



Slate Wharf, Castlefield, Manchester

Construction Surface Water Management Plan

For: Prestbury Estates Ltd.

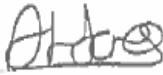

IGE Consulting
Office 11
Bartle House
Oxford Court
Manchester
M2 3WQ

Ref: 3548-02
Job: 3548
Rev: -
By: AJ

Tel 0161-914-9170
Email contact@igeconsulting.co.uk

Date: Sept 2021

REVISIONS

Revision	Date	Prepared By	Authorised By	Remarks
First Issue	7 th September 2021	 Angharad Jones	 Andrew Edwards	-



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1.0 INTRODUCTION

This *Construction Surface Water Management Plan* has been prepared at the request of Prestbury Estates Ltd. Instructions to proceed with this report were received in August 2021. This report should be read in conjunction with the IGE Consulting Combined Phase 1 and Phase 2 Geo-Environmental Investigation Report (August 2021).

The site is a c. 0.11 Ha site, located to the east of Slate Wharf, Manchester, approximately 1.2km from Manchester City centre, at the postcode M15 4ST. The National Ordnance Survey grid reference for the centre of the site is 383047E, 397510N. The site comprises a grassed area of vacant land.

The site is bound by the River Medlock / Bridgewater Canal and Tow Path to the east, Slate Wharf and The Wharf restaurant to the south, Slate Wharf and a car park to the west and residential dwellings to the north. The site is shown on the below aerial image:



Figure 1; Aerial image dated April 2019

Proposed Development

This Construction Surface Water Management Plan is to be used for submission to the Local Authority as part of a planning application as it is the Client's intention to develop the site into a residential development comprising a single 5-storey apartment block containing 24 No. apartments with areas of soft landscaping.

A proposed development plan is contained within Appendix 3.

1.1 Brief

The brief was to undertake a *Construction Surface Water Management Plan* (CSWMP) for the site based upon the proposed development outlined in Section 1.0. The CSWMP has been undertaken in order to:

- Provide overall surface water management principles and guidelines for the construction phase
- Present measures and management practices for the mitigation of potential surface water feature impacts
- Ensure that the surface water quality and quantity from the site is managed throughout the construction phase in order to mitigate impacts on off-site surface water features.
- Ensure that site construction work undertaken in an environmentally responsible manner to minimise any adverse impacts on surface water quality

1.2 Third Parties

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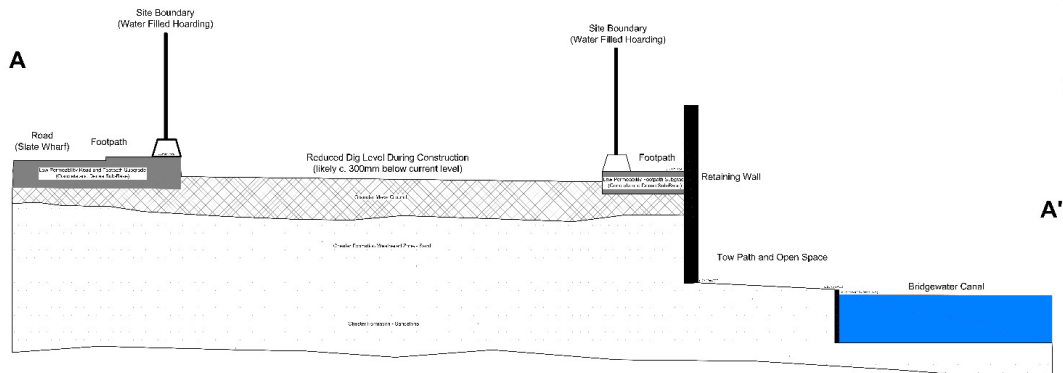
2.0 MANAGING SURFACE WATER DURING CONSTRUCTION

This construction surface water management plan has been undertaken in order to provide mitigation measures to protect the nearby surface water features from adverse impacts from surface water runoff from the site during construction based on the proposed development.

2.1 Site Setting and Topography

The site is located c. 3.50m – 18.50m to the west of the River Medlock / Bridgewater Canal which is classified as a main river of good chemical rating and moderate overall rating.

The existing topography of the site slopes down gently from c. 27.60m AOD in the north western corner to a low point of c. 25.80m AOD in the south eastern site section. The south eastern site section is at a similar level to the canal tow path which lies at c. 25.70m – 25.80m AOD. However, the remainder of the site lies at a higher elevation relative to the canal towpath, with a retaining wall being present between the site and the canal (maximum retaining height of c. 1.20m bgl adjacent to the north eastern corner of the site).



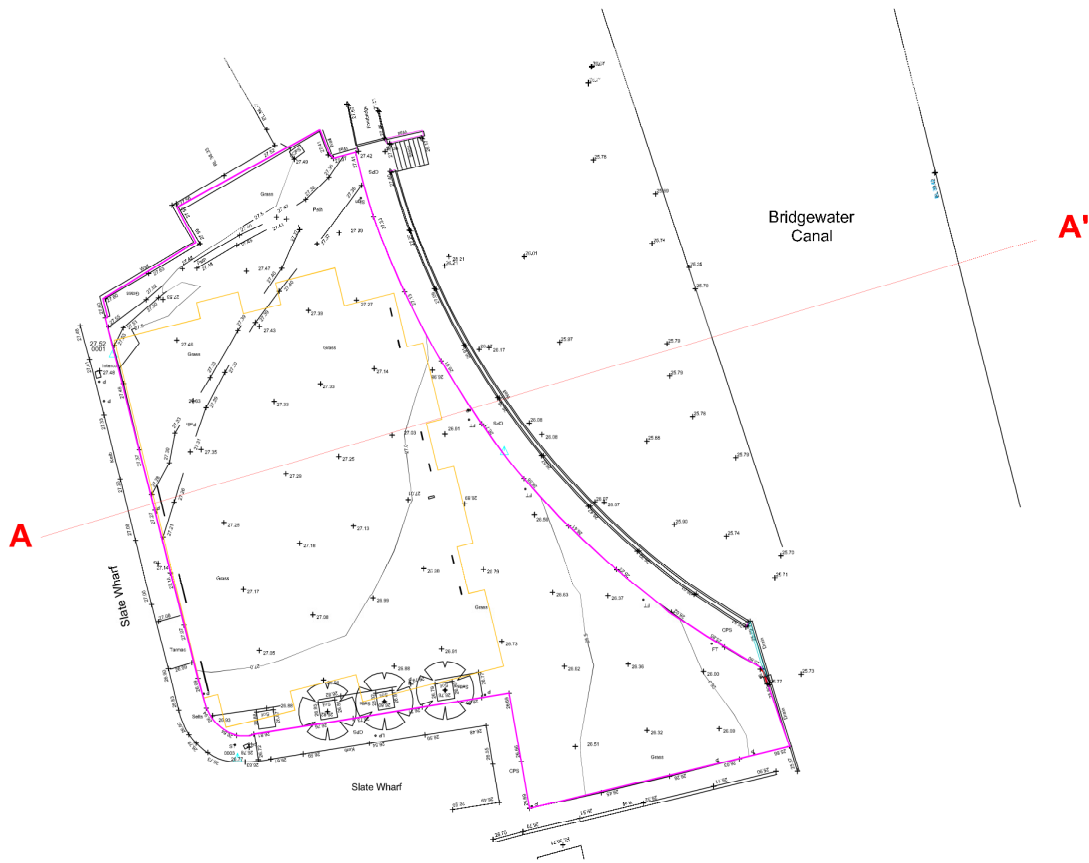


Figure 2; Extract of the topographical survey showing line of section

The typical ground conditions on-site are as follows:

- Grassed TOPSOIL comprising dark brown, gravelly, slightly clayey, fine to coarse SAND to a depth of between 0.10m and 0.30m bgl (26.03m and 27.73m AOD), underlain by;
- MADE GROUND comprising brown or dark grey, gravelly, fine to coarse SAND with occasional cobbles and red brick fragments to a depth of between at least 0.50m and at least 1.10m bgl, underlain by;
- WEATHERED CHESTER FORMATION (SANDSTONE) comprising very dense, reddish brown, gravelly, fine to coarse SAND to a depth of at least 1.30m bgl (25.85m AOD).

2.2 Potential Impacts

Given the close proximity of the Bridgewater Canal to the site, construction work may lead to the following potential impacts:

- Uncontrolled release of contaminated shallow / perched water from excavations

- Contaminated or sediment rich surface water runoff from the site
- Inundation from flood events and associated surface water run off back into the canal from areas of bare soils and excavations.

2.3 Construction Water Management

Proposed Construction Work

During construction, significant earthworks will be required to remove identified obstructions within the made ground, primarily concrete slabs at depths of between 0.50m and 1.00m bgl and concrete cobbles and boulders. Earthworks will also be required, including excavation and levelling of the site, to achieve finished levels and to allow temporary hardstanding to be placed in the south eastern site section where the site cabins will be located during construction. Given the depths of the obstructions, made ground is likely to be excavated, the suspected concrete slabs broken out and the granular made ground re-engineered to achieve finished levels. Any excess soil (i.e. from foundation and drainage excavations) will be taken off-site by licensed waste carriers.

Site Specific Surface Water Management Plan

The site is currently an open area of land, no existing surface water system is present as the site is entirely soft landscaping. Therefore, a temporary surface water management system will be required during construction.

Given the topography of the site which slopes down towards the south east surface water will flow towards the south eastern section (low point) and towards the River Medlock / Bridgwater Canal. During the construction phase, site levels will be further reduced in the south eastern site section and hardstanding placed in this area for site cabins.

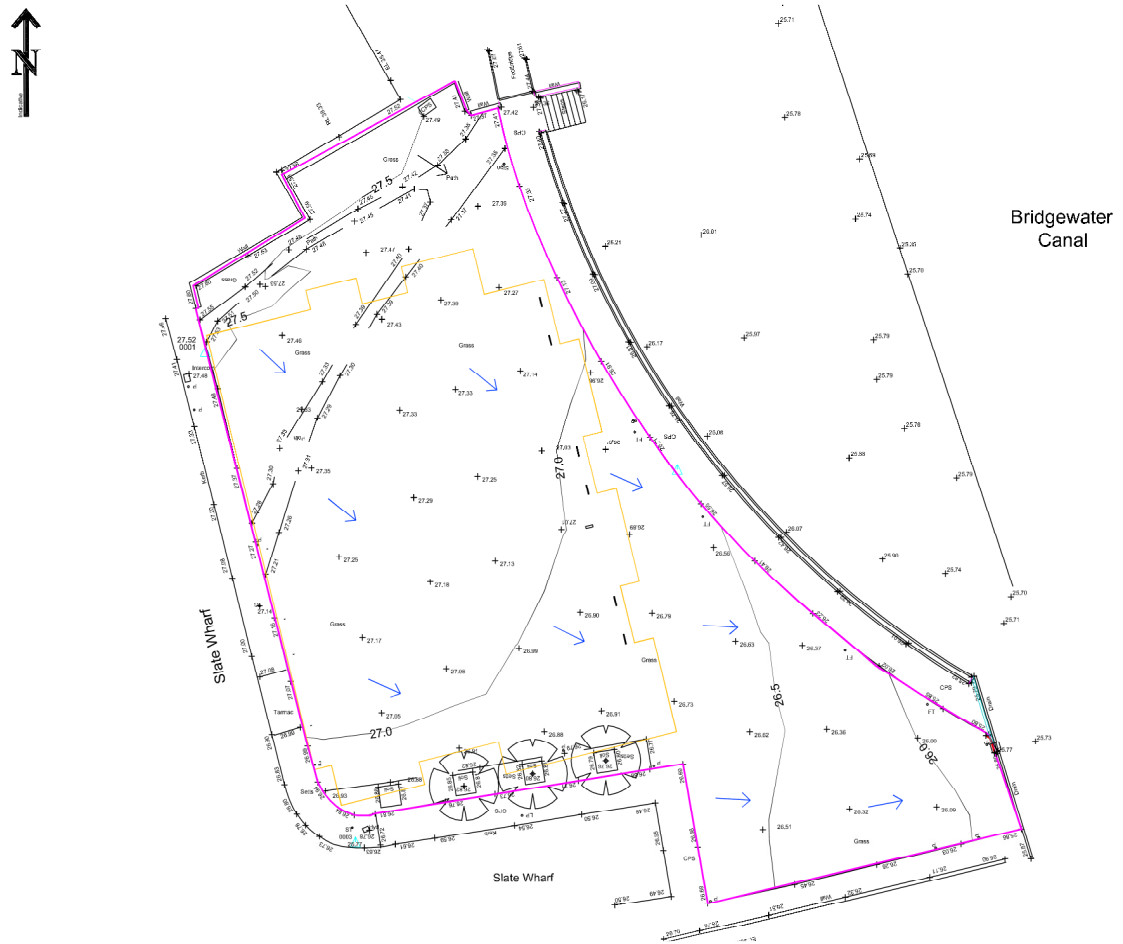


Figure 3; Extract of the topographical survey with the site boundary in magenta, the proposed development in yellow and likely surface water flow shown by blue arrows.

Consequently, runoff is likely to increase towards the eastern boundary and towards the south eastern section. Therefore, it is considered necessary to install a perforated land drain collector pipe in a gravel surround leading to a sump / temporary SUDs along the southern extent of the eastern boundary (low – point) of the site to negate surface water runoff off-site and into the adjacent River Medlock / Bridgewater Canal. During construction the site levels will be reduced in the eastern site section (unknown amount) therefore the site levels will be lower than that of the adjacent towpath and canal wall. Consequently, water will be held on-site and will infiltrate into the underlying granular soils. However, as an additional measure, a line of sandbags will be placed along the eastern and southern boundary (on the inside of the water filled hoarding) in order to trap any potential surface water runoff / overspill which could then flow into the Bridgewater Canal. Given the granular nature of the underlying ground conditions, no standing water is anticipated on-site.

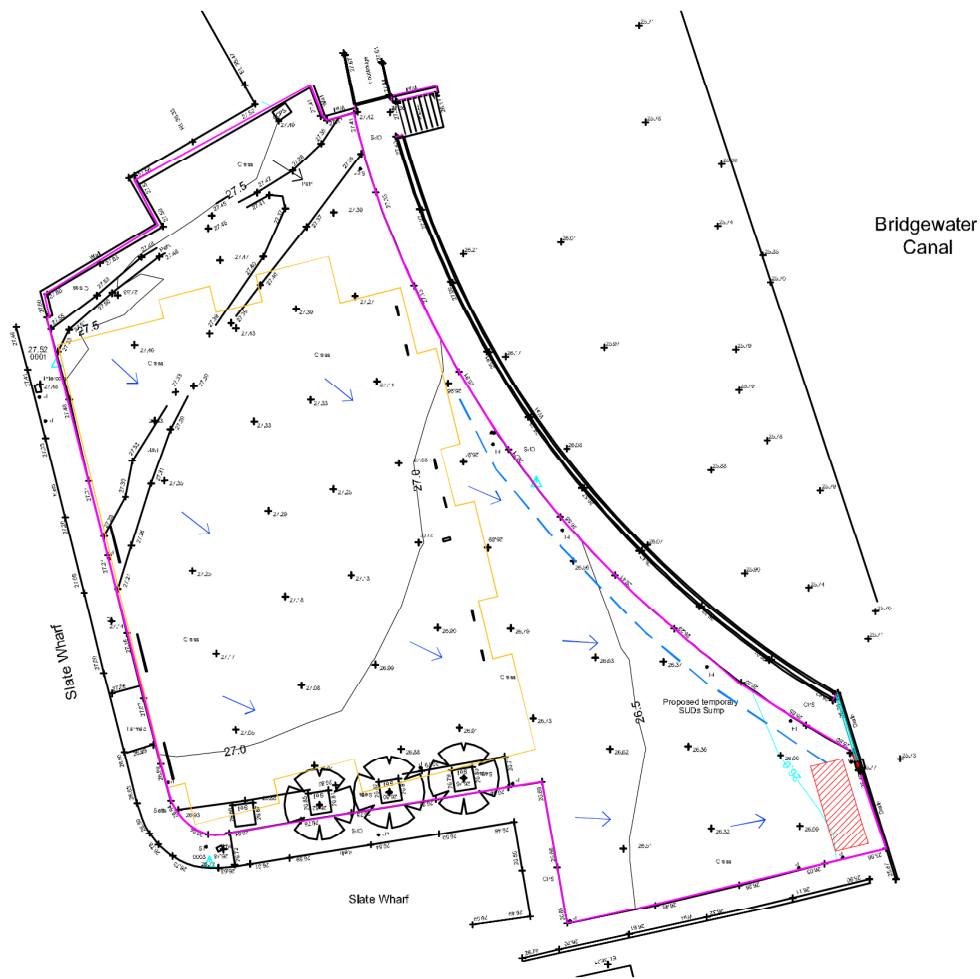


Figure 4; Plan showing the location of the perforated land drain collector along the eastern boundary (blue dashed line) leading to a temporary sump (red hatched area)

A pump will also be present on-site in order to account for possible excess surface water during periods of heavy rainfall/ storm events. During any storm events the excess surface water will be pumped from the temporary sumps and either collected by a licensed carrier or disposed off into nearby existing foul drainage (subject to discharge consents by the appropriate governing bodies)

Any hazardous materials (i.e. fuel oil) will be kept in designated areas within secure containers which will be bunded to protect against leakages. If any spillages or leakages occur, the site spill response team will immediately stop the pollution with a physical block, stop the activity causing the pollution, then notify the Environmental Manager.

No shallow groundwater or shallow perched water has been identified on-site, therefore lateral migration of contaminants through perched water / shallow groundwater is considered highly unlikely. Additionally, the contaminants of concern

identified within the made ground are of low mobility and solubility (metals and PAHs). Lateral migration of contaminants from water within the proposed temporary sump / SUDs into the canal is also considered unlikely as contaminants are unlikely to be present at elevated concentrations within the runoff caught within the sump and also given the presence of the canal wall as well as low permeability footpath subgrade between the site and the canal. Therefore, no mitigation measures with respect to uncontrolled release of contaminated shallow / perched water from excavations is deemed necessary

Existing Drainage

Although no known existing drainage is present on-site, drainage systems may act as a pathway to spread pollutants (including suspended solids from construction surface water runoff), therefore, it is important to know where drains are located and where they lead in order to prevent polluting materials entering drains.

Consequently, all existing drainage on site and within 10m of the site (e.g. surface water, foul sewer) will be identified and a “drainage plan” will be made available. All drain covers and gullies will be clearly marked to identify them and the types of pollution risk that could enter drains are identified e.g. silty water, fuel or cement washings. If any pollution enters a drain or infringes upon a drain, the site spill response team will immediately stop the pollution with a physical block, stop the activity causing the pollution, then notify the Environmental Manager.

Good Practice

Good practice procedures should also be undertaken in order to mitigate any adverse impacts. Minimising the area of exposed ground and stockpiles and the length of time they're exposed.

- Stockpiles should be located well away from water courses and covered where possible to prevent runoff. Any runoff from stockpiles should be directed away from water courses and any stockpiles of contaminated material (unlikely on-site) should be placed on an impermeable surface and banded in an area at least 10m away from the nearest water course.
- Plant and wheel washing should be undertaken in designated areas covered by hardstanding at least 10m from any watercourse or surface water drain.

The runoff should be collected and recycled and re-used where possible. Any runoff to be discharged into foul sewers should have the appropriate consents in-place and suspended solids should be removed regularly.

It is also recommended that surface water samples are obtained prior to, during and following construction to demonstrate that the mitigation measures are successful and no adverse impacts are occurring on the water quality have occurred.

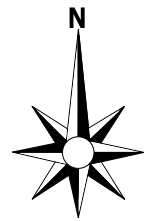
2.4 Flood and Weather Alert

The majority of the site lies within a Flood Zone 1, with the exception of the south eastern site section which lies within a Flood Zone 2. Therefore, during construction, the Site Manager / Environmental Manager should link to the Environment Agency's advanced flood warning system.

3.0 CONCLUSIONS AND RECOMMENDATIONS

- This report should be read in conjunction with the *IGE Consulting Combined Phase 1 and Phase 2 Geo-Environmental Investigation Report* (August 2021).
- It is recommended that a perforated land drain collector encased in gravel is installed along the majority of the eastern boundary, leading to a temporary sump / SUDs in the south easter corner of the site to collect surface water runoff and allow infiltration. It is also recommended that sandbags are placed along the base of the hoarding along the eastern boundary to negate any runoff from the site.
- The conclusions of this report should be agreed with relevant regulatory authorities (including the Environment Agency) prior to the commencement of works.
- It is recommended to engage with the Environment Agency to confirm their preferred mitigation measures with regard to control of surface water runoff and temporary flood protection measures during the period of works.

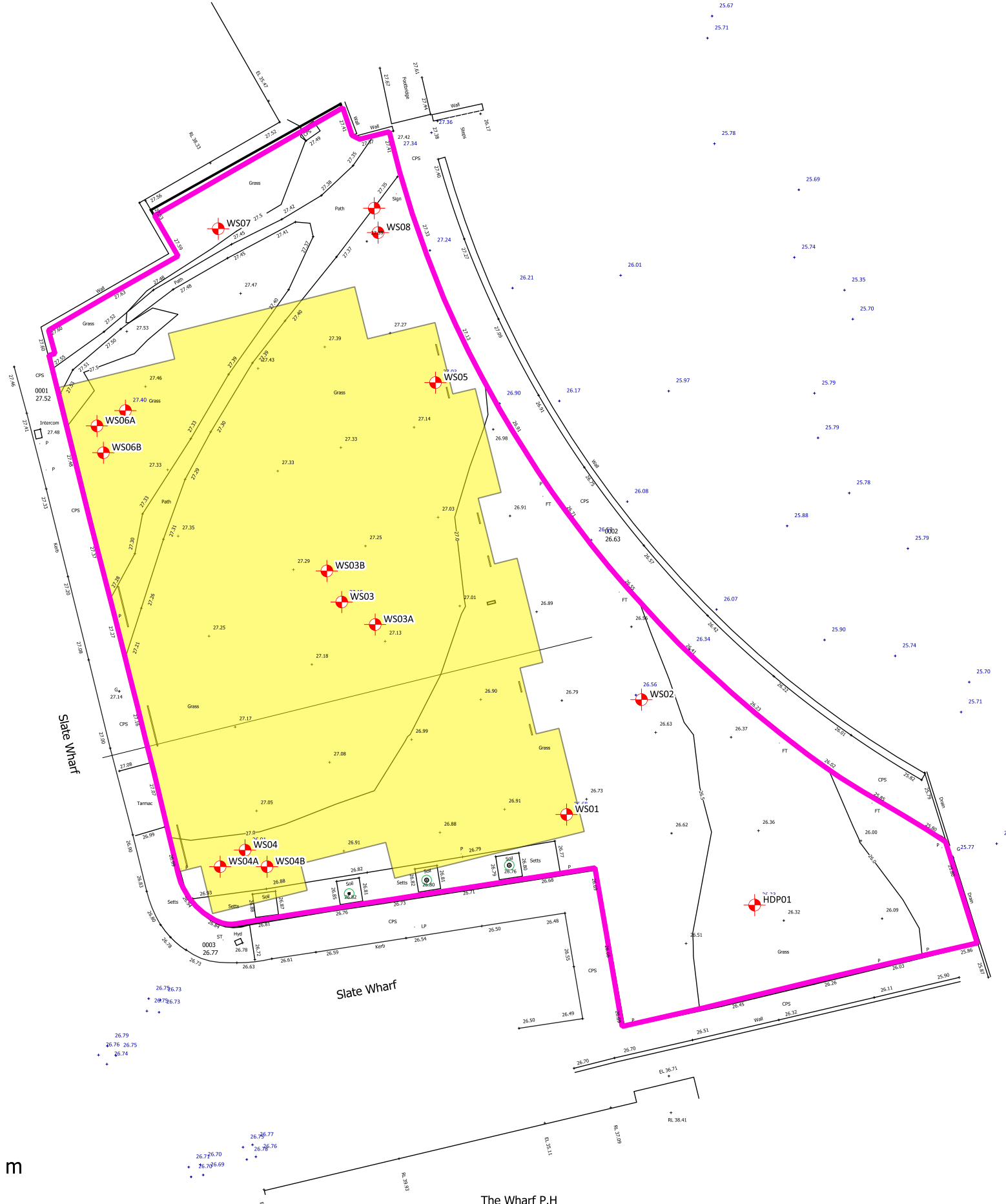
APPENDIX 1
TOPOGRAPHICAL SURVEY



FOR GUIDANCE PURPOSES ONLY

- Approximate Site Boundary
- + Survey Systems Spot Levels (April 2021)
- + IGE Additional Spot Levels (August 2021)

Original topographical survey undertaken by Survey Systems (Drawing No: 20641:200:1:1SSL, Dated April 2021)



Rev	Drawn	Date	Description
Drawing Status:			
Information			
Contract: Slate Wharf, Manchester			
For: Prestbury Estates Ltd.			
Drawing Title:			
Topographical Survey with Additional Spot Levels			
Office 11, Bartle House, Oxford Court, Manchester M2 3WQ Email: contact@igeconsulting.co.uk Web: www.igeconsulting.co.uk Tel: 0161 914 9170			
Scale: 1:250 @A3		Date: Aug 2021	
Drawn: AJ		Checked: AE	
Contract No. 3548		Drawing No. SI-07	P1

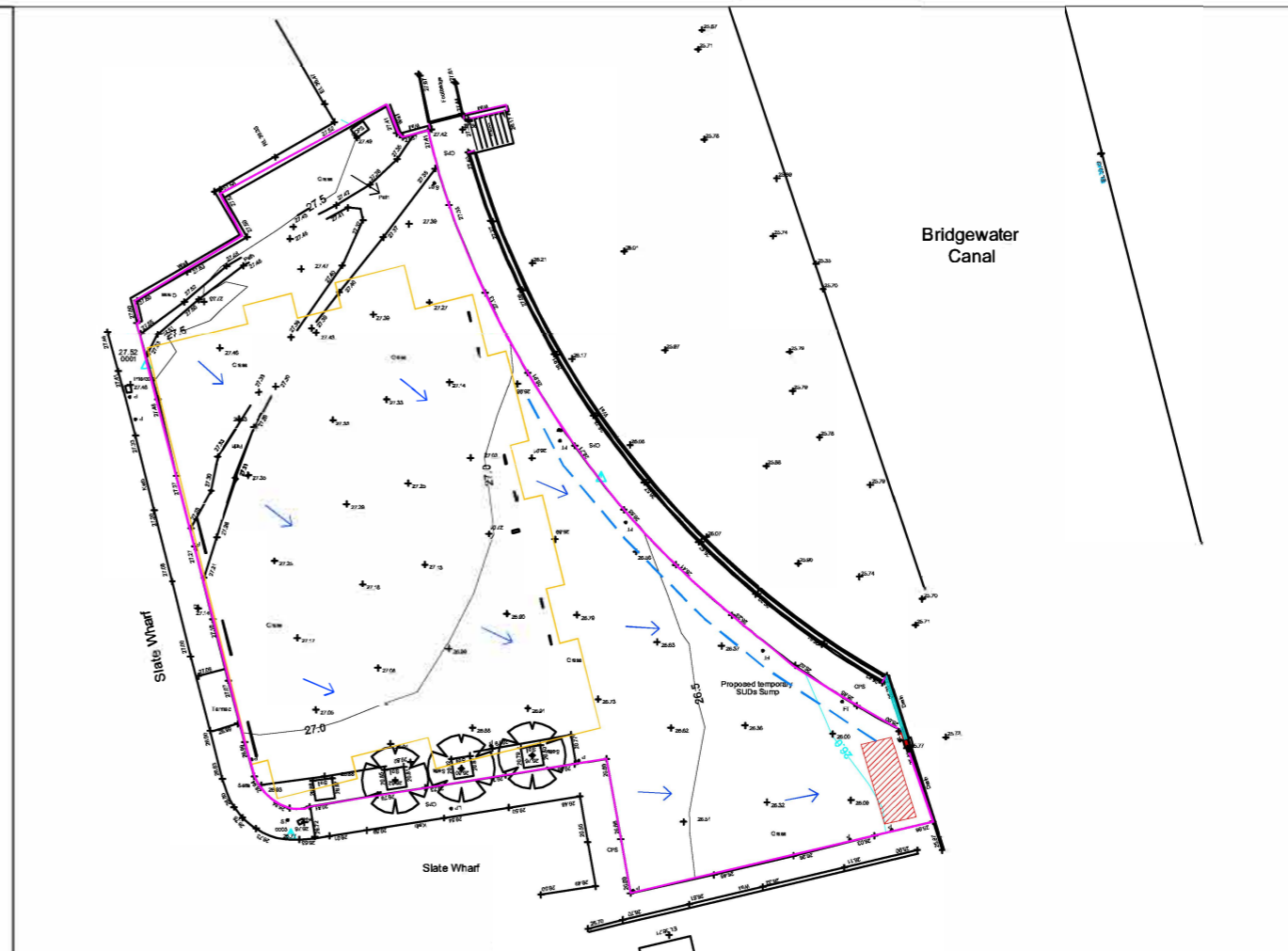
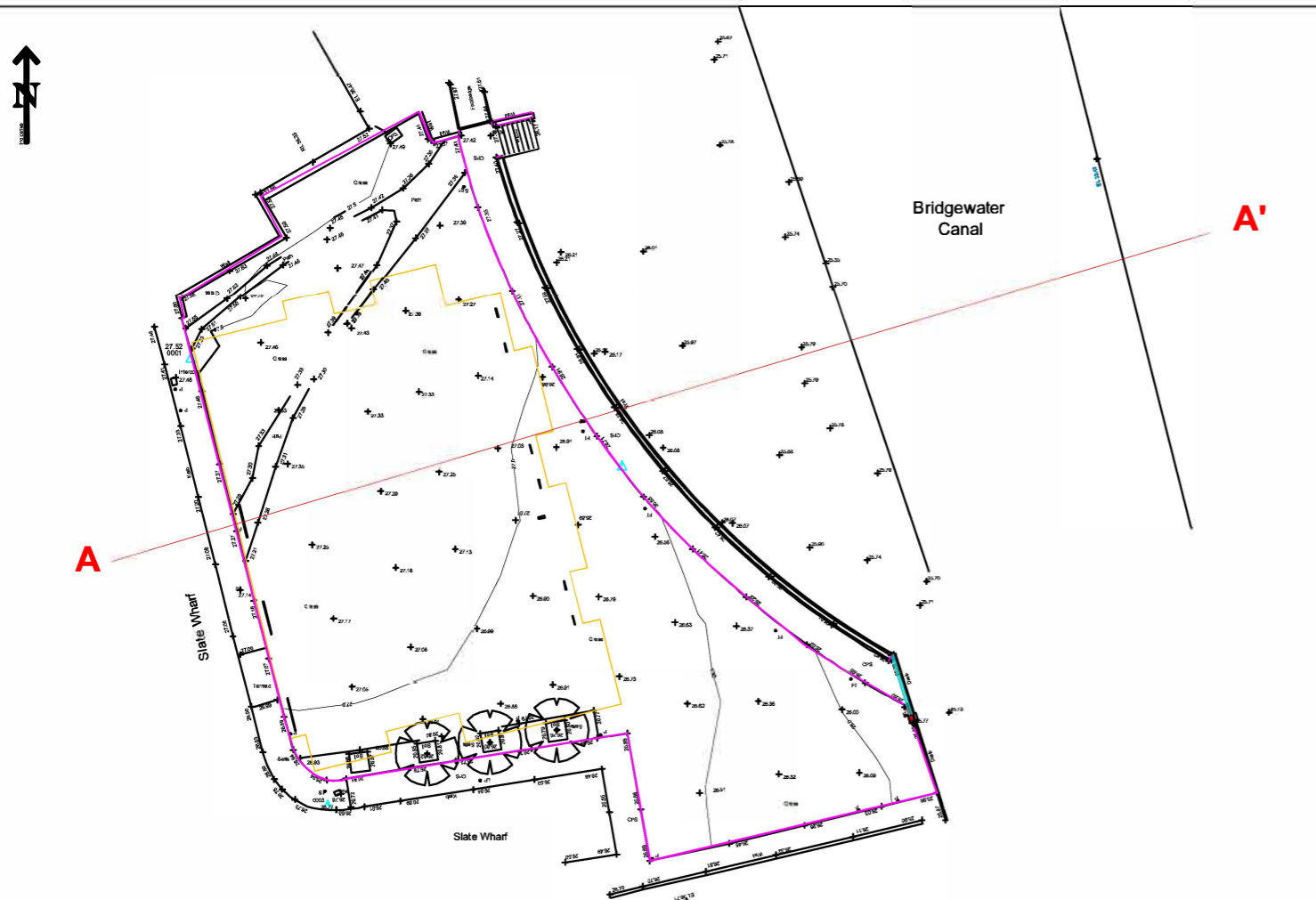
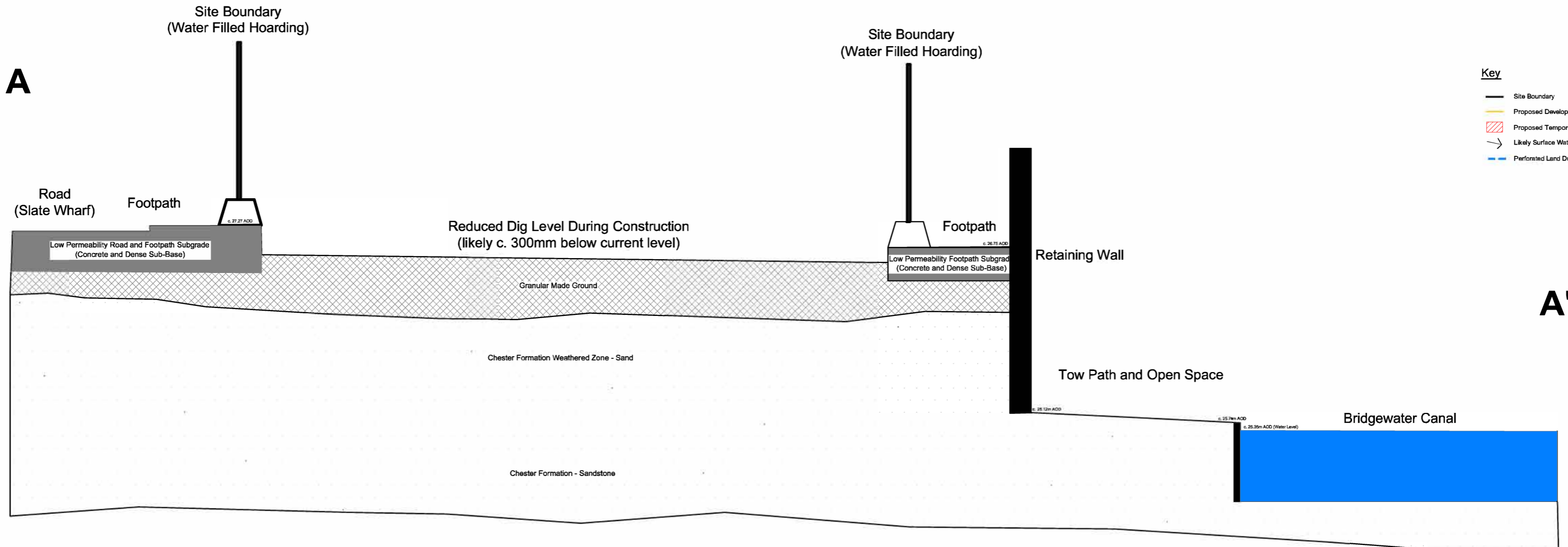
APPENDIX 2
INDICATIVE CROSS SECTION

Notes

1. This drawing is indicative and not to vertical scale.
2. This drawing is to be read in conjunction with all relevant Architects and Service Engineers drawings.

Key

- Site Boundary
- Proposed Development
- ▨ Proposed Temporary SUDs Sump
- Likely Surface Water Flow Direction
- Perforated Land Drain



Rev	Drawn	Date	Description
Drawing Status			
INFORMATION			
Contract			
SLATE WHARF, MANCHESTER			
FOR: PRESTBURY ESTATES LTD.			
Drawing Title			
INDICATIVE CROSS SECTION			

IGE
consulting

Suite 4, 14-22 Hewitt Street, Manchester, M15 4GB
email: contact@igeconsulting.co.uk
web: www.igeconsulting.co.uk
tel: 0161 237 9310

Scale	NTS	Date	AUG 2021
Drawn	AJ	Checked	AE
Contract No.	3548	Drawing No.	SI-08 P1

APPENDIX 3
PROPOSED DEVELOPMENT PLAN



Existing Block paving, Square herringbone pattern

Existing Concrete paving slabs

Existing York Stone Paving Slabs

Ramp 1:12

Ramp 1:20

Rev	Description	By	Chk	Date
01	Paving	PG	MJC	22/11/16

<ul style="list-style-type: none"> External Bin Location (collection time) Low Level Planting High Level Planting Retained Green Space 	<ul style="list-style-type: none"> Half Bonded Yorkstone Flage Square Herringbone Yorkstone Flage Building Boundary Site Boundary 	<p>Project Plot G, Castlefield</p> <p>External Works Plan</p>	<p>Project No. 15-22</p> <p>Dwg. No. P_L-[010]</p> <p>Date September 16</p> <p>Scale 1:100 @ A1</p>	<p>Rev. 01</p> <p>By PG</p> <p>Chk. MJC</p> <p>App. 00</p>
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Architects / Masterplanning / Urban Design