

SURFACE WATER DESIGN

RUN-OFF RATES

A REVIEW OF THE EXISTING TOPOGRAPHICAL SURVEY HAS IDENTIFIED THE SITE TO BE 100% GREENFIELD, MEANING WE ARE TO USE EXISTING GREENFIELD RUN-OFF RATES. THE EXISTING GREENFIELD RATE FOR THE SITE WAS CALCULATED AT 0.3L/S, WHICH IS A DANGEROUSLY LOW FLOW RATE TO RESTRICT TO POST DEVELOPMENT DUE TO FLOOD RISK AND BLOCKAGES. WE HAVE PROPOSED A MAXIMUM DISCHARGE RATE 2.0L/S FOR THIS DEVELOPMENT.

* REFER TO PWA CALCULATIONS 22228-PWA-00-XX-CA-C-1000 FOR GREENFIELD RUN-OFF CALCULATIONS

PROPOSED DRAINAGE SYSTEM

SURFACE WATER FALLING ONTO THE YARD WILL FALL AWAY FROM THE UNIT INTO A SWALE WHICH WILL DIRECT FLOWS INTO A REED BED ADJACENT TO THE SITE ENTRANCE. THESE GREEN SUDS FEATURES WILL ACT AS A NATURAL FILTER, TRAPPING SEDIMENT BEFORE IT CAN ENTER THE DRAINAGE SYSTEM. THESE FEATURES ARE TO BE USED ALONGSIDE A BYPASS SEPARATOR WHICH WILL TREAT ANY SPILLAGES CAUSED BY VEHICLES.

TO RESTRICT PROPOSED FLOWS TO A RATE OF 2.00 L/S, THE PROPOSED DRAINAGE SYSTEM SHOULD SEEK TO IMPLEMENT SOURCE CONTROL SUDS METHODS WHERE POSSIBLE AND AN ATTENUATION SYSTEM TO STORE THE RESTRICTED FLOWS.

BASED ON THE PROPOSED IMPERMEABLE AREAS, THE REQUIRED ATTENUATION FOR A 1 IN 100-YEAR STORM EVENT + 30% CLIMATE CHANGE IS CALCULATED AT 384.265m³.

* REFER TO PWA DRAWING 22228-PWA-00-XX-DR-C-1001 FOR IMPERMEABLE AREA PLAN.

* REFER TO PWA CALCULATIONS 22228-PWA-00-XX-CA-C-3003 FOR HYDRAULIC CALCULATIONS.

PRELIMINARY ATTENUATION DESIGNS ARE BELOW:

CELLULAR STORAGE STRUCTURE

12.0m(W) x 24.0m(L) x 1.6m(D) = 438.96m³ OF ATTENUATION.

WITH 95% VOID RATIO

FOUL WATER DESIGN

FOUL WATER STRATEGY

A DESKTOP STUDY OF THE SURROUNDING AREA SHOW THAT THERE IS AN ADOPTED FOUL SEWER LOCATED WITHIN COWN TOP LANE TO EAST OF THE DEVELOPMENT.

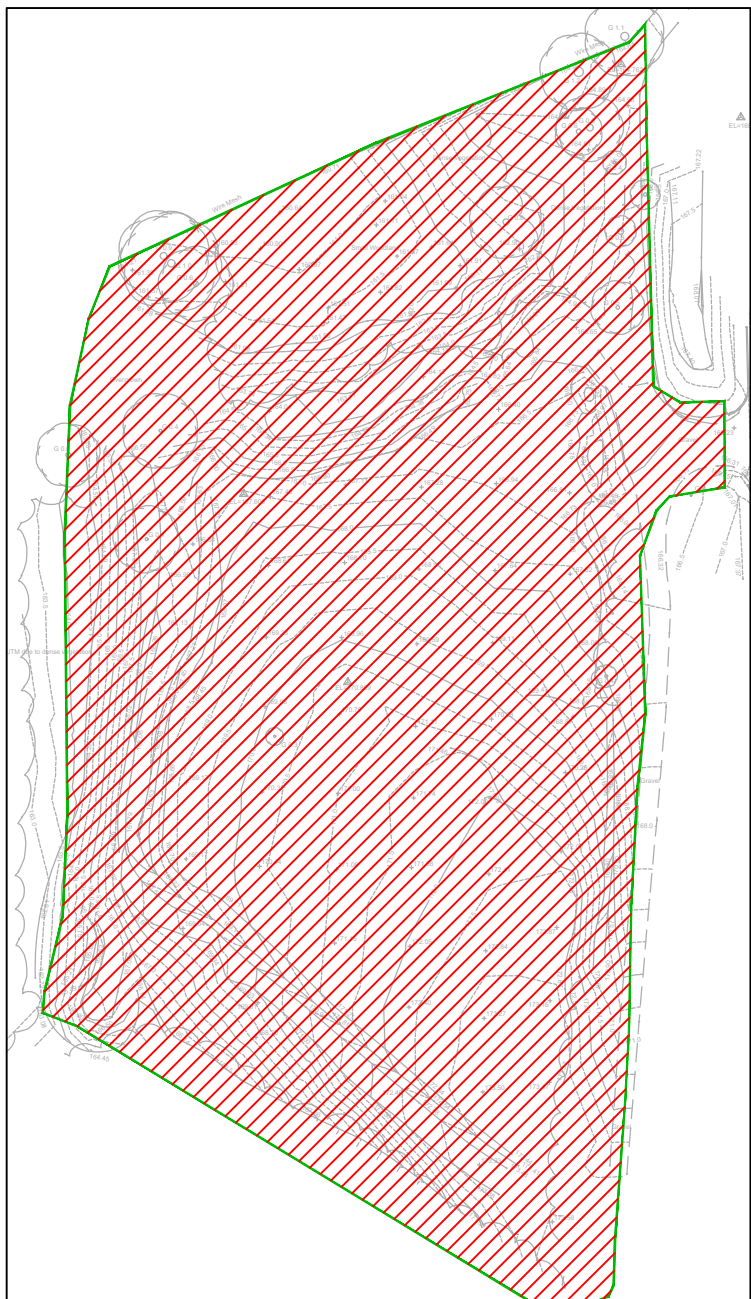
BASED ON THE ABOVE, ALL FOUL WATER FROM THE DEVELOPMENT WILL BE DISCHARGED TO THE PUBLIC FOUL SEWER BY A DIRECT CONNECTION TO AN EXISTING MANHOLE FOUND WITHIN COWN TOP LANE.

AREA	EXISTING GREENFIELD AREA, m ² (ha)
EXISTING GREENFIELD	10423m ² (1.042ha)

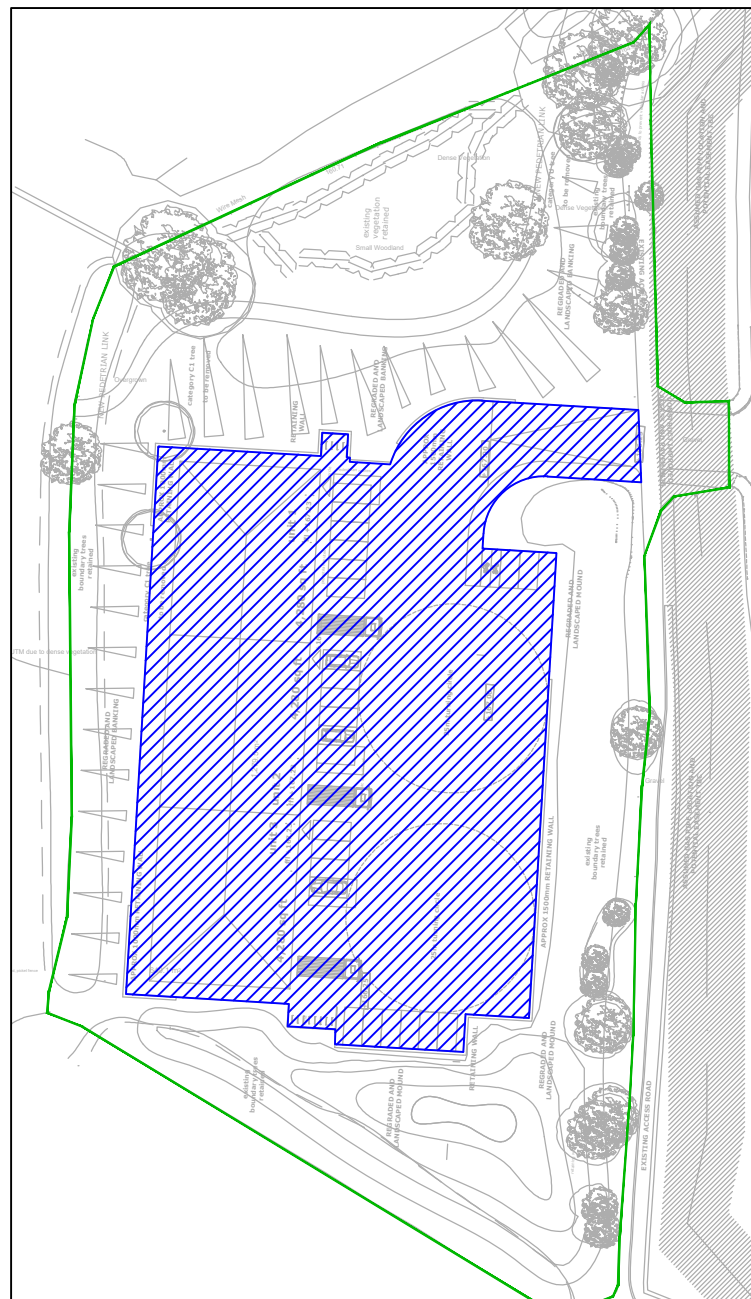
*TOTALS FOR HECTARES (ha) AND METERS SQUARED (m²) DIFFER SLIGHTLY DUE TO ROUNDING AND ACCUMULATION OF INDIVIDUAL AREAS.

AREA	IMPERMEABLE CATCHMENT AREA, m ² (ha)
PROPOSED IMPERMEABLE	4164m ² (0.416ha)

*TOTALS FOR HECTARES (ha) AND METERS SQUARED (m²) DIFFER SLIGHTLY DUE TO ROUNDING AND ACCUMULATION OF INDIVIDUAL AREAS.

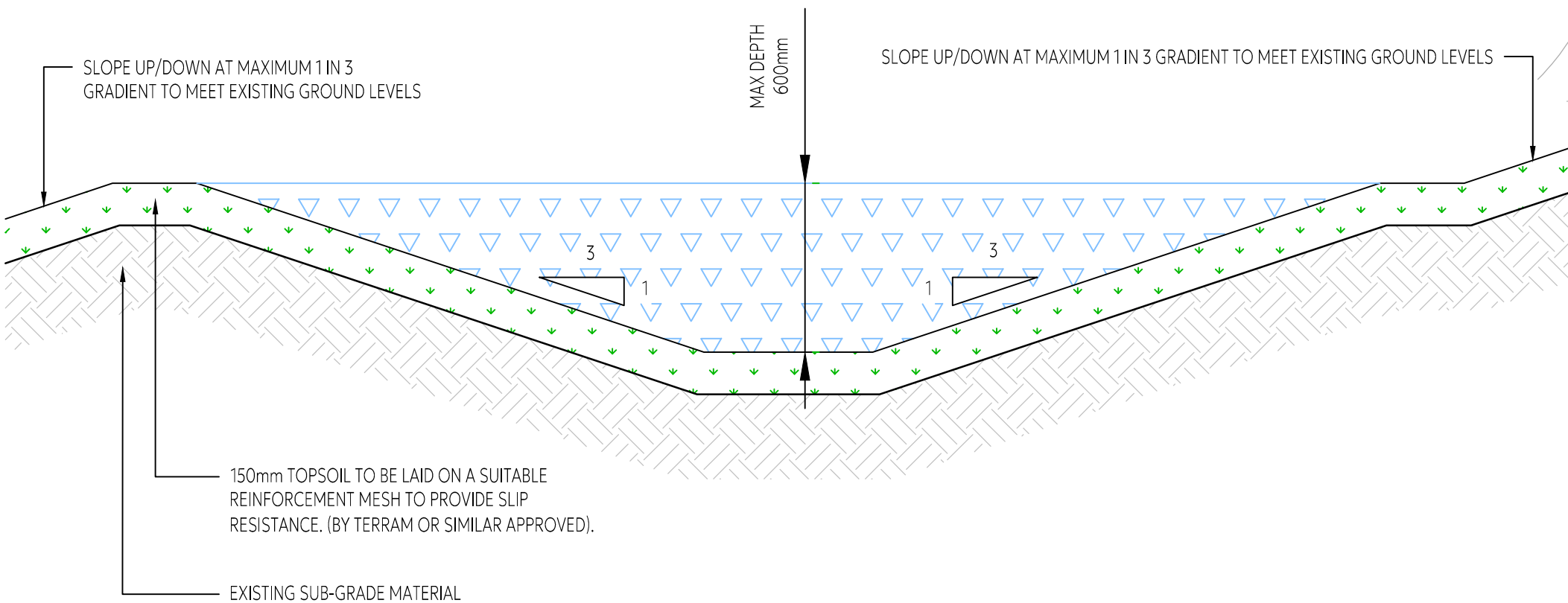


PROPOSED IMPERMEABLE AREA 1:1000

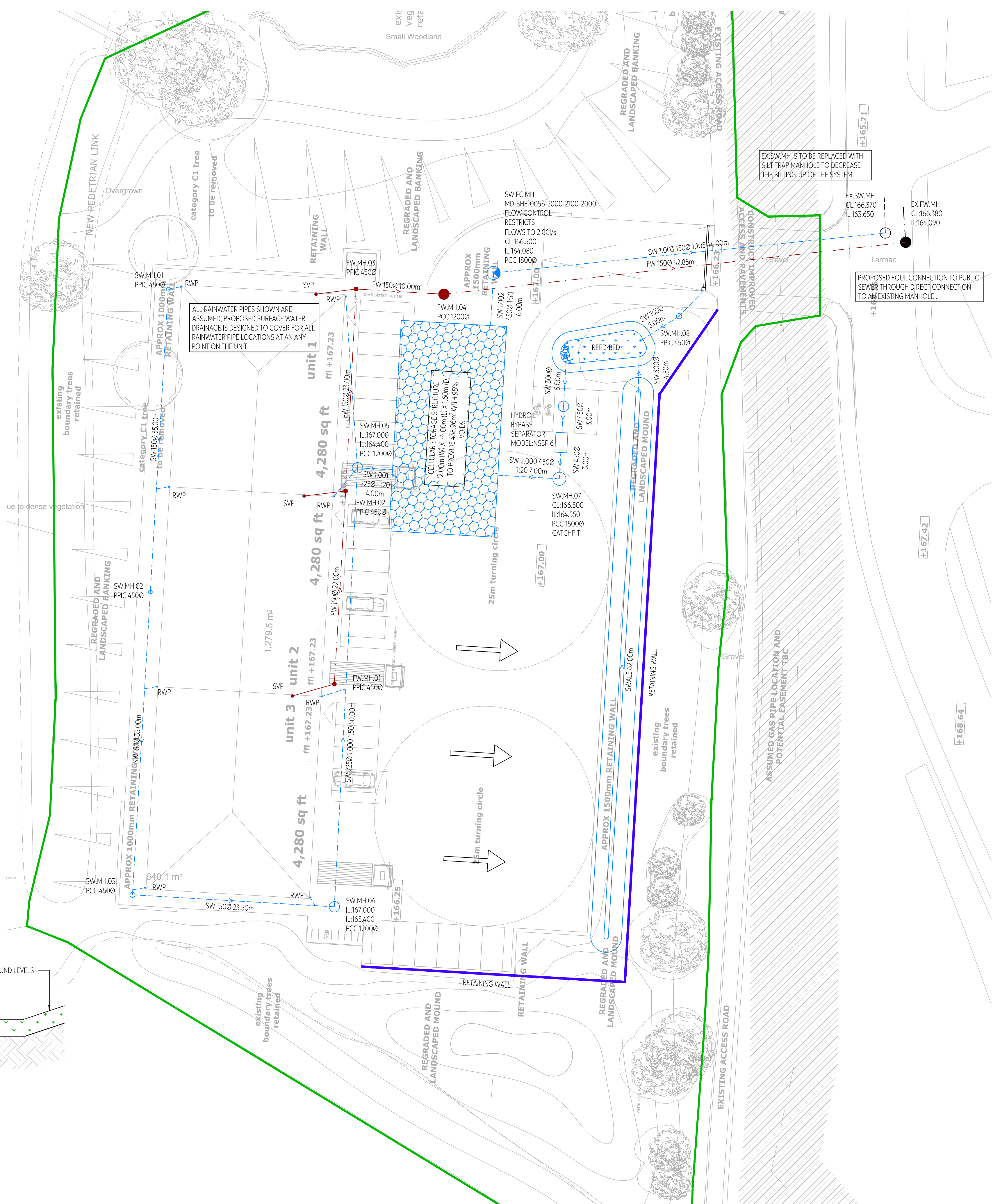


PROPOSED IMPERMEABLE AREA 1:1000

PROPOSED DRAINAGE IS PRELIMINARY ONLY AND IS SUBJECT TO DETAILED DESIGN.



TYPICAL SWALE DETAIL 1:200

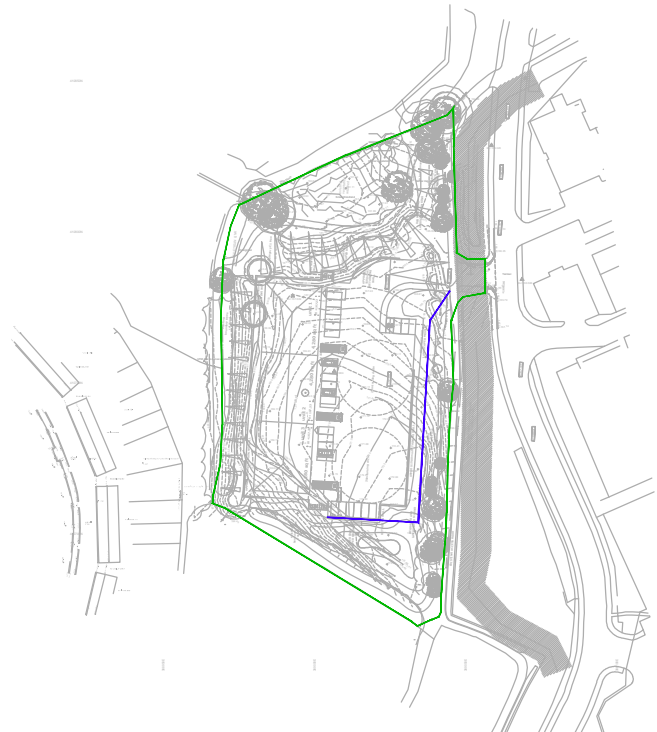


PROPOSED SITE PLAN 1:200



SITE LOCATION

OS X (EASTINGS) 388597
OS Y (NORTHINGS) 446780
NAT GRID SD885467
POSTCODE BD20 7BW



KEY PLAN - 1:5000

NOTES:

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KEY

- EXISTING SURFACE WATER SEWER
- EXISTING SURFACE WATER MANHOLE
- EXISTING FOUL WATER SEWER
- EXISTING FOUL WATER MANHOLE
- PROPOSED SURFACE WATER SEWER
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED SURFACE WATER INSPECTION CHAMBER
- PROPOSED SURFACE WATER FLOW CONTROL MANHOLE
- PROPOSED RWP
- PROPOSED FOUL WATER SEWER
- PROPOSED FOUL WATER MANHOLE
- PROPOSED FOUL WATER INSPECTION CHAMBER
- PROPOSED SVP
- PROPOSED CHANNEL
- PROPOSED GULLY
- PROPOSED RETAINING WALL
- SITE BOUNDARY

REV	16.02.26	GREEN SUDS FEATURES INCORPORATED.	IB	LS
REV	02.05.25	REVISED TO SUIT NEW FLOW RATE.	IB	LS
REV	29.06.25	REVISED TO INCLUDE A BYPASS SEPARATOR.	IB	LS
REV	02.03.25	REVISED TO SUIT UPDATED TANK SIZE.	IB	LS
REV	25.10.22	FIRST ISSUE.	IB	LS
Rev	Date	Remarks	Drawn	Chk'd

PWA / GROUP

CIVIL SUMMIT HOUSE, RIPARIAN WAY, 01535 633350
STRUCTURAL THE CROSSINGS, CROSSHILLS, info@pwagroup.co.uk
GEO-ENVIRONMENTAL KEIGHLEY, BD20 7BW www.pwagroup.co.uk

Client

GROUP FIRST

Project

GENESIS BUSINESS PARK
COWN TOP LANE
ROCHDALE

Title

PROPOSED DRAINAGE STRATEGY

Size	Scale	Designed	Checked	Date
A1	A.S	IB	LS	OCT 22
Drawing Status				
PRELIMINARY				
Job Number	Originator	Zone	Level	Type
22228	PWA	00	XX	DR
Rate	Drawing No.	Rev		
1002	P05			