the SAB process can be found at our website or by contacting our SAB team: sab@valeofglamorgan.gov.uk

5. The applicant should be aware that Dwr Cymru Welsh Water have 24/7 access to their assets.

Please note that this consent is specific to the plans and particulars approved as part of the application. Any departure from the approved plans will constitute unauthorised development and may be liable to enforcement action. You (or any subsequent developer) should advise the Council of any actual or proposed variations from the approved plans immediately so that you can be advised how to best resolve the matter.

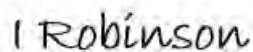
In addition, any conditions that the Council has imposed on this consent will be listed above and should be read carefully. It is your (or any subsequent developers) responsibility to ensure that the terms of all conditions are met in full at the appropriate time (as outlined in the specific condition).

The commencement of development without firstly meeting in full the terms of any conditions that require the submission of details prior to the commencement of development will constitute unauthorised development. This will necessitate the submission of a further application to retain the unauthorised development and may render you liable to formal enforcement action.

Failure on the part of the developer to observe the requirements of any other conditions could result in the Council pursuing formal enforcement action in the form of a Breach of Condition Notice.

Dated: 26 April 2024

Ian Robinson



Head of Sustainable Development

Appendix C
Site Phasing Plans

**ENABLING WORKS
PHASE 1 Rev1
22.11.24**

School uses existing car parks

Extend Overflow Car Park

Site Boundary

8m ? DCWW Easement

Disconnect/Divert Solar Power Cable

Topstrip Area & Create Temporary Contractor Cabin/Parking Area

Remove Trees

Install New Gate to avoid HGV loading DCWW tanks

Gate Closed during main pupil access hours

Remove Hedgerow

Create Haul Road

SITE RED LINE BOUNDARY

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Rev: 0000 FOR PLANNING
Rev: Description
Rev: Date
Rev: Submitter

Project:
**ST RICHARD GWYN
SECONDARY SCHOOL**

Client:
VALE OF GLAMORGAN

Title:
**PLANNING ISSUE -
EXISTING SITE PLAN**

Drawing No: SRG-HLM-XX-00-DR-L-0012
Revision: P01

Scale: 1:500 @A0
Drawn: YA
Checked: CMN
Date: 24/02/2023



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1:500
1:500

**ENABLING
WORKS
PHASE 2 Rev1
22.11.24**

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Extend Existing
School Staff Car
Park : NB leave
working space
for Swale/Basin
Construction

Temporary
School Staff
Car Park

Pupils Access to
Public Footpath &
temporary bike
shed

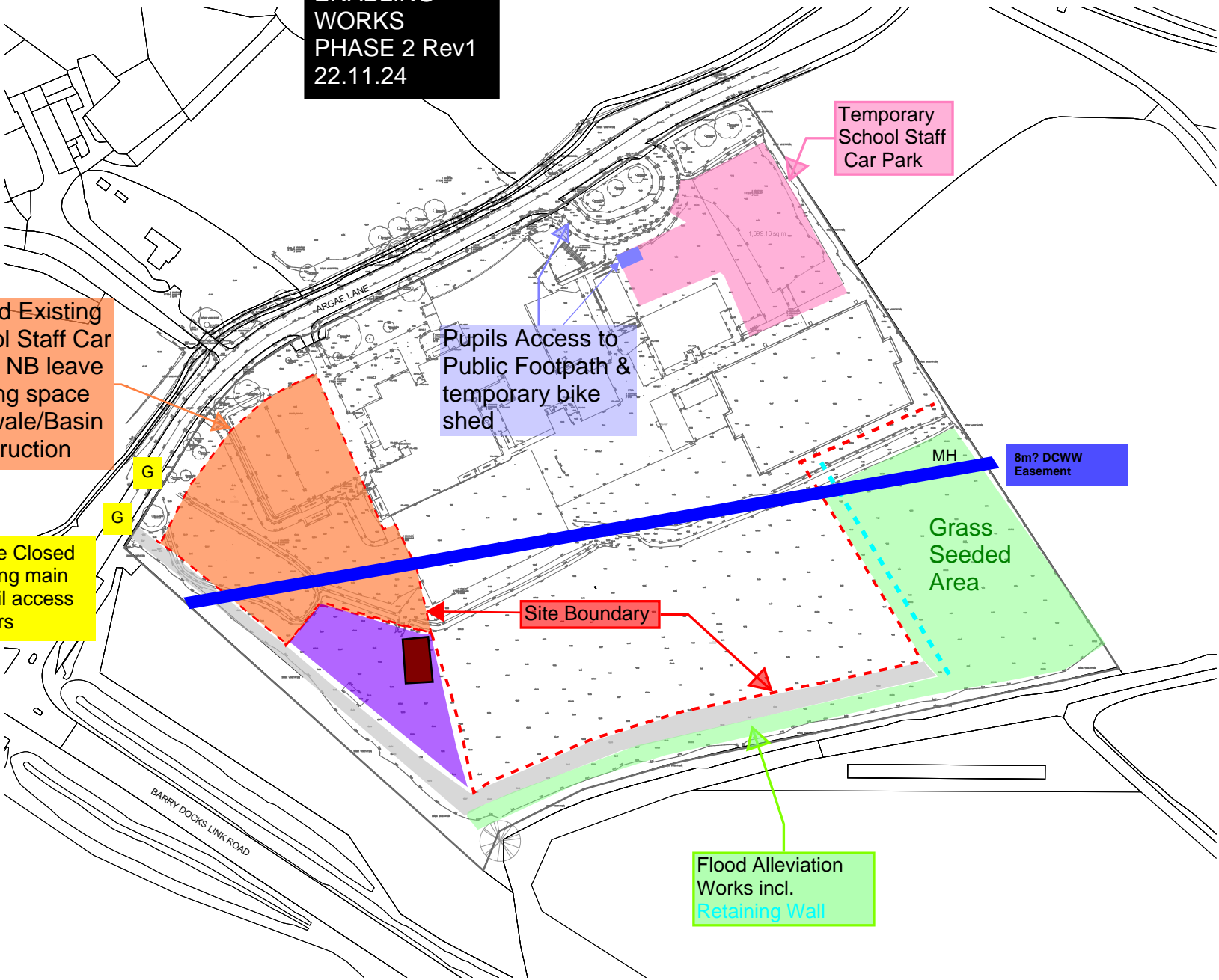
Gate Closed
during main
pupil access
hours

8m? DCWW
Easement

Grass
Seeded
Area

Site Boundary

Flood Alleviation
Works incl.
Retaining Wall



Prep	0000 FOR PLANNING	00/00/00	VA
Rev	Description	Date	By
Revisions			Substantive
Project	ST RICHARD GWYN SECONDARY SCHOOL		
Client	VALE OF GLAMORGAN		
Title	PLANNING ISSUE - EXISTING SITE PLAN		
Drawing No.	SRG-HM-XX-00-DR-L-0012	Revision	P01
Scale	1:500 @A0	Drawn	YA
Date	24/02/2023	Checked	CMN

**ENABLING WORKS
PHASE 3 Rev1
22.11.24**

Create Temporary Pupil Footpath for underpass access, prior to S278 pavement works

Install Attenuation Cells, Pipe Work & Retaining Wall

Pupils Access to Public Footpath

Gate Closed during main pupil access hours

G

School Staff Car Park

Site Boundary

MH
8m? DCWW Easement

Grass Seeded Area

Flood Alleviation Works

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3.2
1:500
1:1000

SITE RED LINE BOUNDARY

Pre: 0000 FOR PLANNING
Rev: Description
Revision: Date
Project: Subproject

**ST RICHARD GWYN
SECONDARY SCHOOL**

VALE OF GLAMORGAN

**PLANNING ISSUE -
EXISTING SITE PLAN**

Drawing No: SRG-HLM-XX-00-DR-L-0012
Revision: P01

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24/02/2023



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SITE RED LINE BOUNDARY



ENABLING WORKS PHASE 4 Rev1 22.11.24

Public Footpath Closed for Roadworks : Pupils divert around on Temporary Internal Footpath to Underpass

S278 Public Footpath Works for Flood Alleviation

Gate Closed during main pupil access hours

School Staff Car Park

Flood Alleviation Works

Pupils Access to Public Footpath

Site Boundary

Contractor Car Park

Set-Up Main Site Cabins

8m? DCWW Easement

Grass Seeded Area

MH

G

BARRY DOCKS LINK ROAD

ARCADIA LANE

Rev: 0000 FOR PLANNING
 Rev: Description Date By
 Revision: Submitter

Project: ST RICHARD GWYN SECONDARY SCHOOL

Client: VALE OF GLAMORGAN

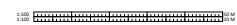
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Drawing No: SRG-HLM-XX-00-DR-L-0012
 Revision: P01

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— SITE RED LINE BOUNDARY



**ENABLING WORKS
 PHASE 5 Rev1
 22.11.24**

Temporary Pedestrian Footpath (fenced off in school grounds) to Site Offices?

Completion of Flood Alleviation east to west to allow existing gate(G) to be utilised for car park access whilst existing access (A) is replaced

Contractor Car Park

Main Site Cabins 12x18m double stacked

Containers

Pupils Access to Public Footpath

8m? DCWW Easement

MH
 Grass Seeded Area

Site Boundary

Gate Closed during main pupil access hours

School Staff Car Park

Flood Alleviation Works

BARRY DOCKS LINK ROAD

ARGAE LANE

Pre: 0000 FOR PLANNING
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 Revision: Submitter

**ST RICHARD GWYN
 SECONDARY SCHOOL**

VALE OF GLAMORGAN

**PLANNING ISSUE -
 EXISTING SITE PLAN**

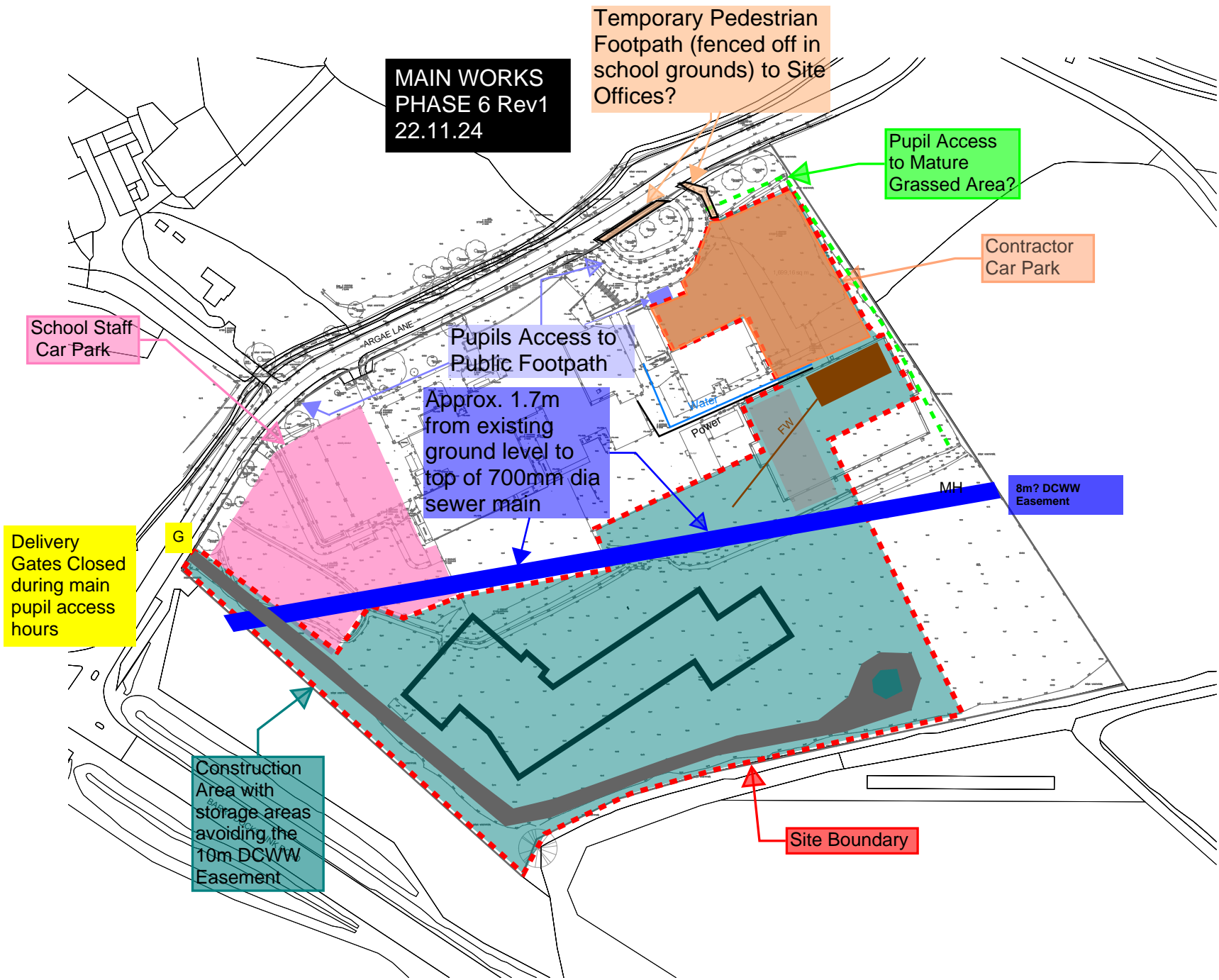
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SITE RED LINE BOUNDARY



**MAIN WORKS
 PHASE 6 Rev1
 22.11.24**

Temporary Pedestrian
 Footpath (fenced off in
 school grounds) to Site
 Offices?

Pupil Access
 to Mature
 Grassed Area?

Contractor
 Car Park

School Staff
 Car Park

Pupils Access to
 Public Footpath

Approx. 1.7m
 from existing
 ground level to
 top of 700mm dia
 sewer main

8m? DCWW
 Easement

Delivery
 Gates Closed
 during main
 pupil access
 hours

Construction
 Area with
 storage areas
 avoiding the
 10m DCWW
 Easement

Site Boundary

Pre: 0000 FOR PLANNING
 Rev: Description Date By
 Revision: Submitter

**ST RICHARD GWYN
 SECONDARY SCHOOL**

VALE OF GLAMORGAN

**PLANNING ISSUE -
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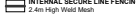





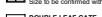


**DEMO WORKS
PHASE 7 Rev1
22.11.24**

Demolition Area

Site Cabins

Direction of Works

KEY:

-  INTERNAL SECURE LINE FENCING
2.4m High Weld Mesh
-  HIGH SECURE LINE BOUNDARY WELDMESH FENCE
2.4m High Fence with appropriate visibility
-  SPORT GRADE FENCE TO SPORT ENGLAND STANDARD
3.0m High Weld Mesh with Polycarbonate Panel
-  HIGH TIMBER FENCE
1.2m High Timber fence with associated maintenance gate
-  TIMBER GUARDRAIL
1.5m High
-  DOUBLE LEAF VEHICLE AND PEDESTRIAN GATE
(Size to be confirmed with Engineer)
-  DOUBLE LEAF GATE
2.0m Wide Gate
-  SINGLE LEAF GATE
1.5m Wide Gate
-  EXISTING MANHOLE LOCATIONS AROUND TANKS AND SEWER LINE

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Rev	Revised/LAYOUT AS PER PLANNING COMMENTS	13/10/2023	HY
Rev	PARENT GROUP - NOT ADDED AS PER PLANNING COMMENTS	13/10/2023	HY
Rev	ADJUSTMENTS TO HIGHWAY, BRICKS AND PLANTING ONLY	13/10/2023	VT
Rev	ISSUE FOR PLANNING	09/10/2023	VA


Rev	Drawings	Date	To
Rev	Revisions	Date	Substituted

Project: **ST RICHARD GWYN SECONDARY SCHOOL**

Client: **VALE OF GLAMORGAN**

Title: **PLANNING ISSUE - LANDSCAPE BOUNDARY TREATMENT PLAN**
 SRG-HLM-XX-00-DR-L-0015 P04

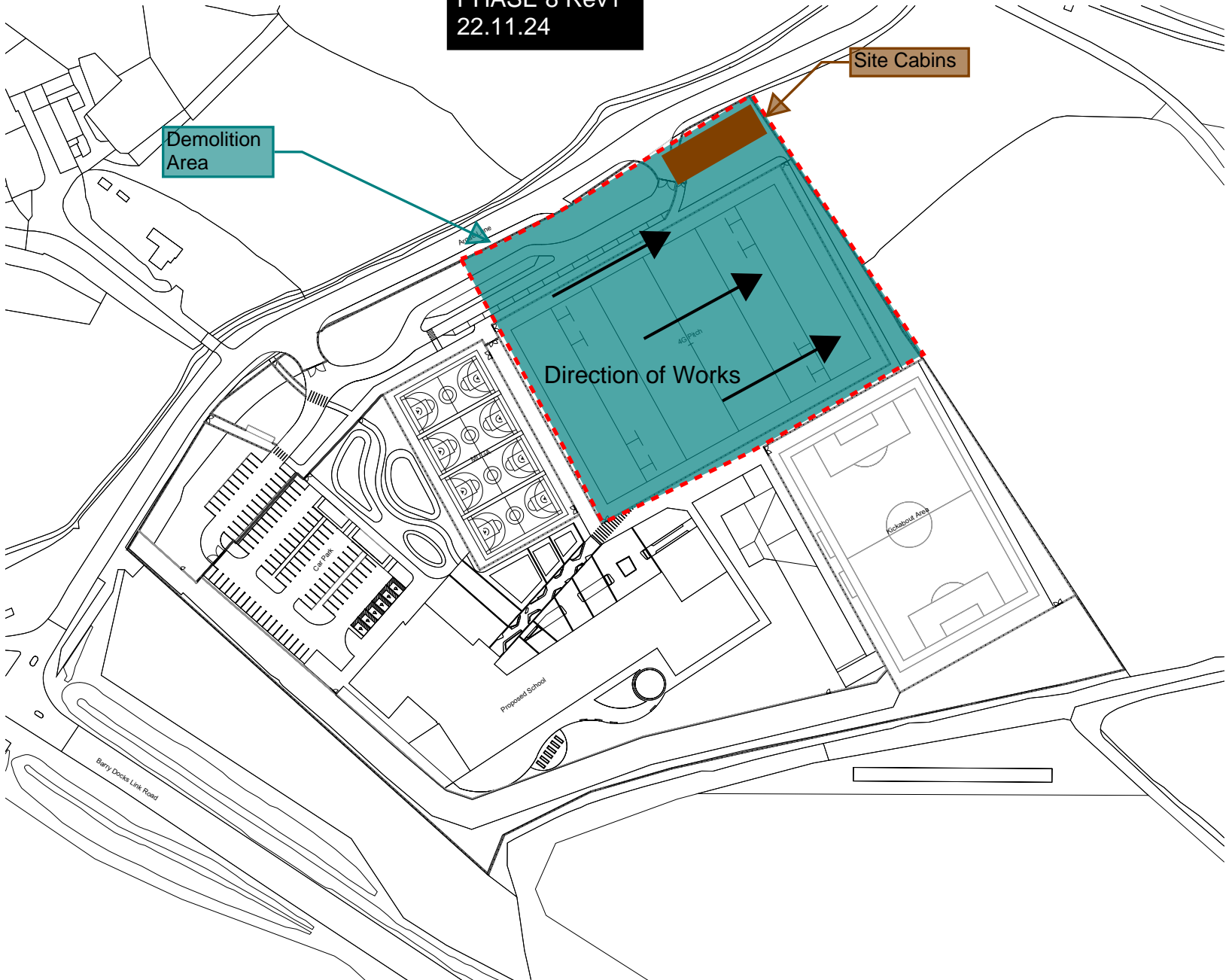
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25/08/2023	CMN



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**DEMO WORKS
PHASE 8 Rev1
22.11.24**



Demolition Area

Site Cabins

Direction of Works

- KEY:
- INTERNAL SECURE LINE FENCING
2.4m High Weld Mesh
 - HIGH SECURE LINE BOUNDARY WELDMESH FENCE
2.4m High Fence with appropriate visibility
 - SPORT GRADE FENCE TO SPORT ENGLAND STANDARD
2.0m High Weld Mesh with Polycarbonate Panel
 - HIGH TIMBER FENCE
1.2m High Timber fence with associated maintenance gate
 - TIMBER GUARDRAIL
1.2m High
 - DOUBLE LEAF VEHICLE AND PEDESTRIAN GATE
(Size to be confirmed with Engineer)
 - DOUBLE LEAF GATE
2.0m Wide Gate
 - SINGLE LEAF GATE
1.5m Wide Gate
 - EXISTING MANHOLE LOCATIONS AROUND TANKS AND SEWER LINE

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Rev	Description	Date	By
01	ISSUED LAYOUT AS PER PLANNING COMMENTS	15/12/2023	HW
02	PARENT GROUP ONLY ADDED AS PER PLANNING COMMENTS	15/12/2023	HW
03	AMENDMENTS TO HIGHWAY, OFFICIAL AND PLANNING BODY	15/12/2023	VT
04	REV. ISSUED FOR PLANNING	09/12/2023	VA

Project: ST RICHARD GWYN SECONDARY SCHOOL

Client: VALE OF GLAMORGAN

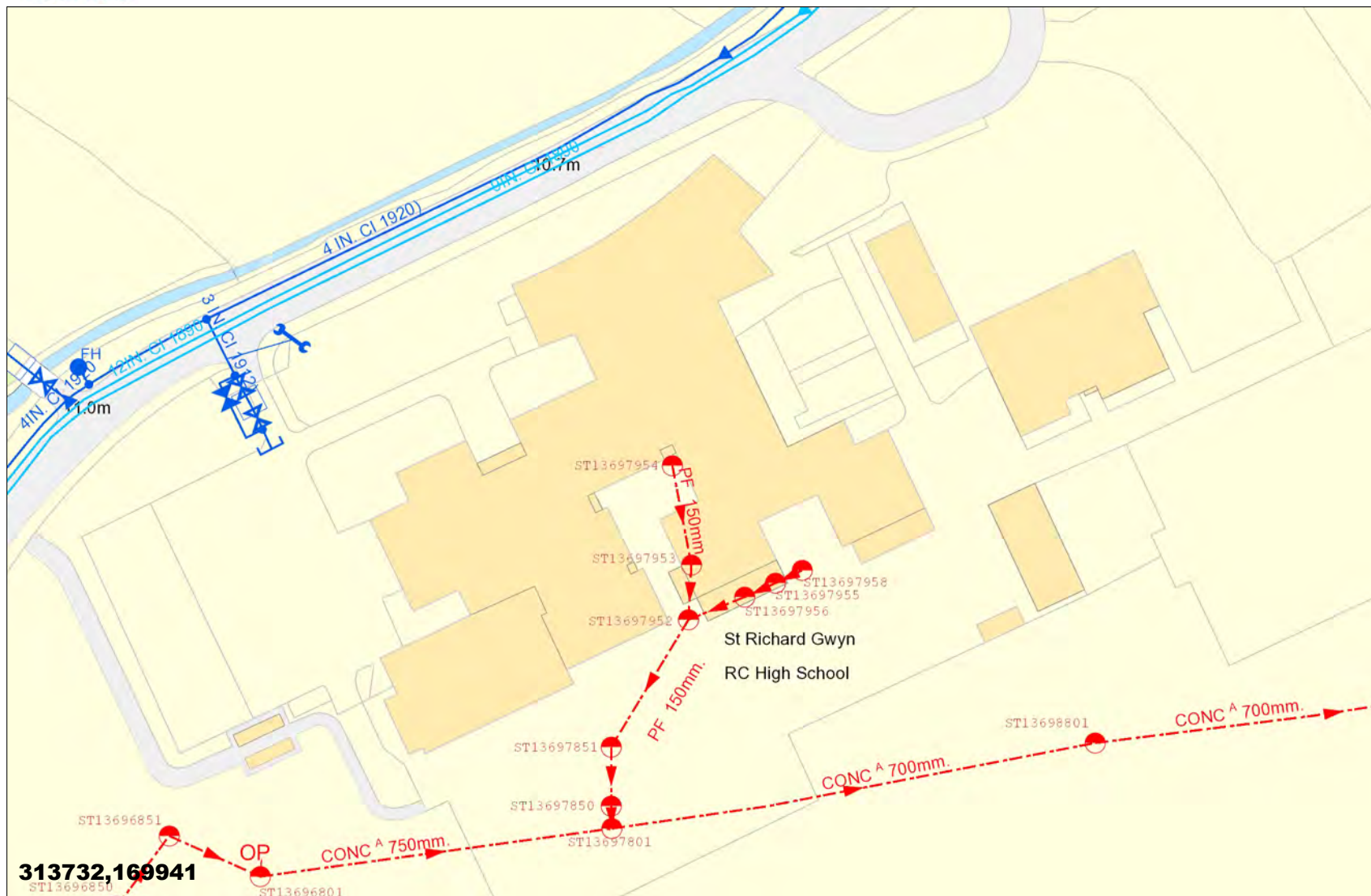
Title: PLANNING ISSUE - LANDSCAPE BOUNDARY TREATMENT PLAN
Revision: PD4

Scale:	Drawn:
1: 500 @A0	AC
Date:	Checked:
25/08/2023	CMN

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Appendix D

Existing Drainage



LEGEND

Clean Water

-  Sluice Val
-  Air Val, SINGLE
-  Tap
-  Pressure Reducing Valve
-  Meter
-  BULK Meter
-  FH
-  Cap
-  Existing Main
-  NON COMPANY

Sewerage External

-  Foul
-  Surface Water
-  Combined
-  Rising Main
-  Private
-  Treatment Works
-  Pumping Station
-  Special Purpose
-  Unknown End
-  Change, Combined Overflow
-  Outfall, FOUL
-  Lamp Hole, Foul
-  Private Sewer Transfer
-  Lateral Drain
-  Inspection Chamber

313732,169941

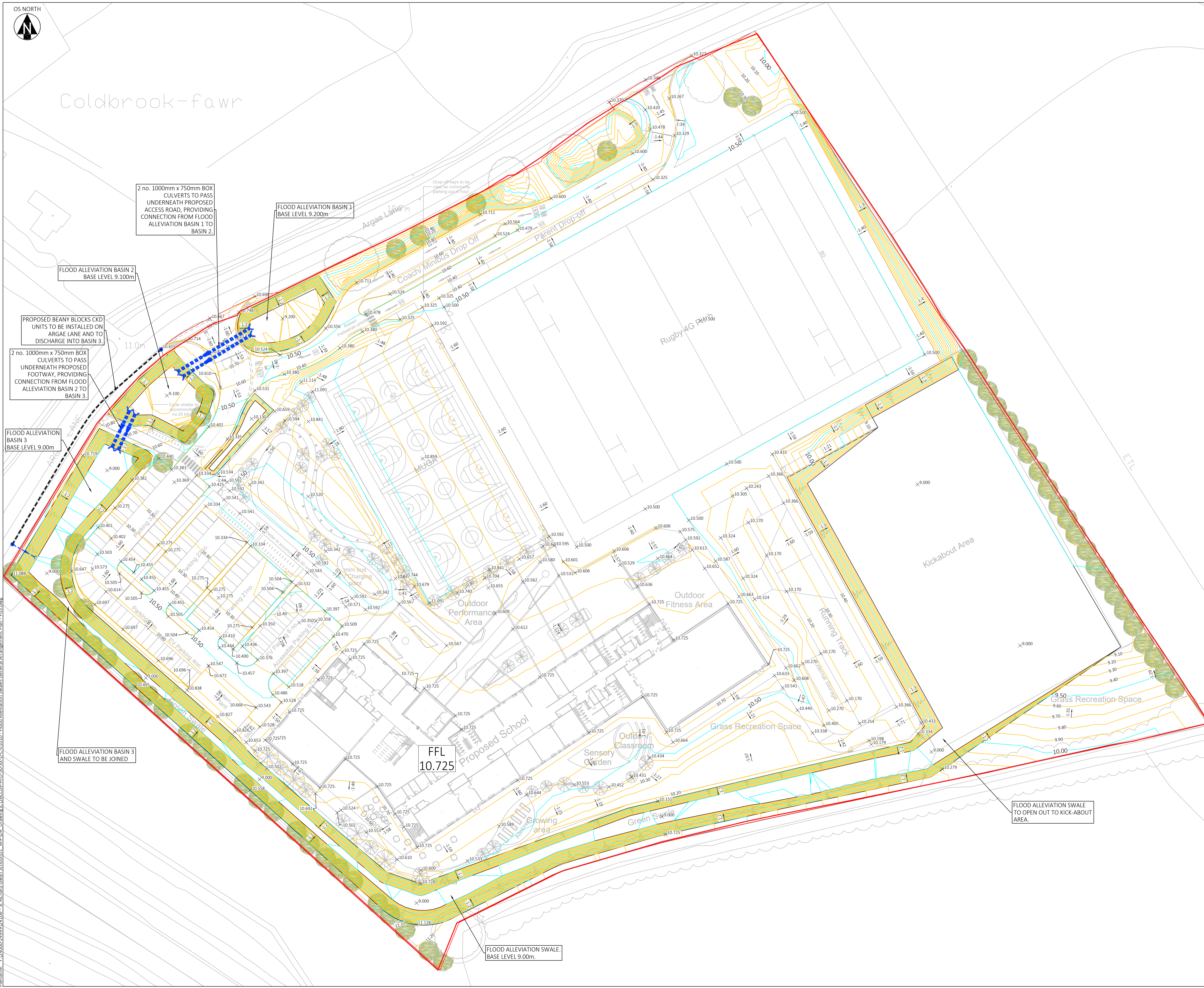
Dwr Cymru Cyfyngedig ('the Company') gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus. The onus of locating apparatus before carrying out any excavations rests entirely on you. The information which is supplied by the Company, is done so in accordance with statutory requirements of sections 198 and 199 of the Water Industry Act 1991 which is based upon the best information available and, in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclose the existence of a water main, service pipe, sewer, lateral drain or disposal main and any associated apparatus laid before 1 September 1989, or, if they do, the particulars thereof including their position underground may not be accurate. It must be understood that the furnishing of this information is entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the Company's right to be compensated for any damage to its apparatus.

EXACT LOCATION OF ALL APPARATUS TO BE DETERMINED ON SITE

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Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be Asbestos Cement (AC) or Pitch Fibre (PF). It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

Appendix E
Flood Alleviation Plan



DO NOT SCALE

- KEY**
- RED LINE BOUNDARY
 - PROPOSED CONTOURS (0.1M INCREMENT)
 - PROPOSED SPOT LEVEL
 - PROPOSED GRADIENT

- NOTES:**
1. DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT PROJECT DRAWINGS AND WITH THE HEALTH AND SAFETY INFORMATION PROVIDED AND/OR WITHIN THE PRE-CONSTRUCTION INFORMATION.
 2. USE OF THIS DRAWING DOES NOT ABSOLVE THE CLIENT FROM HIS RESPONSIBILITIES UNDER THE HEALTH AND SAFETY, THE CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015. THE PRINCIPAL DESIGNER IS REQUIRED TO CONTACT HYDROCK CONSULTANTS PRIOR TO PERMITTING THIS DRAWING TO BE USED IN CONNECTION WITH ANY CONSTRUCTION WORKS.
 3. BEFORE COMMENCEMENT OF ANY WORKS ASSOCIATED WITH THE DRAWING REFER TO ALL RELEVANT HEALTH AND SAFETY INFORMATION FOR THE WORKS INCLUDING RESIDUAL RISK INFORMATION.
 4. THE CONTRACTOR SHOULD COMPLY WITH HS(G) 47 "AVOIDING DANGER FROM UNDERGROUND SERVICES" WHEN PLANNING, LOCATING AND EXCAVATING AROUND EXISTING SERVICES. IT IS KNOWN THAT EXISTING UTILITY COMPANY UNDERGROUND SERVICES AND APPARATUS ARE PRESENT WITHIN THE PROPOSED WORKS AREA AND IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE EXISTING SERVICES ON SITE ACCURATELY.
 5. INFORMATION REGARDING THE LOCATION AND DEPTH OF EXISTING SERVICES CANNOT BE GUARANTEED BY THE STATUTORY UNDERTAKER.
 6. THE CONTRACTOR SHALL CONDUCT THE WORKS WITH DUE REGARD FOR THE ECOLOGICAL AND ENVIRONMENTAL REQUIREMENTS OF THE SCHEME.
 7. THE DRAWING SHALL BE USED FOR THE INTENDED PURPOSE ONLY AND THIS DRAWING HAS BEEN BASED ON INFORMATION PROVIDED BY OTHER PARTIES AND HYDROCK DO NOT WARRANT THE ACCURACY OF THIS INFORMATION. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWING AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DIMENSIONS AND LEVELS ON SITE FOR THE ACTUAL SETTING OUT OF THE WORKS. DIMENSIONS MARKED 'DIMENSIONS TO BE SITE CHECKED' ARE SUBJECT TO CONFIRMATION BY THE CONTRACTOR BEFORE THE WORKS COMMENCE.
 8. HYDROCK IS NOT RESPONSIBLE FOR CHECKING DIMENSIONS ON SITE.
 9. HYDROCK IS NOT RESPONSIBLE FOR SETTING OUT GRID LINES, BUILDING LINE ETC.
 10. HYDROCK IS NOT RESPONSIBLE FOR DIMENSIONS USED IN THE ORDERING AND MANUFACTURING OF EQUIPMENT AND THIS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 11. ALL FIGURED LEVELS ARE IN METRES AND RELATED TO EXISTING SURVEY GRID & DATUM UNLESS NOTED OTHERWISE.
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 16. CONFLICTING INFORMATION SHOWN ON THE ENGINEER'S DRAWINGS OR DISCREPANCIES BETWEEN THE INFORMATION GIVEN BY THE ENGINEER AND THAT PROVIDED BY OTHERS MUST BE REFERRED TO THE ENGINEER BEFORE THE WORKS COMMENCE.

FLOOD ALLEVIATION SCHEME - TREE CONSTRAINTS

THE FLOOD ALLEVIATION SCHEME HAS BEEN DEVELOPED IN ACCORDANCE WITH THE ORIGINAL SCHEME PRINCIPLES THAT HAVE BEEN AGREED BETWEEN AECOM AND THE VALE OF GLAMORGAN. FOR THE PURPOSES OF OUTLINE COSTING REASONABLE ALLOWANCES SHOULD BE MADE ON QUANTITIES, BASED ON THE TARGET ARRANGEMENT AND PRINCIPLES SHOWN ON THE DRAWINGS, AHEAD OF THE DETAILED DESIGN BEING COMPLETED DURING STAGE 4. THIS SHOULD INCLUDE A REASONABLE CONSIDERATION FOR ONGOING DISCUSSIONS AROUND TREE CONSTRAINTS BETWEEN THE CLIENT AND MAIN CONTRACTOR. ANY ALTERATIONS TO THE DESIGN AS A RESULT OF THESE DISCUSSIONS INCLUDING SUBSEQUENT PROGRAMME DELAYS THROUGH STATUTORY AUTHORITY APPROVAL PROCESSES (POTENTIALLY UP TO 9-12 MONTHS) AND QUANTITIES THAT WILL BE REFINED IN STAGE 4 FOR MORE DEFINED COST CERTAINTY.

REVISIONS

Rev.	Revision Notes	Date	Drawn By	Checked	Approved
P05	Site levels updated.	31/01/25	MPC	MPC	CP
P04	750mm Pipes linking FAS basins changed to 1000mm x 750mm box culvert.	27/01/25	MPC	MPC	CP
P03	Stage 3 Issue. 750mm Pipes added to link Basins 2 and 3.	24/01/25	MPC	MPC	CP
P02	Levels updated to suit new site layout	16/01/25	MPC	MPC	CP
P01	First Issue	17/12/24	MPC	MPC	CP

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CLIENT
**MORGAN SINDALL
VALE OF GLAMORGAN**

PROJECT
ST RICHARD GWYN SCHOOL

TITLE
**FLOOD ALLEVIATION SWALES
GENERAL ARRANGEMENT PLAN**

HYDROCK PROJECT NO. C-24106	SCALE @ A1 1:500	STATUS S4
STATUS DESCRIPTION SUITABLE FOR STAGE APPROVAL		REVISION P05
DRAWING NO. 26CC09-HYD-50-XX-D-C-01010		

Filename: V:\24000-24999\24106 - St Richard Gwyn School\01 - MIP\08 - Drawings\26CC09-HYD-50-XX-D-C-01010 - Flood Alleviation Swales General Arrangement Plan - P05.dwg

Appendix F
Temporary Drainage Plans



Coldbrook-fawr

ALL SUDS FEATURES COMPLETE WITH COMPLETION OF PHASE 3.
DISCHARGE RATE OF COMPLETE FEATURES DO NOT EXCEED 11.7l/s IN THE CRITICAL 100 YEAR EVENT
(29.8l/s BELOW EXISTING PRO RATA)

TOTAL SITE AREA = 5.13ha
EXISTING RUNOFF RATE = 72.09l/s
EXISTING PRO RATA RUNOFF RATE (HARDSTANDING) = 41.5l/s

PHASE 3
AREA = 1.78ha
EXISTING PRO RATA RUNOFF RATE = 14.3l/s

PHASE 1+2+3
AREA = 5.13ha
EXISTING PRO RATA RUNOFF RATE = 41.5l/s

PHASE 1 PROPOSED WILL DISCHARGE AT THE EXISTING RATE AS THE SUDS FEATURE WILL NOT BE FULLY COMPLETE UNTIL PHASE 3 - 16.7l/s (NO CHANGE TO EXISTING)

SUDS FEATURE SUBBASE CROSSES PHASE 1/PHASE 3 BOUNDARY. PHASE 1 SECTION OF SUDS FEATURE TO TEMPORARILY DRAIN DOWNSTREAM UNTIL PHASE 3 IS COMPLETE AND FEATURE OPERATES AS A WHOLE. DISCHARGE RATE OF COMPLETE FEATURE DOES NOT EXCEED 4.5l/s IN THE CRITICAL 100 YEAR EVENT

PHASE 1
AREA = 2.07ha
EXISTING PRO RATA RUNOFF RATE = 16.7l/s

PERMANENT STORAGE BUILT EARLY - SIZE IS TO BE DECIDED ON SITE DUE TO POSITION OF MODULAR CLASSROOMS

PHASE 2 PROPOSED DISCHARGE - 12.4l/s + PH 1 = 29.1l/s (2l/s GREATER THAN EXISTING PRO RATA PH1+PH2)

TEMPORARY DRAINAGE ROUTE

SUDS FEATURE SUBBASE CROSSES PHASE 1/PHASE 2 BOUNDARY. PHASE 2 SECTION OF SUDS FEATURE TO TEMPORARILY DRAIN DOWNSTREAM. DISCHARGE RATE OF COMPLETE FEATURE DOES NOT EXCEED 6.8l/s IN THE CRITICAL 100 YEAR EVENT

PHASE 2
AREA = 1.28ha
EXISTING PRO RATA RUNOFF RATE = 10.3l/s

PHASE 1+2
AREA = 3.35ha
EXISTING PRO RATA RUNOFF RATE = 27.1l/s

SUDS FEATURES COMPLETELY CONTAINED WITHIN PHASE 2.
DISCHARGE RATE OF COMPLETE FEATURES DO NOT EXCEED 5.6l/s IN THE CRITICAL 100 YEAR EVENT

PRO-RATA FLOW SUMMARY					
PHASE	AREA (ha)	EXISTING FLOW RATE (l/s)	EXISTING PRO-RATA FLOW RATE (l/s)	PROPOSED FLOW RATE (l/s)	DIFFERENCE +/- (l/s)
1	2.07		16.7	16.7	
2	1.28		10.3	5.6	-4.7
1+2	3.35		27.1	29.1	+2
3	1.78		14.3	11.7	-2.6
1+2+3	5.13	72.09	41.5	11.7	-29.8

DO NOT SCALE

KEY

- SITE BOUNDARY
- PHASE 1
- PHASE 2
- PHASE 3
- DCWW Easement
- - - PROPOSED TEMPORARY SURFACE WATER DRAIN
- PROPOSED TEMPORARY SURFACE WATER MANHOLE

NOTES:

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REVISIONS

Rev	First Issue	Date	PR	CP	CP
P01	FIRST ISSUE	24/04/25	PR	CP	CP
Rev	Revision Notes	Date	Drawn By	Checked	Approved

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CLIENT

MORGAN SINDALL
VALE OF GLAMORGAN

PROJECT

ST RICHARD GWYN SCHOOL

TITLE

SITE PHASING TEMPORARY DRAINAGE
MANAGEMENT

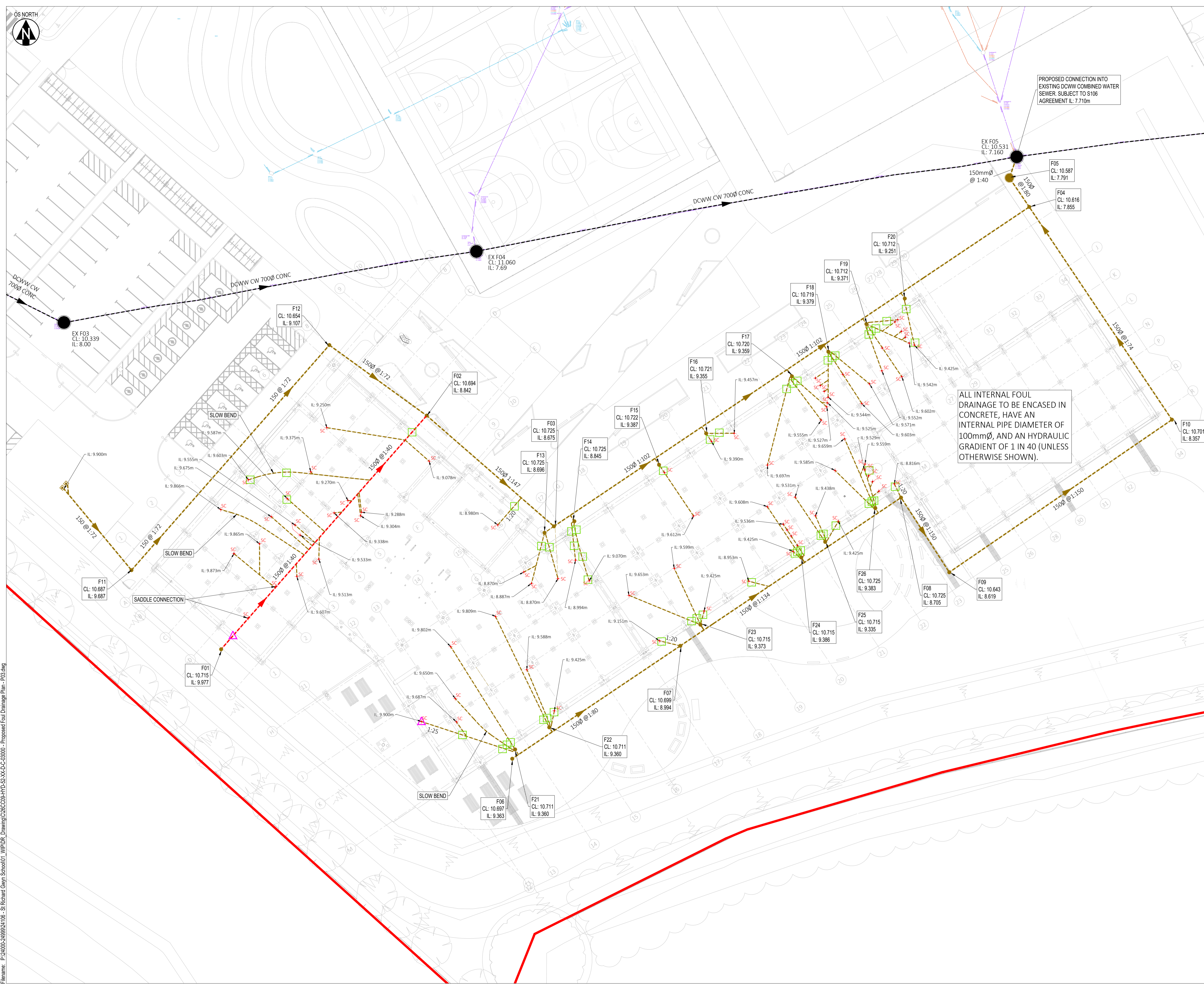
HYDROCK PROJECT NO. C-24106	SCALE @ A1 1:500	STATUS S2
STATUS DESCRIPTION SUITABLE FOR INFORMATION	DRAWING NO. 26CC09-HYD-52-XX-D-C-04050	REVISION P01

Filename: P:\24000\249890\24106 - St Richard Gwyn School\01 - WUP\08 - Drawings\02\6CC09-HYD-52-XX-D-C-04050 - Site Phasing Temporary Drainage Management - P01.dwg

Appendix G
Proposed Drainage



Filename: P:\24000-24999\24106 - St Richard Gwyn School\01 - WIP\DR - Drawings\CCDC\03-Proposed Foul Drainage Plan - P03.dwg



KEY

- SITE BOUNDARY
- - - PROPOSED FOUL WATER DRAIN
- - - PROPOSED INTERNAL FOUL WATER CARRIER DRAIN, 150mmØ
- PROPOSED FOUL WATER CHAMBER
- PROPOSED TRAPPED FOUL WATER GULLY
- + SC PROPOSED INTERNAL POP-UPS
- ▲ PROPOSED PIPE TO PASS THROUGH FOUNDATION
- PROPOSED PIPE TO PASS UNDER FOUNDATION
- EXISTING COMBINED WATER MANHOLE
- - - EXISTING COMBINED WATER DRAINAGE
- - - EXISTING FOUL WATER DRAINAGE
- - - EXISTING SURFACE WATER DRAINAGE

- GENERAL NOTES:**
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FOUL DRAINAGE INTERACTION WITH FOUNDATIONS - DESIGN STATUS AND COSTING

REASONABLE ALLOWANCES SHOULD BE MADE ON MATERIAL AND LABOUR QUANTITIES, BASED ON THE TARGET ARRANGEMENT AND PRINCIPLES SHOWN ON THE DRAWINGS. THIS SHOULD INCLUDE A REASONABLE ALLOWANCE FOR ANY ADDITIONAL OR RELOCATED INTERNAL FOUL WATER CONNECTION WITHIN THE BUILDING ADDED BY THE ARCHITECT OR MECHANICAL ENGINEER IN LATER REVISIONS OR STAGES.

REVISIONS

Rev	Date	Description	By	Ckd	App
P03	28/04/25	Full SAB Application	MPC	CP	CP
P02	29/01/25	Updated foul drainage layout	PR	CP	CP
P01	23/01/25	First Issue for Stage 3	PR	CP	CP

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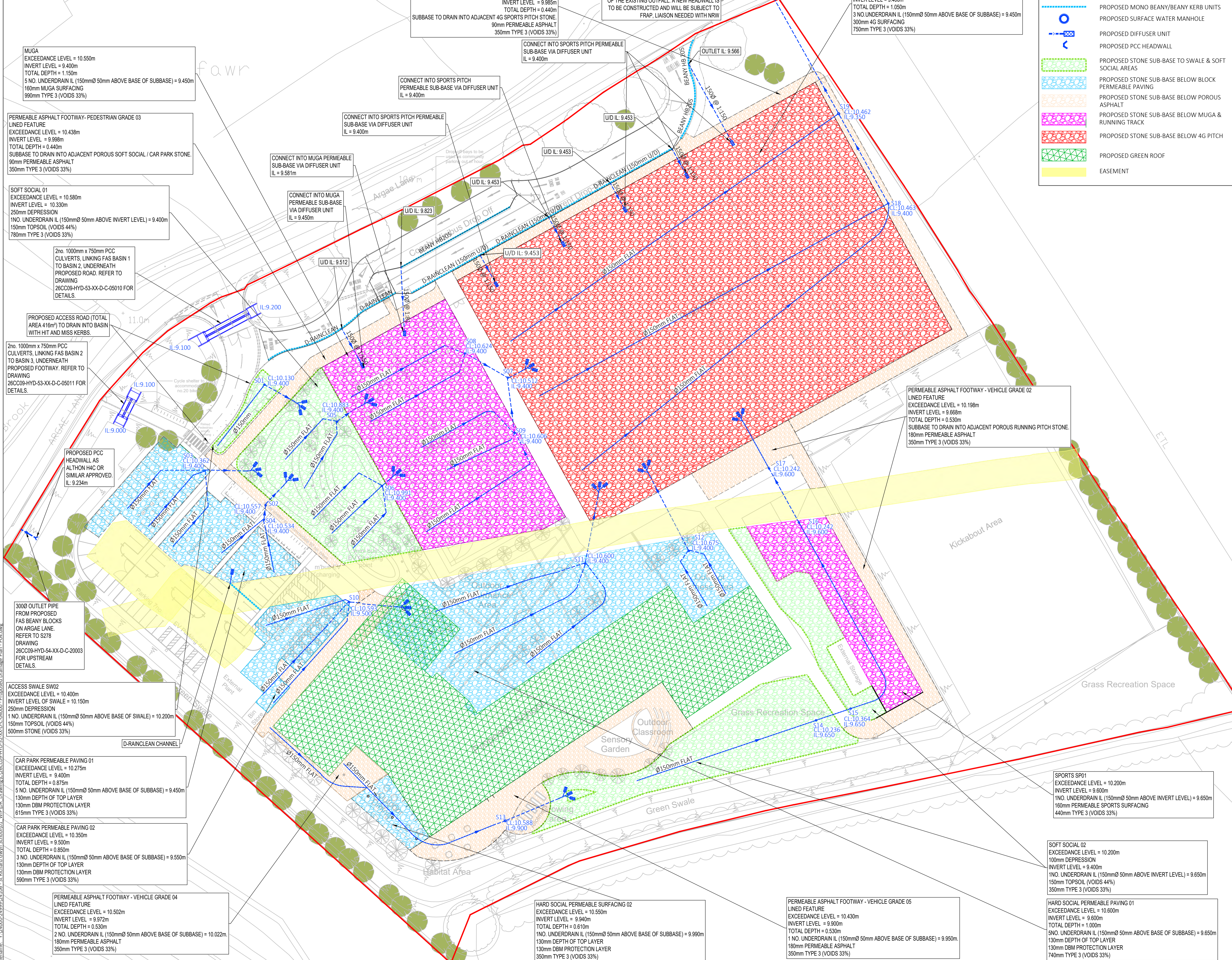
CLIENT
**MORGAN SINDALL
VALE OF GLAMORGAN**

PROJECT
ST RICHARD GWYN SCHOOL

TITLE
PROPOSED FOUL WATER PLAN

DRAFT

HYDROCK PROJECT NO. C-24106	SCALE @ A1 1:250
STATUS DESCRIPTION FOR STAGE APPROVAL	STATUS S4
DRAWING NO. (PROJECT-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 26CC09-HYD-52-XX-D-C-03000	REVISION P03



KEY

- SITE BOUNDARY
- PROPOSED SURFACE WATER SEWER
- PROPOSED SURFACE WATER PERFORATED SEWER
- PROPOSED MONO BEANY/BEANY KERB UNITS
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED DIFFUSER UNIT
- PROPOSED PCC HEADWALL
- PROPOSED STONE SUB-BASE TO SWALE & SOFT SOCIAL AREAS
- PROPOSED STONE SUB-BASE BELOW BLOCK PERMEABLE PAVING
- PROPOSED STONE SUB-BASE BELOW POROUS ASPHALT
- PROPOSED STONE SUB-BASE BELOW MUGA & RUNNING TRACK
- PROPOSED STONE SUB-BASE BELOW 4G PITCH
- PROPOSED GREEN ROOF
- EASEMENT

- DO NOT SCALE**
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 - CONFLICTING INFORMATION SHOWN ON THE ENGINEER'S DRAWINGS OR DISCREPANCIES BETWEEN THE INFORMATION GIVEN BY THE ENGINEER AND THAT PROVIDED BY OTHERS SHALL BE REFERRED TO THE ENGINEER BEFORE THE WORKS COMMENCE.

STAGE 3 DESIGN STATUS - AWAITED SAB PRE-APP REVIEW RESPONSE

THE STAGE 3 CIVIL ENGINEERING DESIGN PRESENTED ON THE DRAWINGS IS BASED ON THE SURFACE WATER AND SUDS PRINCIPLES AS SET OUT IN THE SAB PRE-APPLICATION SUBMISSION. THE FORMAL RESPONSE REPORT IS AWAITED FROM VOG SAB, SO DOES NOT YET FORM PART OF THIS STAGE 3 PACKAGE. THIS WILL ALSO CONFIRM THE COMMENTS AND REQUIREMENTS FROM SAB CONSULTANTS, INCLUDING DCWW (RELATING TO NO SUDS FEATURE IN THEIR 4M EXCLUSION ZONE), WHEN THAT REPORT IS RECEIVED, IT MAY BE NECESSARY TO AMEND THE LAYOUT, OR INCREASE SPECS AND ITEMS, OR EVEN RE-CONFIGURE PART OF THE STRATEGY. AT THIS STAGE SOME CAUTION THROUGH THE OUTLINE PRICING EXERCISE IS RECOMMENDED, UNTIL THERE IS APPROVAL CERTAINTY FROM THE SAB. WHEN RECEIVED THE IMPACT OF THE SAB PRE-APP RESPONSES SHALL BE COMMUNICATED TO THE PROJECT TEAM AND IT IS LIKELY THAT FURTHER COORDINATION WILL BE REQUIRED AMONGST ALL DESIGN PARTIES. THE REQUIREMENTS OF THE SAB WILL NOT BE OVER-FORCED ON THE DESIGN LAYOUT, BUT IT IS ESSENTIAL THAT ALL PARTIES RESPECT THE STRICT AND ESSENTIAL REQUIREMENTS OF THE SAB AND THEIR STATUTORY CONSULTANTS (DCWW), OR ELSE IT MAY RISK SAB APPROVAL IN THE NEXT STAGE.

REVISIONS

Rev	Revision Notes	Date	Drawn By	Checked	Approved
P04	Cycle storage base changed from porous to non-porous construction.	20/03/25	MPC	MPC	CP
P03	Drainage layout revised	31/01/25	PR	CP	CP
P02	SITE LAYOUT REVISED, STAGE 3	24/01/25	CP	PR	CP
P01	First Issue SAB PRE APP	23/12/24	CP	PR	CP

Hydrock now **Stantec**

Third Floor, Wharnton Place
13 Wharnton Street
Cardiff
CF10 1GS
t: +44(0)2920 023665
e: cardiff@hydrock.com

CLIENT
**MORGAN SINDALL
VALE OF GLAMORGAN**

PROJECT
ST RICHARD GWYN SCHOOL

TITLE
PROPOSED DRAINAGE PLAN

HYDROCK PROJECT NO. C-24106	SCALE @ A1 1:500	STATUS S4
STATUS DESCRIPTION SUITABLE FOR STAGE APPROVAL		REVISION P04
DRAWING NO. 26CC09-HYD-52-XX-D-C-04000		

File name: V:\24000-24990\24106 - St Richard Gwyn School\01 - MIP\DR - Drainage\C\26CC09-HYD-52-XX-D-C-04000 - Proposed Drainage Plan - P04.dwg

Appendix H

Regulatory Correspondence



RE: PPN-01479 - Acknowledgement Letter

From Cardiff & Vale Consultations <CardiffVale@cyfoethnaturiolcymru.gov.uk>

Date Thu 2025-09-04 11:34 AM

To Jack Hilldrup <Jack.Hilldrup@ashfieldsolutions.com>; Cardiff & Vale Consultations <CardiffVale@cyfoethnaturiolcymru.gov.uk>; Permit Receipt <permitreceiptcentre@cyfoethnaturiolcymru.gov.uk>

Cc Daniel Stone <Daniel.Stone@ashfieldsolutions.com>; Paul Wood <paul.wood@ashfieldsolutions.com>

Good Morning,

In the meantime, whilst waiting for the discharge to the Coldbrook, discharging small volumes to ground via infiltration should be fine, however this should be monitored to ensure there is no impact to any watercourses as this would result in a pollution.

Regards,

Natalie Williams

Cynorthwywr Amgylcheddol / Environmental Assistant

Tim Amgylchedd Cwm Taf a Pen-y-bont / Cwm Taf and Bridgend Environment Team

07815977575

Llun – Gwener / Mon - Fri



Croesewir gohebiaeth yn Gymraeg a byddwn yn ymateb yn Gymraeg, heb i hynny arwain at oedi.

Correspondence in Welsh is welcomed, and we will respond in Welsh without it leading to a delay.



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**cyfoethnaturiol.cymru
naturalresources.wales**

From: Jack Hilldrup <Jack.Hilldrup@ashfieldsolutions.com>

Sent: 04 September 2025 09:59

To: Cardiff & Vale Consultations <CardiffVale@cyfoethnaturiolcymru.gov.uk>; Permit Receipt <permitreceiptcentre@cyfoethnaturiolcymru.gov.uk>

Cc: Daniel Stone <Daniel.Stone@ashfieldsolutions.com>; Paul Wood <paul.wood@ashfieldsolutions.com>

Subject: Re: PPN-01479 - Acknowledgement Letter

Rhybudd: Deilliodd yr e-bost hwn o'r tu allan i'r sefydliad. Peidiwch â chlicio dolenni, atodiadau agored nac sganio codau QR oni bai eich bod yn cydnabod yr anfonwr ac yn gwybod bod y cynnwys yn ddiogel.

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Good morning,

Thank you for your response regarding the requirement of a CEMP to support a temporary discharge license application.

In the meantime, while we await determination of the permit to discharge to the brook, we are proposing interim measures for small volumes of clean or lightly silted water generated during the early works which can be undertaken without a permit.

- Landowner permission has been granted for discharge to the adjacent farmer's field and additionally, the site has capacity to discharge small volumes to the south within the existing playing fields.
- The intention is to store excess water in a tank fitted with a valve and then release it at a controlled rate onto the grassland by gravity. This would allow water to infiltrate naturally rather than a pumped discharge.

- On site mitigation measures such as silt fencing are to be installed to minimise silt and to protect nearby drains and watercourses.
- The discharge would be managed to ensure that:
 - It does not result in flooding of the land.
 - It does not enter any nearby drains, ditches, or watercourses
 - Only clean water would be released by this method.

It is our understanding that small volume, low risk discharges undertaken in this way do not constitute a regulated activity requiring a permit and is considered suitable whilst we await a temporary permit to discharge to the Cold Brook.

Are you able to confirm if this is a suitable approach in the meantime whilst we await a permit?

Kind Regards,

Jack



Jack Hildrup

Environmental Consultant

Phone number: +44(0) 7717101528

Web: ashfieldsolutions.com

Head Office: Cwm Cynon Business Centre,
Cwm Cynon Business Park, Mountain Ash,
RCT, CF45 4ER

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From: Cardiff & Vale Consultations <CardiffVale@cyfoethnaturiolcymru.gov.uk>
Sent: 04 September 2025 9:26 AM
To: Permit Receipt <permitreceiptcentre@cyfoethnaturiolcymru.gov.uk>
Cc: Jack Hilldrup <Jack.Hilldrup@ashfieldsolutions.com>
Subject: RE: PPN-01479 - Acknowledgement Letter

Good Morning,

Please see the below from our Environment Officer.

Looking at the proposed plans and submitted information, I'd suggest the applicant make use of the relevant General Pollution Prevention guidance(s) found here: [Guidance for Pollution Prevention \(GPP\) documents | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland](#), specifically GPP 1 ([guidance-for-pollution-prevention-1-2022-update.pdf](#)) and GPP 5 ([gpp-5-works-and-maintenance-in-or-near-water.pdf](#)).

As acknowledged in the application form, they will also need to apply for a temporary discharge permit to the Cold Brook.

Due to the discharge going to a main watercourse, a CEMP would need to be submitted for review which covers the following:

Construction methods: details of materials, how waste generated will be managed;

- General Site Management: details of the construction programme including timetable, details of site clearance; details of site construction drainage, containments areas, appropriately sized buffer zones between storage areas (of spoil, oils, fuels, concrete mixing and washing areas) and any watercourse or surface drain.
- Biodiversity Management: details of tree and hedgerow protection; invasive species management; species and habitats protection, avoidance and mitigation measures.
- Soil Management: details of topsoil strip, storage and amelioration for re-use.
- CEMP Masterplan: details of the extent and phasing of development; location of landscape and environmental resources; design proposals and objectives for integration and mitigation measures.
- Control of Nuisances: details of restrictions to be applied during construction including timing, duration and frequency of works; details of measures to minimise noise and vibration from piling activities, for example acoustic barriers; details of dust control measures; measures to control light spill and the conservation of dark skies.
- Resource Management: details of fuel and chemical storage and containment; details of waste generation and its management; details of water consumption, wastewater and energy use
- Traffic Management: details of site deliveries, plant on site, wheel wash facilities
- Pollution Prevention: demonstrate how relevant Guidelines for Pollution Prevention and best practice will be implemented, including details of emergency spill procedures and incident response plan.
- Details of the persons and bodies responsible for activities associated with the CEMP and emergency contact details
- Landscape/ecological clerk of works to ensure construction compliance with approved plans and environmental regulations.

Regards,

Natalie Williams

Cynorthwywr Amgylcheddol / Environmental Assistant

Tim Amgylchedd Cwm Taf a Pen-y-bont / Cwm Taf and Bridgend Environment Team

07815977575

Llun – Gwener / Mon - Fri



Croesewir gohebiaeth yn Gymraeg a byddwn yn ymateb yn Gymraeg, heb i hynny arwain at oedi.

Correspondence in Welsh is welcomed, and we will respond in Welsh without it leading to a delay.



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yn ffynnu gyda'n gilydd**
**Nature and people
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naturalresources.wales

From: Permit Receipt <permitreceiptcentre@cyfoethnaturiolcymru.gov.uk>
Sent: 04 September 2025 07:21
To: Cardiff & Vale Consultations <CardiffVale@cyfoethnaturiolcymru.gov.uk>
Cc: Jack.Hilldrup@ashfieldsolutions.com
Subject: Fw: PPN-01479 - Acknowledgement Letter

Good morning Team,

Please can you advise Jack Hilldrup regarding his pre-application request (**PPN-01479**) we sent to you on the 11th August.

Thank you,

Tim

Aelod Tim / Team Member

Cynghorydd Derbyn Trwyddedau / Permit Receipt Advisor

Gwaesanaeth Caniatau / Permitting Service

Croesewir gohebiaeth yn Gymraeg a byddwn yn ymateb yn Gymraeg, heb i hynny arwain at oedi.

Correspondence in Welsh is welcomed, and we will respond in Welsh without it leading to a delay.



From: Jack Hildrup <Jack.Hildrup@ashfieldsolutions.com>
Sent: 03 September 2025 14:24
To: Permit Receipt <permitreceiptcentre@cyfoethnaturiolcymru.gov.uk>
Subject: Re: PPN-01479 - Acknowledgement Letter

Rhybudd: Deilliodd yr e-bost hwn o'r tu allan i'r sefydliad. Peidiwch â chlicio dolenni, atodiadau agored nac sganio codau QR oni bai eich bod yn cydnabod yr anfonwr ac yn gwybod bod y cynnwys yn ddiogel.

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Good Afternoon,

I just wanted to follow up on the below so see how things are progressing with the Pre-application I submitted at the beginning of August?

Acknowledgement reference:

Our ref: WPCC15920

Your ref: PPN-01479

Kind Regards,

Jack



Jack Hildrup

Environmental Consultant

Phone number: +44(0) 7717101528

Web: ashfieldsolutions.com

Head Office: Cwm Cynon Business Centre,
Cwm Cynon Business Park, Mountain Ash,
RCT, CF45 4ER

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From: Permit Receipt <permitreceiptcentre@cyfoethnaturiolcymru.gov.uk>

Sent: 11 August 2025 10:01 AM

To: Jack Hilldrup <Jack.Hilldrup@ashfieldsolutions.com>

Subject: PPN-01479 - Acknowledgement Letter

Good morning Jack

Please find acknowledgement letter attached.

Many thanks.

Debbie Smith

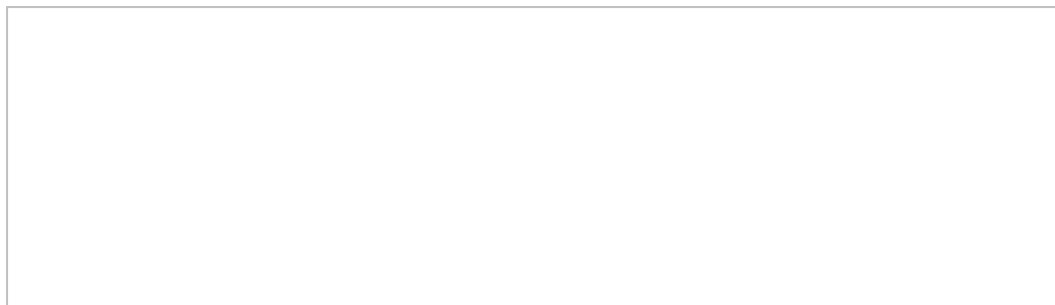
Aelod Tim / Team Member

Cynghorydd Derbyn Trwyddedau / Permit Receipt Advisor

Gwaesanaeth Caniatau / Permitting Service

Croesewir gohebiaeth yn Gymraeg a byddwn yn ymateb yn Gymraeg, heb i hynny arwain at oedi.

Correspondence in Welsh is welcomed, and we will respond in Welsh without it leading to a delay.



Date/Dyddiad 28/03/2025
Ask for/Gofynwch am Gareth Thelwell-Davies
Telephone/Rhif ffôn 02920673235
Fax/Ffacs 02920673175
e-mail/e-bost gthelwell-
daviesvaleofglamorgan.gov.uk

The Vale of Glamorgan Council
The Alps, Wenvoe CF5 6AA
Cyngor Bro Morgannwg
Yr Alpau, Gwenfô CF5 6AA
www.valeofglamorgan.gov.uk
www.bromorgannwg.gov.uk



Your Ref/Eich Cyf

My Ref/Cyf

GTD001/SAB/PRE/2024/014

Callum Parker
Hydrock
3rd Floor
13 Wharton Place
Cardiff
CF10 1GS

Dear Callum

Re: SAB/PRE/2024/014 – St Richard Gwyn, Argae Lane, Barry, CF63 1BL.

Proposal: Proposed New School, Sports Pitches and Car Parking Area.

The Flood and Water Management Act 2010 (Schedule 3), implemented in Wales on January 7th 2019 requires all new developments to include Sustainable Drainage System features that are compliant with national standards.

Overview:

Information submitted to support this pre-application suggests that surface water runoff generated by the development will be directed to SuDS features in the form of green roofs, permeable surfaces and swales. Discharge from the system will be made to an adjacent watercourse (Cold Brook) at attenuated rates.

Standard S1 – Surface Water Runoff Destination

Priority Level 1: Collection for Use:

It is acknowledged that rainwater harvesting systems are not considered a viable option for the site when compared to its cost of implementation. It is recognised that water is a valuable resource and would encourage the use of rainwater harvesting where possible.

We offer no objection to priority 1 level collection of use.

Priority Level 2: Discharge of surface water into ground:

It is indicated in the supporting Phase 2 Ground Investigation Report (Hydrock, April 2023) that geology beneath the site predominately comprises Made Ground deposits underlain by Alluvium and bedrock geology of the Mercia Mudstone Group. As part of the investigation, it is acknowledged that 10 infiltration tests were undertaken within the alluvium / Mercia Mudstone Group all of which reporting

negligible rates of infiltration. 3 falling head tests were undertaken within the Mercia Mudstone Group reporting minimal infiltration rates, of which we are in acceptance.

Based on site observations and post ground investigation monitoring it is noted that groundwater levels have been reported as shallow (0.57m bgl) and may be susceptible to seasonal fluctuation.

We offer no objection to priority level 2 discharge of surface water into ground.

Priority Level 3: Discharge to a Surface Water Body:

It is acknowledged that surface water runoff generated from the proposed development will be discharged at the attenuated peak rate of 22.7l/s to the Cold Brook watercourse adjacent to the site.

Where a new outfall to the Cold Brook (main river) is proposed, it is advised that further consultation is made with NRW as to the requirements of a Flood Activity Permit. It is requested that evidence of the consented permit is provided at full application.

The design of any offsite drainage system must demonstrate that the scheme does not adversely affect flood risk elsewhere.

From the details submitted we offer no objection to priority level 3 discharge to a surface water body.

Priority Level 4: Discharge to surface water sewer or highway:

It is acknowledged that the submitted application does not propose to discharge surface water directly to a surface water sewer or highway drain.

Priority Level 5: Discharge to combined sewer:

It is acknowledged that the submitted application does not propose to discharge surface water directly to a combined sewer.

Standard S2 – Surface Water Runoff Hydraulic Control

The surface water drainage system should be designed so that flooding does not occur on any part of the site for a 1 in 30 year return period and not in any part of any building for a 1 in 100 year return period plus climate change (40%) with consideration given to receiving flows from the wider catchment.

It is acknowledged that the submitted drainage strategy proposes an attenuated peak discharge rate of 22.7l/s, of which we find acceptable. Calculations have been provided which demonstrate the systems performance up to a 1 in 1000 year return period. With appreciation to this additional sensitivity analysis it is requested that a flood exceedance plan is still provided inclusive of proposed level contours at full application.

Due to the required lining of the permeable surfaces assumed compliance for interception is not achieved with regard to the requirements of Table G2.1 of the Statutory Standards. It is noted however that outputs of a no discharge analysis have been provided for a 5mm rainfall depth demonstrating no discharge from the system.

Please could further clarification be provided surrounding this aspect of the analysis. Presumably the drainage system is empty at the beginning of the analysis and we would like to consider how the method used accounts for antecedent conditions in comparison to the continuous rainfall series analysis recommended in the standards (G2.16).

Standard S3 – Water Quality

It is acknowledged that the Simple Index Approach has been used to demonstrate that the SuDS features proposed would be suitable to remove pollutants from their intended environment.

SuDS components can only be assumed to deliver these indices by following the design guidance with respect to hydraulics and treatment as set out in the relevant technical component chapters of the SuDS manual.

Where propriety products are to be used to aid water quality it will be required that a detailed assessment is provided as evidence of performance and adopted pollution mitigation indices.

Compliance with interception will also be required to meet standards for water quality.

In principle we offer no objection to Standard 3 water quality.

Standard S4 – Amenity

It is acknowledged that the proposed scheme has the potential to provide amenity benefits through the promotion of usable space whilst also providing enhanced visual character, as such we offer no objection to standard S4 Amenity.

Standard S5 – Biodiversity

We acknowledge that the proposed drainage scheme has the potential to provide a self-sustaining ecosystem which will contribute to the delivery of local biodiversity objectives. No planting schedule for the SuDS features have been provided at this stage and will be required for further review. Such planting should be easily maintained, resilient to its proposed environment and native to the region where possible. The introduction of invasive species will not be permitted.

Standard S6 – Design

At this pre-application stage limited information has been provided with regard to the construction, operation and maintenance of the drainage system. However it is acknowledged that the drainage system could be constructed easily, safely, cost effectively and in a timely manner.

No Construction Environmental Management Plan has been submitted with this application. The CEMP must make reference to the phasing of the development and how the proposed drainage (temporary or permanent) will be managed during construction. It is appreciated that the CEMP is often provided by the appointed contractor and may be dealt with by condition on approval.

Please note submitted plans will be referenced in any SAB approval granted and will form the basis of future inspection.

Conclusion

An appraisal of this application has been made by the SuDS Approval Body in line with Welsh Governments Statutory Standards for Sustainable Drainage Systems. From the details provided we offer no objection in principle to the proposed drainage scheme subject to our comments above.

Yours sincerely,

Gareth Thelwell-Davies
Principal Engineer – Environment

For Operational Manager Engineering
Ar gyfer Rheolwr Gweithredol Peirianeg

FW: 2023/00285/RG3 - St Richard Gwyn Rc High School, Argae Lane, St Andrews Major

From Daniel Stone <Daniel.Stone@ashfieldsolutions.com>
Date Tue 2025-08-05 3:11 PM
To Jack Hilldrup <Jack.Hilldrup@ashfieldsolutions.com>
Cc Paul Wood <paul.wood@ashfieldsolutions.com>

From: Sion Jones <Sion.Jones@dwrcymru.com>
Sent: 05 August 2025 15:07
To: Daniel Stone <Daniel.Stone@ashfieldsolutions.com>
Subject: 2023/00285/RG3 - St Richard Gwyn Rc High School, Argae Lane, St Andrews Major

Hi Dan,

Thanks for your time on the phone. Whilst I acknowledge your enquiry in relation to the surface water drainage strategy for the development at St Richard Gwyn Rc High School (Ref: 2023/00285/RG3), I would maintain that no amount of surface water flows shall be permitted to communicate to the combined public sewerage system during construction or the permanent use of the development. On this latter point, as per the recent SAB consultation (Ref: SAB/FUL/2025/015) and submitted 'SuDS and Drainage Strategy', we understand the development proposes to dispose its surface water flows to a surface water body and previously offered no objection to these arrangements. I trust this information is of assistance.

Regards,

Siôn



Siôn Jones

Development Growth and Strategy Manager | Developer Services
Dŵr Cymru Welsh Water

-  [W: dwrcymru.com](http://www.dwrcymru.com)
-  [E: developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)
-  [T: 0800 917 2652](tel:08009172652) | [M: 07770856624](tel:07770856624)
-  [A: PO Box 3146, Cardiff, CF30 0EH](#)



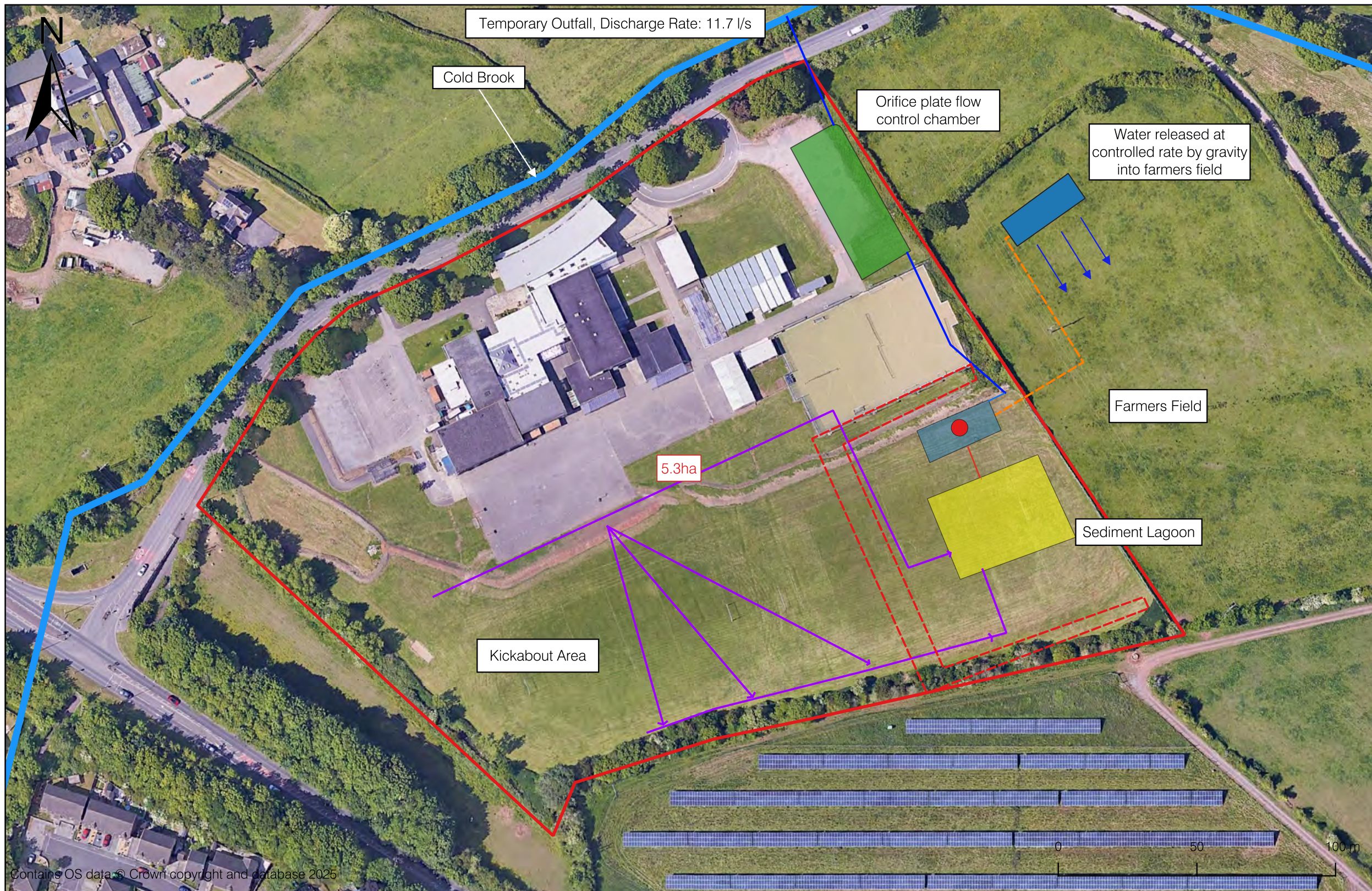
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o'ch system ar unwaith a hysbysu'r anfonwr. Cwmni sydd wedi ei gofrestru yng Nghymru yw Dŵr Cymru Cyf (yn masnachu fel Dŵr Cymru), ei rif cofrestredig yw 02366777, ,, ac mae ei swyddfa gofrestredig yn Linea, Heol Fortran, Llaneirwg, Caerdydd, CF3 0LT.

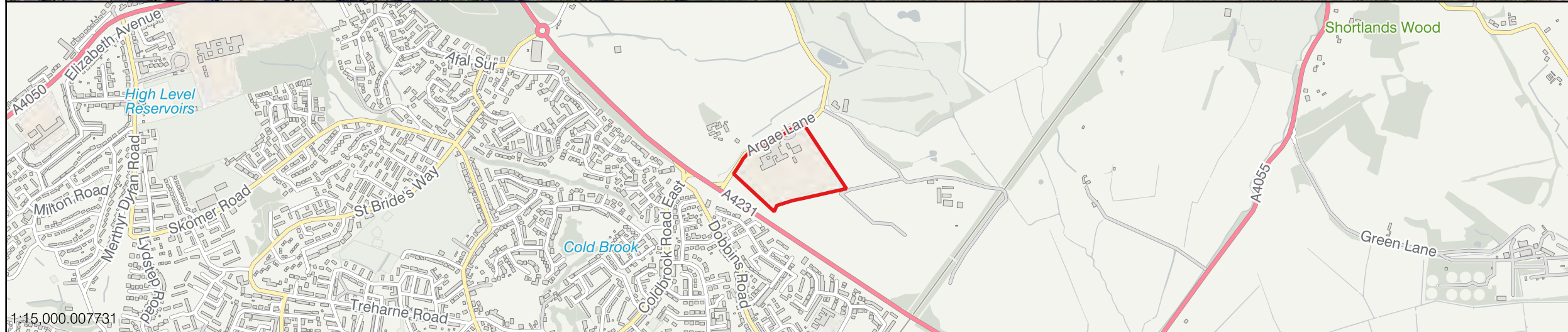
Appendix I
Site Dewatering Plan



- Legend**
- Indicative Site Boundary
 - Storage Pond
 - Lamella Separation System
 - Settlement Lagoon
 - Valved Discharge to Farmers Field
 - Bund
 - Drainage Outfall
 - Surface Water Drain to be Linked to the Outfall Underground
 - French Drains/Sumps directed to Settlement Lagoon
 - TE Outlet 1 & Monitoring Point
- Note: Testing to be undertaken directly from treatment system'

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Client	Morgan Sindall
Project	St. Richard Gwyn Catholic High School, CF63 1BL



Title			Site Plan
Report No.	Drawing No.	Revision	
224125-S01	01	-	
Scale	Date	Frame Size	
1:1,500	29/09/2025	A3	
Produced by	Drawn by	Approved by	
LC	LC	JH	



Appendix J

Quick Storage Estimates

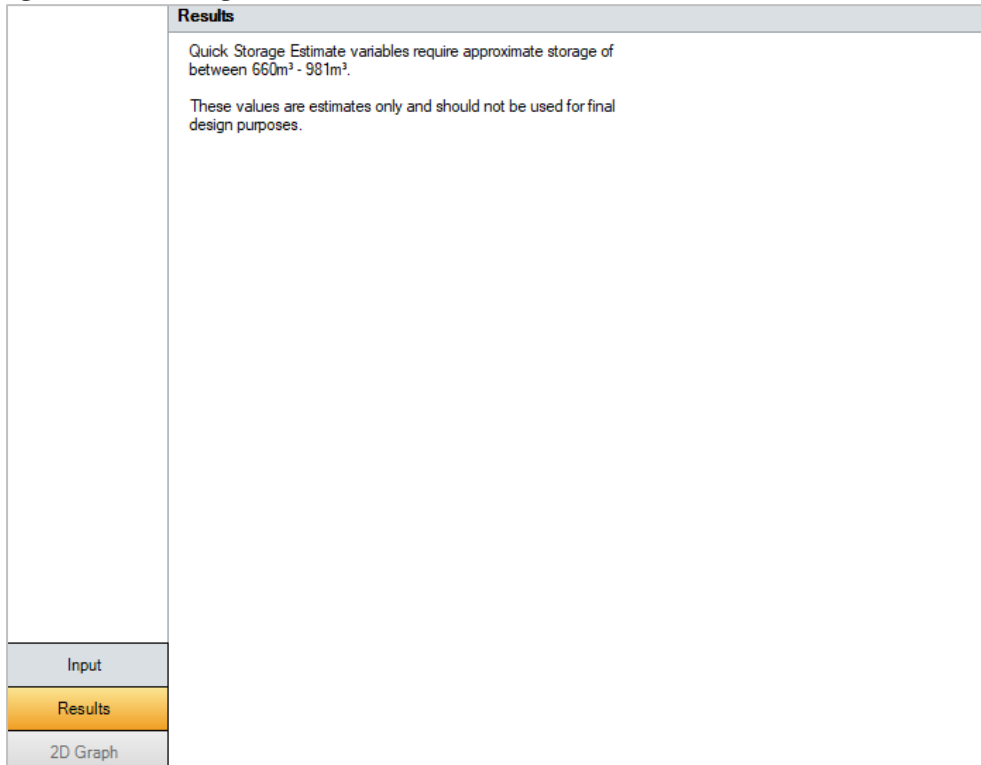
Phase 1 Enabling Works

As shown in Figures 1 and 2, using a discharge rate of 23.4l/s, the sedimentation pond is required to provide a total combined storage volume of between 660m³ and 981m³ for the Phase 1 area. This is based on the 1 in 30 year rainfall event. If any further information becomes available regarding the storage provisions required, this SWMP should be updated accordingly.

Figure 1 – Quick Storage Estimate Inputs

Input	
Input Type	User Input
Area (ha)	2.41
Volumetric Runoff Coefficient	0.750
Discharge Rate (L/s)	23.4
Infiltration Rate (m/hr)	0.0
Safety Factor	2.0
	Quick
Calculate	
○ Create New ● From Library	
☑ All	
☑ FEH	
Method	FEH
Number of Storms	2
Max. Run Time (mins)	720

Figure 2 – Quick Storage Estimate Results



Phase 2 Construction Works

As shown in Figures 3 and 4, using a discharge rate of 9.6l/s, the sedimentation pond is required to provide a total combined storage volume of between 430m³ and 567m³ for the Phase 2 construction area. This is based on the 1 in 30 year rainfall event. If any further information becomes available regarding the storage provisions required, this SWMP should be updated accordingly.

Figure 3 - Quick Storage Estimate Inputs

Input	
Input Type	User Input
Area (ha)	1.34
Volumetric Runoff Coefficient	0.750
Discharge Rate (L/s)	9.6
Infiltration Rate (m/hr)	0.0
Safety Factor	2.0
	Quick
Calculate	
<input type="radio"/> Create New <input checked="" type="radio"/> From Library	
<input checked="" type="checkbox"/> All <input checked="" type="checkbox"/> FEH	
Method	FEH
Number of Storms	2
Max. Run Time (mins)	720

Input
Results
2D Graph

Figure 4 – Quick Storage Estimate Results

Results	
<p>Quick Storage Estimate variables require approximate storage of between 430m³ - 567m³.</p> <p>These values are estimates only and should not be used for final design purposes.</p>	

Input
Results
2D Graph

Phase 3 Demolition Works

As shown in Figures 5 and 6, using a discharge rate of 38.4l/s, the sedimentation pond is required to provide a total combined storage volume of between 296m³ and 633m³ for the Phase 3 construction area.

This is based on the 1 in 30 year rainfall event. If any further information becomes available regarding the storage provisions required, this SWMP should be updated accordingly.

Figure 5 - Quick Storage Estimate Inputs

Input	
Input Type	User Input
Area (ha)	1.86
Volumetric Runoff Coefficient	0.750
Discharge Rate (L/s)	38.4
Infiltration Rate (m/hr)	0.0
Safety Factor	2.0
	Quick
	Calculate
<input type="radio"/> Create New <input checked="" type="radio"/> From Library	
<input checked="" type="checkbox"/> All <input checked="" type="checkbox"/> FEH	
Method	FEH
Number of Storms	2
Max. Run Time (mins)	720

Input
Results
2D Graph

Figure 6 - Quick Storage Estimate Results

Results
<p>Quick Storage Estimate variables require approximate storage of between 296m³ - 633m³.</p> <p>These values are estimates only and should not be used for final design purposes.</p>

Input
Results
2D Graph

The sedimentation pond should therefore provide a total combined storage volume of between 660m³ and 981m³ as this is the larger volume.