3. Recommendations

The table below shows the results from the modelling that was carried out. The results show that the system has sufficient capacity to support the new demand of 37.73 l/s l/s.

DMA	POC Address and Model Node	Demand Scenario	Pressure Available at the POC (m)	
			Model Pressure	Telemetry Adjustment (-3.00 m)
BR12	200mm PVC main in in Peveril Road, Crawley RH11 0TH Grid Ref. X: 524139 Y: 136465 Node – 6002538	Before Additional Demand	34.69	31.69
		After Additional Demand (37.73 l/s)	33.26	30.26
		Before Additional Demand with Fire Demand (20.00 l/s)	34.05	31.05
		After Additional Demand with Fire Demand (37.73 l/s + 20.00 l/s)	31.77	28.77

Appendix 5
Surface Water connection points

SURFACE WATER DRAINAGE STRATEGY:

THE SITE BOUNDARY ACCOUNTS FOR 203ha HOWEVER, OF THE EXISTING SITE, IT IS CONSIDERED THAT THE DEVELOPED AREA CONTRIBUTING TO CHANGES IN THE DRAINING CHARACTERISTICS OF THE EXISTING GREENFIELD SITE ACCOUNTS FOR A TOTAL AREA OF 107ha. EXISTING WATERCOURSE DETAILS, LOCATION AND LEVELS TO BE CONFIRMED BY FURTHER SITE INVESTIGATIONS TO AID WITH DESIGN FOR DISCHARGE CONNECTIONS. NO DITCHES OR WATERCOURSES HAVE BEEN IDENTIFIED AS REQUIRING DIVERSION AS PART OF THE DEVELOPMENT PROPOSALS.

THE PROPOSED SITE WIDE DRAINAGE STRATEGY WILL COMPLY WITH THE BELOW INCLUSIONS FOR ONSITE SURFACE WATER MANAGEMENT AND MITIGATE FLOOD RISK OFF SITE:

- PROPOSED DISCHARGE RATE IS TO RETAIN GREENFIELD RUNOFF RATES TO BE RESTRICTED TO Qbar = 300.38 L/S
- INITIAL STORAGE VOLUME REQUIRED FOR THE MAIN SITE TO MANAGE STORM EVENTS UP TO AND INCLUDING THE 1:100 YEARS STORM EVENT WITH THE INCLUSION FOR 40% CLIMATE CHANGE IS ESTIMATED TO BE = 52,113m³
- ADD: THE TOTAL STORAGE ACCOMMODATED AS PART OF THE SITE WIDE STRATEGY THROUGH DETENTION BASINS/ BELOW GROUND STORAGE TANKS IS = 36,985m3

PROPOSED SURFACE WATER DRAINAGE STRATEGY IS BASED ON DISCHARGE RATE OF RESTRICTING EXISTING GREEN FIELD RUNOFF TO Qbar FOR THE PROPOSED DEVELOPMENT THROUGH THE USE OF ATTENUATION. IT IS NOT ANTICIPATED THAT THE STORAGE VOLUME IDENTIFIED ABOVE WOULD BE SUFFICIENT ON ITS OWN TO BE MANAGE WITHIN THE OVERALL SITE WIDE STORAGE AS SHOWN. IT WILL THEREFORE BE NECESSARY FOR THE REMAINING ATTENUATION TO BE PROVIDED WITHIN THE DEVELOPMENT PLOTS VIA SUSTAINABLE DRAINAGE MEASURES OF BOTH SOURCE CONTROL AND ATTENUATION TO ACHIEVE THE REMAINING SITE DISCHARGE AND STORAGE NEEDS.THE BELOW SUDS FEATURES ARE RECOMMENDED AS PART OF THE ON PLOT AND SITE WIDE DRAINAGE:

- DETENTION BASINS
- BELOW GROUND TANKS
- MUGA ATTENUATION
- SWALES
- FILTER TRENCHES
- BLUE/ GREEN ROOFS
- RAIN GARDENS
- OVERSIZED PIPES

FOR CONTINUATION SEE DRAWING RAM-XX-XX-DR-C-0101

N

RUSPER ROAD

RHODES DR

ELLIS WALK

HOY CRESCENT

RUSPER ROAD

DETENTION BASIN PLAN AREA = 405m²
ESTIMATED VOLUME = 395m³
EFFECTIVE DEPTH = 1.7m (300mm FREEBOARD)

PROPOSED CROSSING POINT BENEATH MAIN SPINE ROAD, TO BE COORDINATED AND INCLUDED WITHIN PHASE 1 DESIGN.

DETENTION BASIN PLAN AREA = 1200m²
ESTIMATED VOLUME = 1800m³
EFFECTIVE DEPTH = 1.7m (300mm FREEBOARD)

DETENTION BASIN PLAN AREA = 680m²
ESTIMATED VOLUME = 780m³
EFFECTIVE DEPTH = 1.2m (300mm FREEBOARD)

ATTENUATION TANK
AREA = 1225m²
DEPTH = 1m
EFFECTIVE VOLUME = 1225m³

DETENTION BASIN PLAN AREA = 1770m²
ESTIMATED VOLUME = 1450m³
EFFECTIVE DEPTH = 1.2m (300mm FREEBOARD)

DETENTION BASIN PLAN AREA = 4440m²
ESTIMATED VOLUME = 6660m³
EFFECTIVE DEPTH = 1.7m (300mm FREEBOARD)

DETENTION BASIN PLAN AREA = 1200m²
ESTIMATED VOLUME = 1800m³
EFFECTIVE DEPTH = 1.7m (300mm FREEBOARD)

ALTERNATIVE OUTFALL (NO OFF-PLOT ATTENUATION)

SW RISING MAIN

SW PUMPING STATION

OUTFALL 5:
PROPOSED DISCHARGE RATE TO BE LIMITED TO Qbar. THE OVERALL SITE DISCHARGE RATE HAS PRO-RATA SPLIT TO DETERMINE THE CONTRIBUTING CATCHMENT AREAS AND ASSOCIATED DISCHARGE RATES:
- CATCHMENT AREA = 8.7ha
- 45.24l/s FOR ALL STORM EVENTS THE 1 IN 100 YEAR EVENTS (INCL. 40% CC.)
- INITIAL STORAGE ESTIMATION = 7,850m3 (OF WHICH 8,460m³ PROVIDED BY DETENTION BASINS SHOWN) ACHIEVABLE ONLY WITH PLOTS BEING PUMPED INTO BASIN.

THIS WILL BE ACHIEVED VIA A VORTEX FLOW CONTROL DEVICE BEFORE DISCHARGING INTO THE WATERCOURSE VIA A HEADWALL.

GENERAL DESIGN NOTES:

- SURFACE WATER DRAIN POINTS CONNECTING INTO SITE WIDE NETWORK SUBJECT TO FURTHER CONFIRMATION AND DETAILED DESIGN DEVELOPMENT.
- PROPOSED ONSITE UTILITY SERVICES ARE LIMITED DUE TO THE GREENFIELD NATURE OF THE SITE. COORDINATION WITH EXISTING AND PROPOSED SERVICES TO BE UNDERTAKEN DURING DETAILED DESIGN.
- THE DRAINAGE STRATEGY IS SUBJECT TO WEST SUSSEX COUNTY COUNCIL 'LLFA' AND ENVIRONMENT AGENCY APPROVAL PRIOR TO CONSTRUCTION.
- FURTHER COORDINATION REQUIRED WITH FINAL TREE LOCATIONS AND DETAILS TO AVOID CLASHES WITH BELOW GROUND DRAINAGE.
- SURFACE WATER DRAINAGE DESIGN HAS BEEN DEVELOPED BASED ON EXISTING SITE TOPOGRAPHY. THE SUFACE WATER DRAINAGE STRATEGY IS TO BE FURTHER REVIEWED AND COORDINATED AS THE SITE LEVEL DESIGN DEVELOPS.

50m 0m 50m 100m
SCALE 1:2000

10/06/2025 10:08:51

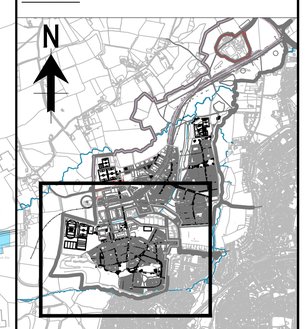
Notes

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE MILLIMETRES U.N.O.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
4. ALL DRAINAGE WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH "SEWERAGE SECTOR GUIDANCE APPENDIX C (FORMERLY KNOWN AS 'SEWERS FOR ADOPTION') , BUILDING REGULATIONS PART H AND CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY WHERE APPROPRIATE.
5. DRAWINGS HAVE BEEN PRODUCED BASED ON:
   - PRIOR & PARTNERS - MASTERPLAN LAYOUT - 230208_WOI_SITE A DETAILED STUDIES
   - OS BASE MAP

KEY:

- SITE BOUNDARY
- SW — SURFACE WATER DRAIN
- SURFACE WATER MANHOLE
- PROPOSED ATTENUATION POND
- PROPOSED ATTENUATION POND (FILLED BY MECHANICAL MEANS)
- ATTENUATION TANK
- HEADWALL OUTFALL
- EXISTING MAIN RIVER/ ORDINARY WATERCOURSE
- FLOOD ZONE 2 EXTENT
- PHASE 1 BOUNDARY EXTENT - TO ARCADIS DESIGN INFORMATION
- SUB-CATCHMENTS WITHIN PHASE 1 DESIGN BY ARCADIS

KEY PLAN



Rev	Description	Date	By Chk	App
P05	UPDATED RED LINE BOUNDARY	10.06.2025	GG PMG	SP
P04	DRAFT ISSUE	16.04.2025	GG PMG	SP
P03	DRAFT ISSUE	05.03.2025	GG PMG	DS
P02	DRAFT ISSUE	10.10.2023	PMG MS	DS
P01	DRAFT ISSUE	25.05.2023	PMG MS	DS

STAGE 2

WEST OF IFIELD

RAMBOLL

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SITE WIDE SURFACE WATER DRAINAGE GENERAL ARRANGEMENT SHEET 1

Project No:	Scale (@A1):	Drawn:	Date:
1620007949-001	1:2000	PMG	MAY.2023

Drawing No: RAM-XX-XX-DR-C-0100

Rev: P05

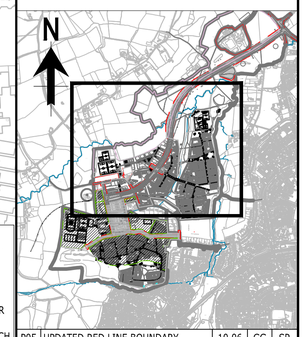
Notes

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE MILLIMETRES U.N.O.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
4. ALL DRAINAGE WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH "SEWERAGE SECTOR GUIDANCE APPENDIX C (FORMERLY KNOWN AS 'SEWERS FOR ADOPTION') , BUILDING REGULATIONS PART H AND CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY WHERE APPROPRIATE.
5. DRAWINGS HAVE BEEN PRODUCED BASED ON:
   - PRIOR & PARTNERS - MASTERPLAN LAYOUT - 230208_WOI_SITE A DETAILED STUDIES
   - OS BASE MAP

KEY:

- SITE BOUNDARY
- SW — SURFACE WATER DRAIN
- SURFACE WATER MANHOLE
- PROPOSED ATTENUATION POND
- PROPOSED ATTENUATION POND (FILLED BY MECHANICAL MEANS)
- ATTENUATION TANK
- HEADWALL OUTFALL
- EXISTING MAIN RIVER/ ORDINARY WATERCOURSE
- FLOOD ZONE 2 EXTENT
- PHASE 1 BOUNDARY EXTENT - TO ARCADIS DESIGN INFORMATION
- SUB-CATCHMENTS WITHIN PHASE 1 DESIGN BY ARCADIS

KEY PLAN



Rev	Description	Date	By	Chc	App
P05	UPDATED RED LINE BOUNDARY	10.06 2025	GG	PMG	SP
P04	DRAFT ISSUE	16.04 2025	GG	PMG	SP
P03	DRAFT ISSUE	05.03 2025	GG	PMG	DS
P02	DRAFT ISSUE	10.10 2023	PMG	MS	DS
P01	DRAFT ISSUE	25.05 2023	PMG	MS	DS

STAGE 2

WEST OF IFIELD

RAMBOLL

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SITE WIDE SURFACE WATER DRAINAGE GENERAL ARRANGEMENT SHEET 2

Project No:	Scale (@A1):	Drawn:	Date:
1620007949-001	1:2000	PMG	MAY.2023

Drawing No: RAM-XX-XX-DR-C-0101 Rev: P05

SURFACE WATER DRAINAGE STRATEGY:

THE SITE BOUNDARY ACCOUNTS FOR 203ha HOWEVER, OF THE EXISTING SITE, IT IS CONSIDERED THAT THE DEVELOPED AREA CONTRIBUTING TO CHANGES IN THE DRAINING CHARACTERISTICS OF THE EXISTING GREENFIELD SITE ACCOUNTS FOR A TOTAL AREA OF 107ha. EXISTING WATERCOURSE DETAILS, LOCATION AND LEVELS TO BE CONFIRMED BY FURTHER SITE INVESTIGATIONS TO AID WITH DESIGN FOR DISCHARGE CONNECTIONS. NO DITCHES OR WATERCOURSES HAVE BEEN IDENTIFIED AS REQUIRING DIVERSION AS PART OF THE DEVELOPMENT PROPOSALS.

THE PROPOSED SITE WIDE DRAINAGE STRATEGY WILL COMPLY WITH THE BELOW INCLUSIONS FOR ONSITE SURFACE WATER MANAGEMENT AND MITIGATE FLOOD RISK OFF SITE:

- PROPOSED DISCHARGE RATE IS TO RETAIN GREENFIELD RUNOFF RATES TO BE RESTRICTED TO Qbar = 300.38 L/S
- INITIAL STORAGE VOLUME REQUIRED FOR THE MAIN SITE TO MANAGE STORM EVENTS UP TO AND INCLUDING THE 1:100 YEARS STORM EVENT WITH THE INCLUSION FOR 40% CLIMATE CHANGE IS ESTIMATED TO BE = 52,113m³
- ADD: THE TOTAL STORAGE ACCOMMODATED AS PART OF THE SITE WIDE STRATEGY THROUGH DETENTION BASINS/ BELOW GROUND STORAGE TANKS IS = 36,985m3

PROPOSED SURFACE WATER DRAINAGE STRATEGY IS BASED ON DISCHARGE RATE OF RESTRICTING EXISTING GREEN FIELD RUNOFF TO Qbar FOR THE PROPOSED DEVELOPMENT THROUGH THE USE OF ATTENUATION. IT IS NOT ANTICIPATED THAT THE STORAGE VOLUME IDENTIFIED ABOVE WOULD BE SUFFICIENT ON ITS OWN TO BE MANAGE WITHIN THE OVERALL SITE WIDE STORAGE AS SHOWN. IT WILL THEREFORE BE NECESSARY FOR THE REMAINING ATTENUATION TO BE PROVIDED WITHIN THE DEVELOPMENT PLOTS VIA SUSTAINABLE DRAINAGE MEASURES OF BOTH SOURCE CONTROL AND ATTENUATION TO ACHIEVE THE REMAINING SITE DISCHARGE AND STORAGE NEEDS.THE BELOW SUDS FEATURES ARE RECOMMENDED AS PART OF THE ON PLOT AND SITE WIDE DRAINAGE:

- DETENTION BASINS
- BELOW GROUND TANKS
- MUGA ATTENUATION
- SWALES
- FILTER TRENCHES
- BLUE/ GREEN ROOFS
- RAIN GARDENS
- OVERSIZED PIPES

OUTFALL 1:
PROPOSED DISCHARGE RATE TO BE LIMITED TO Qbar. THE OVERALL SITE DISCHARGE RATE HAS PRO-RATA SPLIT TO DETERMINE THE CONTRIBUTING CATCHMENT AREAS AND ASSOCIATED DISCHARGE RATES:
- CATCHMENT AREA = 11.94ha
- 62.1l/s FOR ALL STORM EVENTS THE 1 IN 100 YEAR EVENTS (INCL. 40% CC.)
- INITIAL STORAGE ESTIMATION = 10,755m³ (OF WHICH 395m³ PROVIDED BY DETENTION BASINS SHOWN)

THIS WILL BE ACHIEVED VIA A VORTEX FLOW CONTROL DEVICE BEFORE DISCHARGING INTO THE WATERCOURSE VIA A HEADWALL.

OUTFALL 2:
PROPOSED DISCHARGE RATE TO BE LIMITED TO Qbar. THE OVERALL SITE DISCHARGE RATE HAS PRO-RATA SPLIT TO DETERMINE THE CONTRIBUTING CATCHMENT AREAS AND ASSOCIATED DISCHARGE RATES:
- CATCHMENT AREA = 11.1ha
- 57.72l/s FOR ALL STORM EVENTS THE 1 IN 100 YEAR EVENTS (INCL. 40% CC.)
- INITIAL STORAGE ESTIMATION = 10,000m³ (OF WHICH 4,835m³ PROVIDED BY DETENTION BASINS SHOWN)
- ADDITIONAL 5,165m³ PROVIDED BY ATTENUATION TANK

THIS WILL BE ACHIEVED VIA A VORTEX FLOW CONTROL DEVICE BEFORE DISCHARGING INTO THE WATERCOURSE VIA A HEADWALL.

OUTFALL 3:
PROPOSED DISCHARGE RATE TO BE LIMITED TO Qbar. THE OVERALL SITE DISCHARGE RATE HAS PRO-RATA SPLIT TO DETERMINE THE CONTRIBUTING CATCHMENT AREAS AND ASSOCIATED DISCHARGE RATES:
- CATCHMENT AREA = 19.3ha
- 100.36l/s FOR ALL STORM EVENTS THE 1 IN 100 YEAR EVENTS (INCL. 40% CC.)
- INITIAL STORAGE ESTIMATION = 17,383m³ (OF WHICH 7,255m³ PROVIDED BY DETENTION BASINS SHOWN)
- ADDITIONAL 8,200m³ PROVIDED BY ATTENUATION TANK

THIS WILL BE ACHIEVED VIA A VORTEX FLOW CONTROL DEVICE BEFORE DISCHARGING INTO THE WATERCOURSE VIA A HEADWALL.

OUTFALL 4:
PROPOSED DISCHARGE RATE TO BE LIMITED TO Qbar. THE OVERALL SITE DISCHARGE RATE HAS PRO-RATA SPLIT TO DETERMINE THE CONTRIBUTING CATCHMENT AREAS AND ASSOCIATED DISCHARGE RATES:
- CATCHMENT AREA = 6.8ha
- 35.36l/s FOR ALL STORM EVENTS THE 1 IN 100 YEAR EVENTS (INCL. 40% CC.)
- INITIAL STORAGE ESTIMATION = 6,125m³ (OF WHICH 1,450m³ PROVIDED BY DETENTION BASINS SHOWN)
- ADDITIONAL 1,225m³ PROVIDED BY ATTENUATION TANK

THIS WILL BE ACHIEVED VIA A VORTEX FLOW CONTROL DEVICE BEFORE DISCHARGING INTO THE WATERCOURSE VIA A HEADWALL.

GENERAL DESIGN NOTES:

- SURFACE WATER DRAIN POINTS CONNECTING INTO SITE WIDE NETWORK SUBJECT TO FURTHER CONFIRMATION AND DETAILED DESIGN DEVELOPMENT.
- PROPOSED ONSITE UTILITY SERVICES ARE LIMITED DUE TO THE GREENFIELD NATURE OF THE SITE. COORDINATION WITH EXISTING AND PROPOSED SERVICES TO BE UNDERTAKEN DURING DETAILED DESIGN.
- THE DRAINAGE STRATEGY IS SUBJECT TO WEST SUSSEX COUNTY COUNCIL 'LLFA' AND ENVIRONMENT AGENCY APPROVAL PRIOR TO CONSTRUCTION.
- FURTHER COORDINATION REQUIRED WITH FINAL TREE LOCATIONS AND DETAILS TO AVOID CLASHES WITH BELOW GROUND DRAINAGE.
- SURFACE WATER DRAINAGE DESIGN HAS BEEN DEVELOPED BASED ON EXISTING SITE TOPOGRAPHY. THE SUFACE WATER DRAINAGE STRATEGY IS TO BE FURTHER REVIEWED AND COORDINATED AS THE SITE LEVEL DESIGN DEVELOPS.

FOR CONTINUATION SEE DRAWING RAM-XX-XX-DR-C-0100

SCALE 1:2000

10/06/2025 10:13:35

Appendix 6
Foul Water Connection point