

SURFACE WATER PRINCIPLES

NPPF HIERARCHY OF SURFACE WATER DRAINAGE
 THE NATIONAL PLANNING PRACTICE GUIDANCE SETS OUT THE HIERARCHY OF DRAINAGE TO PROMOTE THE USE OF SUSTAINABLE DRAINAGE SYSTEMS, BY ALIGNING MODERN DRAINAGE SYSTEMS WITH NATURAL WATER PROCESSES. THE AIM OF HIERARCHY OF DRAINAGE IS TO DRAIN SURFACE WATER RUN-OFF AS SUSTAINABLE, AS REASONABLY PRACTICABLE.
 AS STATED IN THE NATIONAL PLANNING PRACTICE GUIDANCE, THE AIM SHOULD BE TO DISCHARGE SURFACE WATER RUN-OFF AS HIGH UP THE DRAINAGE HIERARCHY, AS REASONABLY PRACTICABLE:
 • INTO THE GROUND (INFILTRATION).
 • TO A SURFACE WATER BODY.
 • TO A SURFACE WATER SEWER, HIGHWAY DRAIN, OR ANOTHER DRAINAGE SYSTEM.
INFILTRATION
 EXISTING SOAK AWAY ON SITE CAN BE SEEN TO BE INEFFECTIVE DESPITE MAINTENANCE RESULTING IN WATER PRESENTING AT THE SURFACE AND FLOWING OVERLAND INTO THE CATCHMENTS AT THE RAILWAY. SOAK AWAYS ARE NOT CONSIDERED VIABLE FOR THIS SITE.
WATERCOURSE
 IF INFILTRATION HAS BEEN DISCOUNTED AS A VIABLE SOLUTION, THE NEXT METHOD IN PRIORITY SHOULD BE TO DISCHARGE TO A WATERCOURSE OR SURFACE WATER BODY.
 AN ASSESSMENT OF THE LK RIVER MAPS HAS IDENTIFIED THAT THERE ARE NO NEARBY WATERCOURSES.
SURFACE WATER SEWER
 EXISTING SURFACE WATER FLOWS ARE DIRECTED TO A SEWER BEYOND THE RAILWAY. IT IS UNDERSTOOD THAT ADDITIONAL FLOWS ARE NOT ALLOWED TO DISCHARGE IN THE DIRECTION OF THE RAILWAY ASSET AND THEREFORE DISCHARGE IS PROPOSED TO THE SURFACE WATER SEWER IN THE MAIN HIGHWAY.

SURFACE WATER DESIGN

DUE TO THE PROPOSED SURFACE WATER REQUIRING TO DISCHARGE TO A SURFACE WATER SEWER UNDER THE NPPF DRAINAGE HIERARCHY, WE WILL INTRODUCED A NEW SURFACE WATER CONNECTION INTO THE EXISTING SEWER, MAKING SURE WE DON'T EXCEED THE CALCULATED FLOW RATE OF 12.3L/S THAT BEING THE EXISTING BROWNFIELD RATE WITH 30% REDUCTION.
PROPOSED DRAINAGE SYSTEM
 TO RESTRICT PROPOSED FLOWS TO A RATE OF 12.3 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 57.0m³.
 * REFER TO PWA DRAWING 22045-00-XX-DR-C-1003 FOR PROPOSED IMPERMEABLE AREA.
 ** REFER TO PWA CALCULATIONS 22045-00-XX-CA-C-1001 FOR ATTENUATION VOLUME ESTIMATE.
PRELIMINARY ATTENUATION DESIGNS ARE BELOW:
 ATTENUATION STORAGE PIPE
 1.2m(W) x 40.0m(L) x 1.2m(D) = 57.6m³ OF ATTENUATION.

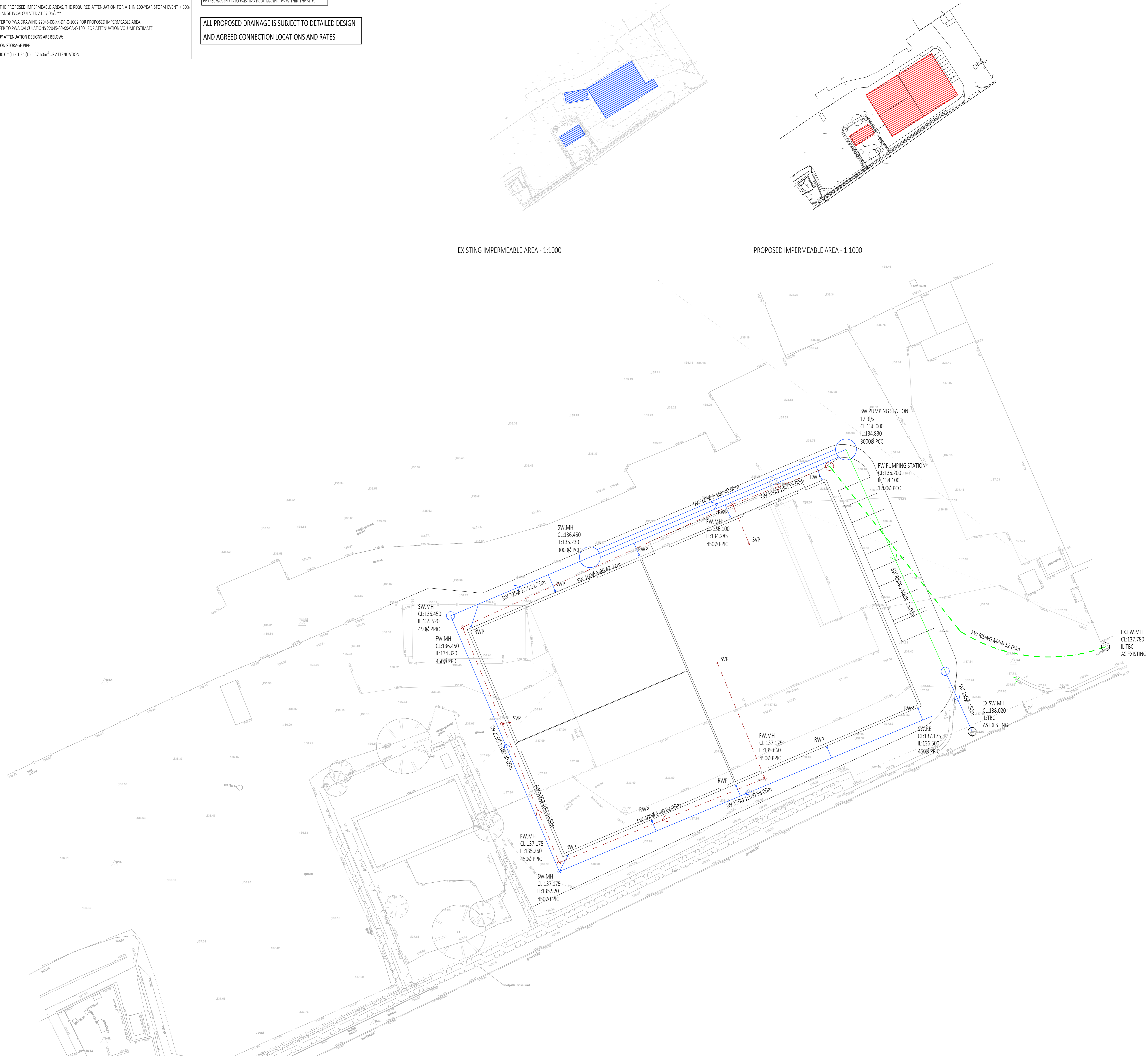
FOUL WATER DESIGN

FOUL WATER STRATEGY
 A REVIEW OF THE UNITED UTILITIES SEWER RECORDS IN THE SURROUNDING AREA SHOW THAT THERE ARE COMBINED SEWERS THAT ARE PRACTICABLE TO CONNECT TO, ALONG WITH EXISTING FOUL MANHOLES IN THE SITE WHICH WOULD BE IDEAL TO CONNECT TO BASED ON THE ABOVE. ALL FOUL WATER FROM THE DEVELOPMENT WILL BE DISCHARGED INTO EXISTING FOUL MANHOLES WITHIN THE SITE.

ALL PROPOSED DRAINAGE IS SUBJECT TO DETAILED DESIGN AND AGREED CONNECTION LOCATIONS AND RATES

EXISTING IMPERMEABLE AREA - 1:1000

PROPOSED IMPERMEABLE AREA - 1:1000



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AREA	IMPERMEABLE CATCHMENT AREA, m ² (ha)
EXISTING IMPERMEABLE	1265m ² (0.127ha)

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

BROWNFIELD RUNOFF RATES.	
STORM EVENT	DISCHARGE RATE
EXISTING PEAK	17.6 l/s
EXISTING PEAK WITH 30% REDUCTION	12.3 l/s

AREA	IMPERMEABLE CATCHMENT AREA, m ² (ha)
PROPOSED IMPERMEABLE	2128m ² (0.213ha)

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

STORAGE REQUIREMENTS	
STORM EVENT	STORAGE VOLUME
1 IN 100 YEAR	33.00m ³
1 IN 100 YEAR + CC	57.00m ³

- KEY**
- EXISTING SURFACE WATER MANHOLE
 - EXISTING FOUL WATER MANHOLE
 - PROPOSED SURFACE WATER MANHOLE
 - PROPOSED SURFACE WATER INSPECTION CHAMBER
 - PROPOSED FOUL WATER MANHOLE
 - PROPOSED FOUL WATER INSPECTION CHAMBER
 - PROPOSED SURFACE WATER RISING MAIN
 - PROPOSED FOUL WATER RISING MAIN

DATE	2024/06/20
TIME	10:00

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GISBURN AUCTION MART	
Project: PROPOSED INDUSTRIAL DEVELOPMENT AT GISBURN AUCTION MART LTD GISBURN	
Title: PROPOSED DRAINAGE STRATEGY	
Rev: A1	AS SHOWN
Rev: IB	PMc
JUN 22	
PRELIMINARY	
Job Number: 22045 - PWA - 00 - XX - DR - C - 1001	Rev: P01