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5th June 2025

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FAO: Darren Brimble **By email only: Darren.Brimble@readconstruction.co.uk**

Dear Sirs,

Quote - Remediation Required Due to Drainage in Vicinity of Mine Shaft - Extension and Alteration Work to Ysgol I.D. Hooson, Wrexham

Since the issue of our Phase II site investigation including coal mining risk assessment report (27th November 2024 , R1) the site layout has been amended and a drainage scheme is proposed with an attenuation tank, together with an extension of the hardstanding level area adjacent to the new school buildings to accommodate a new playground, involving approximately 20m area in length being cut into the existing sloping ground, to a maximum of around 1m depth, with a new 1 in 3 slope at the rear leading up to the sports field.

The Phase 2 site investigation concluded that no remediation strategy was required because the existing Made Ground has a covering of 'clean' topsoil or will be below hard standing or the buildings. These break the potential contaminant pathways from the elevated concentrations of contaminants in the Made Ground. However, the updated design has cut slopes into the Made Ground so these will need to be capped and the local authority will require a Remediation Strategy.

The Phase 2 report stated *"Investigation of the potential mine shaft 328346-059 was not proposed at this time as the shaft (+/- 8m departure) is just over 30m from the proposed buildings. Note: Should the sports pitch locations be finalised and be within around 10m of the anticipated locations of the mine shaft, then further investigation would be required to assess if the shaft has been suitably backfilled. It is recommended that this would be carried out as part of a later stage of investigation if this is required."*

The new playground, slope, drainage runs and potentially part of the proposed attenuation tank are located above the likely zone of influence of this mineshaft, shaft 328346-059. The Mining Remediation Authority have no records of this having been treated, although it may have been filled in 1975. The departure from its given position is +/- 8m. Given the anticipated depth to rockhead, a potential collapse zone around the position of 20m is considered appropriate.

There is a risk that collapse of this shaft could be triggered by the earthworks to form the new playground and attenuation tank. Slight movement rather than catastrophic collapse could also occur, which might fracture drainage runs or cause the attenuation tank to leak, further exacerbating the problem, and eventually potentially leading to a catastrophic collapse.

Although no buildings are proposed above the shaft, it is considered likely that the MRA will require rotary probe drilling of this shaft position to prove its location, and drilling and grouting to the base, together with a shaft cap (piled or "floating"), in order to protect the development from future instability. it is likely that drainage runs over the capped shaft may be permitted, however, they are unlikely to approve the attenuation tank within a zone of 20m from the proven shaft position. The layout may therefore need to be amended following treatment of the shaft.

It is also noted that the service plans show a 180mm MDPE water main near the proposed attenuation tank.

Drawings are in Appendix 1

Yours sincerely

C S Eccles

Chris Eccles
BEng, MSc, DIC, CGeol, CSci, CEnv
SiLC, RoGEP Adviser, DoWCoP QP020

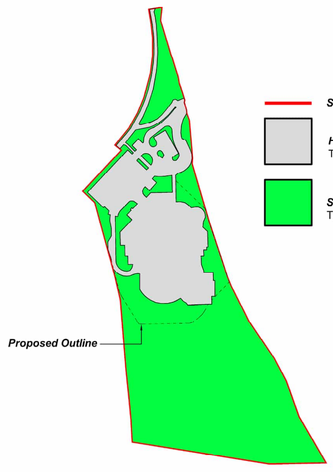
APPENDIX 1

DRAWINGS



Image A (IA)

Image B (IB)

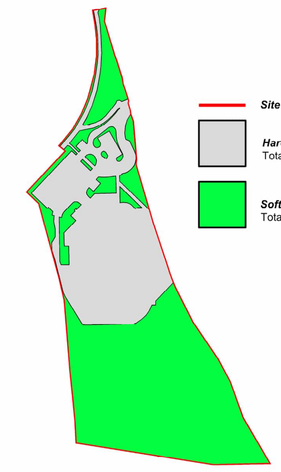


N

Existing Topographic Survey
(Scale 1:2500)

Existing Areas
- Site = 29950m²
- Hardstanding = 9185m²

31% Hardstanding



N

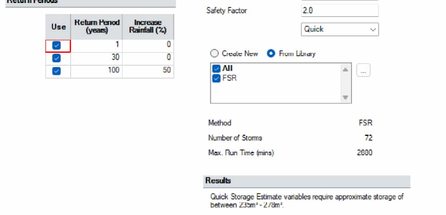
Proposed Site Layout
(Scale 1:2500)

Proposed Areas
- Site = 29950m²
- Hardstanding = 11375m²

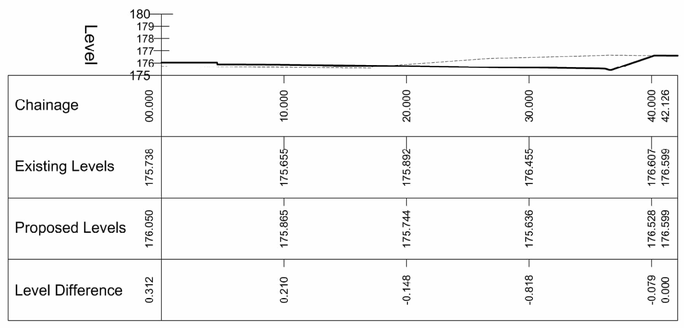
38% Hardstanding

Drainage Strategy Information

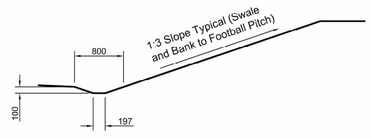
Site Area		
2.995h - Brownfield		
Brownfield Runoff Rate		
4.3l/s (Existing Attenuated Surface Water)		
Run Off Co-Efficients		
Hardstanding Areas	-	1.00
Hardstanding Areas		
Building and Play Area	-	1137.5m²
Existing Hardstanding Area Built Upon	-	1955m²
Approximate Discharge Rate from Built Upon Area	-	0.92l/s
Minimum Hydrobrake Flow Control	-	0.70l/s
Proposed Betterment	-	24%
Proposed Hardstanding Area to be Attenuated	-	2190m²
Storage Volume Required	-	up to 278m³



Total Storage Volume Required - 235 to 278m³



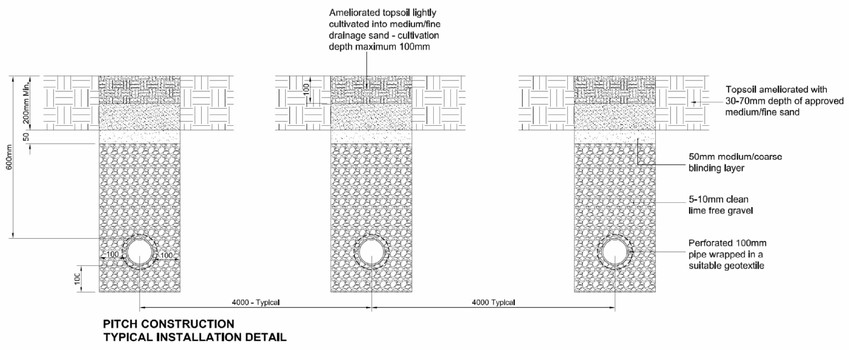
BUILDING TO FOOTBALL PITCH - LONGSECTION
SCALE: H 1:50,V 1:50. DATUM: 175.000



Swale/Bank Typical Section
(Scale 1:50)

N

Drainage General Arrangement
(Scale 1:250)



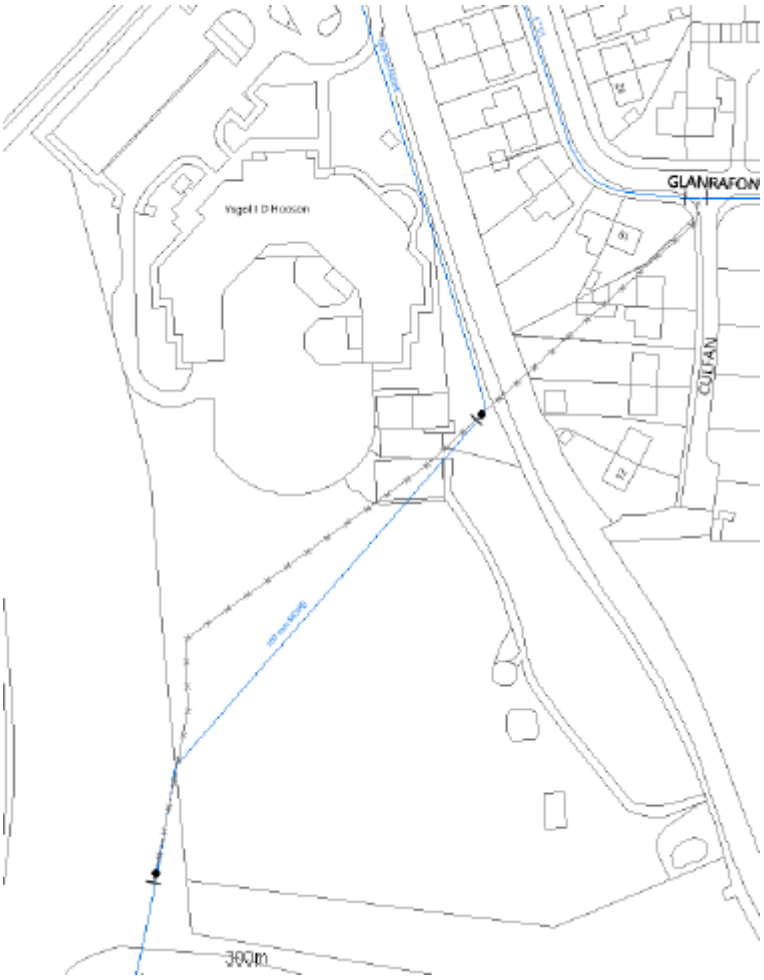
PITCH CONSTRUCTION
TYPICAL INSTALLATION DETAIL

Drainage Key

- *Proposed Surface Water Manhole*
- *Proposed Surface Inspection Chamber*
- *Proposed Surface Water Drain*
- *Proposed Foul Inspection Chamber*
- *Proposed Foul Water Drain*
- *Existing Manhole*
- *Existing Surface Water Drain*
- *Existing Foul Water Drain*
- *Fin Drain*
- *Perforated Surface Water Drain*
- *Proposed Attenuation Tank* (Plastic Crates)
- *Proposed Swale*
- *Existing Swale*
- *New Impermeable Surface*
- *New Permeable Surface* Closed System (Impermeable Subsoils)
- *New SUDs Planter* - picking up down pipes from roof

Client: **Wrexham County Borough Council**	Project: **Proposed Extension - Ysgol I.D. Hooson**	Drawing Title: **Drainage Strategy General Arrangement**	Drawing Number: **IDH-ENA-XX-XX-D-C-5006**			
			Purpose of Issue: **Preliminary**			
			Revision: **P2**	P2	30.05.25	DRB DRB — ***Updated*** - Long Section Added, Proposed Levels Added, Weir Wall Added to Hydrobrake Manhole, Additional Volume Included within Attenuation Tank (to reduce downstream impact of surface water flooding)
			Status: **S2**	Rev	Date	Drn Chk Details

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GLANRAFON
CULFAN
300m