

Project Iron Mountain, Heywood
Job No 2708
Date 6th August 2024

Sustainable Drainage Statement

It is proposed to install the following elements within an existing service yard at Heywood H2 (Formerly Pn9), Heywood Distribution Park, Heywood OL10 2TT.

1. Sprinkler tank and associated pump house
2. External modular office building
3. Canopy over existing grade level loading door

The existing building was approved under planning application SPZ1/011 approved in 17th April 2014 which shows the surface water drainage layout as shown on TR Collier drawing 3104/ PN9/ 50 rev P1, a copy of which is attached.

This design shows the warehouse roof and car park provided with 450m³ of attenuation and the service yard provided with 430m³ of attenuation. A restricted outflow from the entire site was provided via a pumping station at the rate of 40l/s. No design criteria is stated on this drawing.

The as-built drainage solution is shown on Healy Consulting drawing 14311-D0002 rev I, a copy of which is attached.

This design shows the warehouse roof and car park provided with 773m³ of attenuation and the service yard provided with 90m³ of attenuation with a 12.6l/s hydrobrake. A restricted outflow from the entire site was provided via a pumping station at the rate of 35l/s.

The drawing states the attenuation has been designed for the 1:100 year storm return period with 20% allowance for climate change.

The proposal to install a new canopy, modular office building and sprinkler tank with associated pump room will not increase the impermeable area drained into the existing system as they are located over the existing concrete service yard therefore there will be no detrimental impact on the existing surface water drainage network.

The SUDS proforma, a copy of which is attached, has been completed with limited knowledge of the original design history of the site and simply based on the as-built drainage drawing.

DRAINAGE NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
2. ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH BS 8301, BS 8005 AND THE BUILDING REGULATIONS.
3. ALL PIPES ARE TO HAVE SURROUND IN ACCORDANCE DRAINAGE DETAILS, UNLESS NOTED OTHERWISE.
4. FOR EXACT LOCATION OF RAIN WATER AND FOUL WATER OUTLETS, REFER TO ARCHITECTS DRAWINGS.
5. SURFACE WATER DRAINS SHALL BE EITHER H.D.P.E. RIGID DRAIN TWIN WALL CARRIER PIPE BY "POLYPIPE PLC" (OR SIMILAR APPROVED) TO S.S. EN 1401-1 OR P.C.C. PIPES TO S.S. 5911 OR VITRIFIED CLAY TO S.S. 65/BS EN 295
6. FOUL SEWERS SHALL BE EITHER VITRIFIED CLAY TO S.S. 65/BS EN 295 or PRE-CAST CONCRETE TO S.S. 5911 (CLASS H)
7. ALL GRP UNDERGROUND TANKS ARE TO BE BEDDED ON AND ENCASED IN 225mm C30 20mm AGG. CONCRETE STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
8. ROAD GULLY OUTLET PIPE INVERT LEVELS TO BE 600mm BELOW TOP OF GRATING LEVEL.
9. ALL MANHOLE AND INSPECTION CHAMBER COVERS, FRAMES AND ACO QMAX/ROAD DRAINS IN TRAFFICED AREAS SHALL COMPLY TO EITHER S.S. 497 PART 1 HEAVY DUTY COVERS TO M460 OR S.S. EN 124 GRADE D400 (11.5 TONNE WHEEL LOADING)
10. FOR DRAINAGE CONSTRUCTION AND PIPE BED DETAILS REFER TO RELEVANT DETAIL DRAWINGS.
11. ALL DRAINAGE BRANCHES TO BE 100mm FOR FOUL WATER & 150mm FOR SURFACE WATER UNLESS MARKED OTHERWISE
12. ALL SOIL & VENT STACKS TO HAVE RODDABLE ACCESS 150mm ABOVE GROUND FLOOR SLAB LEVEL WITH REMOVABLE ACCESS PLATES.
13. ALL DRAINAGE CHANNELS TO HAVE ACCESS CHAMBER AT ENDS OF RUNS & BE RODDABLE EVERY 30m THEREAFTER.
14. ALL SLOTDRAIN DRAINAGE TO HAVE SUMP UNITS AT OUTLETS OF RUNS & HAVE RODDING ACCESS POINTS EVERY 30m THEREAFTER.
15. ALL SHALLOW DRAINAGE (900mm COVER) AND DRAINAGE BELOW FLOOR SLAB TO BE ENCASED IN MIN 150mm CONCRETE SURROUND.
16. ALL CONCRETE SURROUNDS FOR THE DRAINAGE TO BE CLASS D22 (SULPHATE RESISTING) OR COMPLY WITH THE SOILS INVESTIGATION REPORT.

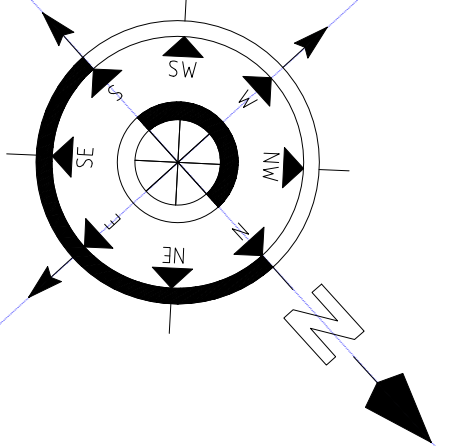
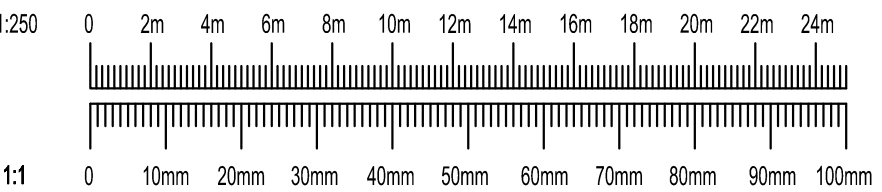
S.S.L. = 115.500

LEGEND.

- 1200mm MANHOLE & DRAIN RUN
FOUL WATER - RED
CLEAN SURFACE WATER - BLUE
MUPURE SURFACE WATER - GREEN
- 1500mm MANHOLE & DRAIN RUN
COLOURS AS ABOVE
- 1800mm MANHOLE & DRAIN RUN
COLOURS AS ABOVE
- EXISTING FOUL WATER SEWER
- EXISTING SURFACE WATER SEWER
- HIGH LEVEL SYNPHONIC DRAINAGE
PRIMARY SYSTEM
- SOIL & VENT PIPE/STUB STACK WITH AAV
- POP-UP WASTE
- RODDABLE TRAPPED FLOOR GULLY
- TRAPPED CONDENSATE GULLY
- SEALED BACK INLET GULLY
WITH TRAPPED HOPPER HEAD
- PRIMARY SYNPHONIC DOWNPIPE
- RAIN WATER PIPE
- TRAPPED ROAD GULLY
- ACO QMAX DRAINAGE CHANNEL
200mm C40 CONCRETE SURROUND

Canmor

PI	04.02.14	PRELIMINARY ISSUE	TC	MC
REV	DATE	DESCRIPTION	CHK	DNW
NOTE: Where a "P" revision applies, this drawing is NOT to be used for construction				
T. R. COLLIER & ASSOCIATES CONSULTING ENGINEERS Rochester House 375 Baddow Road Chelmsford Essex CM2 7QA Tel: 02045 01245 01245 500360 Fax: 02045 01245 500390 Email: sales@trcollier.co.uk				
PROJECT HEYWOOD DISTRIBUTION PARK UNIT PN9				
TITLE DRAINAGE LAYOUT				
ARCHITECT MICHAEL SPARKS ASSOCIATES				
DRAWN	DESIGNED	CHECKED	DOB	
DATE	SCALE	STATUS		
FEB 14	1:250	PRELIMINARY		
3104/PN9/50				PI



DO NOT SCALE FROM THIS DRAWING. USE GIVEN DIMENSIONS ONLY.
ALL DIMENSIONS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR.
ANY DIMENSIONAL DISCREPANCIES TO BE REPORTED BACK TO HEALEY CONSULTING PRIOR TO PROCEEDING WITH CONSTRUCTION

NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTS, ENGINEERS, M&E CONSULTANTS AND SPECIALIST MANUFACTURERS INSTRUCTIONS ETC.

ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH BS8301, BS8005 AND THE BUILDING REGULATIONS.

ALL PIPE SURROUNDS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF SINKERS FOR ADOPTION 7TH EDITION.

EXACT LOCATIONS OF FOUL OUTLETS REFER TO ARCHITECTS DRAWINGS IN CONJUNCTION WITH M&E CONSULTANTS DRAWINGS.

EXACT LOCATIONS OF SIPHONIC RWP'S WILL BE DEPENDANT UPON SPECIALIST DESIGN BY SIPHONIC SYSTEM MANUFACTURER.

SURFACE WATER DRAINS SHALL COMPRISE EITHER HDPE (TO BS EN 1401-1), OR PCC (TO BS 5911) OR VC (TO BS 65 & BS EN 295)

FOUL WATER DRAINS TO BE VC (TO BS 65 / BS EN 295)

ALL PETROL INTERCEPTOR TANKS TO BE BEDDED, ENCASED, BURIED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS USING GRADE C35 (SULPHATE RESISTING) CONCRETE SURROUNDS AS PER THE MANUFACTURERS RECOMMENDATIONS.

PETROL INTERCEPTOR TANKS NOTED AS Klargester TO BE EQUAL AND APPROVED.

ROAD GULLY OUTLET INVERT LEVELS TO BE MIN 600mm BELOW COVER LEVEL.

ALL MANHOLE AND INSPECTION CHAMBER COVERS, FRAMES, AND ACO QMAX CHANNEL DRAINS IN HEAVILY TRAFFICKED AREAS ARE TO COMPLY WITH EITHER BS 497: PART 1 - HEAVY DUTY COVERS TO M460 OR BS EN 124 GRADE D400

ALL FOUL DRAINAGE BRANCHES TO BE MIN 100MM I/D.

ALL SAMP STACKS TO HAVE RODDABLE ACCESS COVERS LOCATED APPROX 150mm ABOVE FINISH FLOOR LEVEL.

ALL CHANNEL DRAINAGE OUTLETS TO BE RODDABLE.

ALL DRAINAGE WITH LESS THAN 1200mm COVER TO SOFFIT OF PIPE TO HAVE 150mm THK CONCRETE ENCASEMENT.

ALL CONCRETE WITHIN GROUND TO BE SULPHATE RESISTING TO THE RECOMMENDATIONS OF THE SITE INVESTIGATION FOR THE PROJECT.

THE CONTRACTOR IS TO CONFIRM THE INVERT LEVELS OF EXISTING DRAINAGE WHICH IS TO BE USED FOR CONNECTION PRIOR TO ANY CONSTRUCTION TAKING PLACE AND TO ALSO HAVE CAMERA SURVEYS UNDERTAKEN TO ESTABLISH CONDITION.

CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2007
DESIGNERS' IDENTIFICATION AND ASSESSMENT OF RISKS WHICH CAN REASONABLY BE FORESEEN AND AS NOTED ON CONSTRUCTION DRAWINGS.
GENERAL BUILDING OPERATIONS deemed to be hazardous with LOW RISK attached, except where stated otherwise.
Refer to individual notes applying to specific operations with HIGH RISK attached.



CDM RISK ASSESSMENTS:

- There are no abnormal risks associated with this project.
- The Preliminary notes issued for the Site Investigation has revealed Asbestos and Hydrocarbon contamination.
All operatives, especially ground workers should be made aware of this and should wear the appropriate P.P.E.
Washing/welfare facilities should be provided.
- The Preliminary notes issued for the Site Investigation has revealed high levels of ground borne gas.
Operatives should be aware of this and should be especially careful in confined spaces.
Wear appropriate P.P.E.
- The Preliminary notes issued for the Site Investigation has indicated the presence of varying depths of made ground and therefore the possibility that excavations over 1.00 meter deep are likely to collapse if left open for any significant length of time.
Use trench sheeting or other approved shoring methods.
- Groundwater / Water strike have been encountered at various depths from 1.0m to depth. Note that these might be perched water.
The requirement for pumping and trench supports are likely.

This Drawing should be read in conjunction with Drawing nos. D002, D003 and D004.

RECORD COPY

THIS DRAWING USED FOR CONSTRUCTION
INCORPORATING AMENDMENTS AS KNOWN
AMENDMENTS ARE LISTED IN THE REVISION BOX

REV	DATE	BY	DETAILS OF REVISION
I	18.02.16	J.H.	RECORD COPY
N	24.09.15	P.L.	Revised invert levels and gradient for FW/MH12
C	24.09.15	P.L.	Revised FW/MH10 to avoid electrical services
F	23.07.15	P.L.	Revised outlet pipe size for Hydrobrake MH
E	09.07.15	M.B.	MH cover levels in car park. Drain from sprinkler pumphouse.
D	24.06.15	M.B.	Drainage related to suit future siphonic layout
C	02.06.15	P.L.	Revised to suit latest Arch's plan and added manhole cover levels/references
B	20.05.15	P.L.	Revised FW, SW's & FW's Invert levels/pipe sizes and moved Attenuation Tank
A	08.11.14	M.B.	FW connection to future gatehouse

ARCHITECT / CLIENT

HEREF HEYWOOD PARK PROPERTY UNIT TRUST

PROJECT
HEYWOOD DISTRIBUTION PARK
PROPOSED INDUSTRIAL UNITS

TITLE
SITE DRAINAGE LAYOUT

SHEET 2 of 2

HEALEY CONSULTING
Brunel House
63 Dale Street
Minrow
Rochdale
OL16 3NU

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Fax: 01706 343981
email: office@healeyconsulting.co.uk
copyright: Healey Consulting



A0 size drawing sheet (1168mm x 807mm) scale is approx. double of A2 size

Existing Concrete
slab at approx
level 114.87m

P-N-9

SSL 115.30m

Existing Concrete
slab at approx
level 114.72m

The Contractor is to confirm the exact position, line, level, size and condition of all existing sewers where connection is to be made. Any discrepancy with this drawing is to be reported to Healey Consulting PRIOR TO ANY PIPE LAYING.

SECTION 1. APPLICATION & DEVELOPMENT DETAILS

Planning Application Reference <i>(if available)</i>		
State type of planning application <i>i.e. Pre-application, Outline, Full, Hybrid, Reserved Matters*</i> <i>*Information only required if drainage is to be considered as part of reserved matters application</i>	Full	
Developer(s) Name:	Iron Mountain	
Consultant(s) Name:	Build Warranty Technical Services	
Development Address <i>(including postcode)</i>	Heywood H2 (Formerly Pn9) Heywood Distribution Park Heywood OL10 2TT.	
Development Grid Reference <i>(Eastings/Northings)</i>	384386 , 409772	
Total Development Site Area (Ha)	2.78	
Drained Area (Ha)* of Development	2.48	
Please indicate the flood zone that your development is in. Tick all that apply. <i>Based on the Environment Agency Flood Map for Planning and the relevant Local Authority Strategic Flood Risk Assessment (to identify Flood Zones 3a/3b).</i>	Flood Zone 1 ☒ Flood Zone 2 ☐ Flood Zone 3a ☐ Flood Zone 3b ☐	
What is the surface water risk of the site? Tick all that apply. <i>Based on the Environment Agency Surface Water Flood Map.</i>	High ☒ Medium ☒ Low ☒	
Have you submitted a Site Specific Flood Risk Assessment (FRA)? <i>See separate guidance notes for clarification on when a FRA is required</i>	Yes ☐ No ☒	
Have you submitted a Sustainable Drainage Strategy?	Yes ☐ No ☒	
Does your drainage proposal provide multi-functional benefits via SuDS?	Yes ☐ No ☐	
Expected Lifetime of Development (years) <i>Refer to Planning Practice Guidance "Flood Risk and Coastal Change" Paragraph 026</i>		
Development Type:		State Proposed Number of Units
Greenfield Site Site is wholly undeveloped, and a new drainage system will be installed	☐	
Previously Developed/ Brownfield Site - Site is already developed, and the <u>entirety</u> of the existing surface water drainage system will be used to serve the new development (evidence must be provided to prove existing surface water drainage system is reusable); <u>OR</u> - Where records of the previously developed system are not available so that the hydraulic characteristics of the system cannot be determined or where the drainage system is not in reasonable working order i.e. broken, blocked or no longer operational for other reasons.	☒	
Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 1.	As-built drainage layout Healy Consulting drawing 14311-D0002 rev I	

SECTION 2: IMPERMEABLE AREA AND EXISTING DRAINAGE

	Existing (E)	Proposed (P)	Change (P – E)
State Impermeable Area (Ha)	2.48	2.48	0
Evidence Required: Plans showing development layout of site with existing and proposed impermeable areas.			☒

Are there existing sewers, watercourses, water bodies, highway drains, soakaways or filter drains on the site?	Yes ☐ No ☒ Don't Know ☐
Evidence Required: Plan(s) showing existing layout to include all: - Watercourses, open and culverted - Water bodies – ponds, swales etc. - Sewers, including manholes - Highway drains, include manholes, gullies etc. - Infiltration features - soakaways, filter drains etc.	☒

Drainage Design <u>Outline planning applications</u> should be able to demonstrate that a suitable drainage system is achievable. <u>All other type of planning application</u> should provide full details or reference to previous planning application where drainage details have been submitted or approved.	
Select which design approach you are taking to manage water quantity (refer to Section 3.3 SuDS Manual)	
Approach 1 – Volume control / Long Term Storage (Technical Standards S2/3, S4/5) - The attenuated runoff volume for the 1 in 100 year 6 hour event (plus climate change allowance) is limited to the greenfield runoff volume for the 1 in 100 year 6 hour event, with any additional runoff volume utilising long term storage and either infiltrated or released at 2 l/s/ha - The discharge rate for the critical duration 1 in 1 year event is restricted to the 1 in 1 year greenfield runoff rate - The discharge rate for the critical duration 1 in 100 year event (plus climate change allowance) is restricted to the 1 in 100 year greenfield runoff rate	☒
Approach 2 – Qbar (Technical Standards S6) Justification has been provided that the provision of volume control/long term storage is not appropriate and an attenuation only approach is proposed. All events up to the critical duration 1 in 100 year event (plus climate change allowance) are limited to Qbar (1 in 2 year greenfield rate) or 2 l/s/ha, whichever is greater.	☐
Evidence Required: Plans showing: - Existing flow routes and flood risks - Modified flow routes - Contributing and impermeable areas - Current (if any) and proposed 'source control' and 'management train' locations of sustainable drainage components (C753 Chapter 7) - Details of drainage ownership - Details of exceedance routes (Technical Standards S9) - Topographic survey - Locations and number of existing and proposed discharge points	☒

Note consideration should be given to manage surface water from both impermeable and permeable surfaces (including gardens and verges) likely to enter the drainage system.

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 2.

Healy Consulting drawing
14311-D0002 rev I

SECTION 3: PEAK RUNOFF RATES – TECHNICAL STANDARDS S2, S3 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	Existing Rate (l/s)	Greenfield Rate (l/s)	Proposed Rate (l/s) <i>Previously developed sites - In line with S3 should be equivalent to Greenfield runoff rates – discuss with LLFA if this is not achievable pre-application</i>
Qbar (Approach 2)	35	21.76	21.76
1 in 1 Year Event (Approach 1)	35	18.93	18.93
1 in 30 Year Event	35	36.99	36.99
1 in 100 Year Event* (Approach 1)	35	45.26	45.26
* Total discharge at the 1 in 100 year rate should be restricted to the greenfield runoff volume for the 1 in 100 Year 6 hour event with additional volumes (long-term storage volume) released at a rate no greater than 2 l/s/ha where infiltration is not possible. The climate change allowance should only be applied to the proposed rate and not the existing or greenfield rate.			
Evidence Required: Methodology used to calculate peak runoff rate clearly stated and justified. Impermeable areas plan, supported by topographical survey confirming positive drainage. Hydraulic calculations and details of software used.			☒ ☒ ☒

State the hydraulic method used in your calculations
(Refer to Table 24.1 of The SuDS Manual)

SPR & SAAR

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 3.

HR Wallingford Greenfield run-off rate estimation for sites

SECTION 4: DISCHARGE VOLUME – TECHNICAL STANDARDS S4, S5 AND S6 (UNLESS S1 APPLIES)

Rainfall Event	Existing Volume (m ³)	Greenfield Volume (m ³)	Proposed Volume (m ³)
1 in 100 Year 6 Hour Event (Approach 1)	756m ³ based on 3 5l/s pumped rising main	978m ³ based on 45.26l/s greenfield run off rate	756m ³ based on 3 5l/s pumped rising main
Does the below statement apply to your development proposal? Long term storage is not achievable on this site and, in accordance with S6 of the Non Statutory Technical Standards for SuDS, the surface water discharge rates for events up to and including the 1 in 100 year critical event are limited to Qbar (Approach 2)			Yes ☐ No ☒
Evidence Required: Approach to managing the quantity of surface water leaving the site clearly stated and justified Methodology used to calculate discharge volume clearly stated and justified. Hydraulic calculations and details of software used.			☒ ☒ ☐

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 4.	Healy Consulting drawing 14311-D0002 rev I
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SECTION 5: STORAGE – TECHNICAL STANDARDS S7 AND S8

State climate change allowance used (%)	20%
State housing density (houses per ha)	N/A
State urban creep allowance used (%)	0%
Evidence Required: State / used in appropriate industry standard surface water management design software.	☐

State storage volume required (m³) (excluding non-void spaces) <i>Must include an allowance for climate change and urban creep</i>	863m3 provided
Have you incorporated interception into your design? <i>(Refer to Chapter 24 of The SuDS Manual C753)</i> <i>Where possible, infiltration or other techniques are to be used to try and achieve zero discharge to receiving waters for rainfall depths up to 5mm.</i>	Yes ☐ No ☒
Evidence Required: Drainage plans showing location of attenuation and all flow control devices and supporting calculations.	☒

Summarise how storage will be provided for 1 in 30 year event on site. <i>Storage must be designed to ensure that at no flooding occurs onsite in a 1 in 30 year event except in designed areas and no flooding occurs offsite in a 1 in 100 year (plus climate change allowance) event.</i>	Attenuation crates are provided beneath the car park and service yard
Summarise how storage will be provided for 1 in 100 year (plus climate change) event on site. <i>Where storage above the 1 in 30 year rainfall event is provided in designated areas designed to accommodate excess surface water volumes, plans showing storage locations and surface water depths and supported by calculations used in appropriate industry standard surface water management design software. It is important to run a range of duration events to ensure the worst case condition is found for each drainage element on the site</i>	Attenuation crates are provided beneath the car park and service yard. Surface water flooding occurs to the loading dock apron only during this event (353m3)
Evidence Required: Plans showing size and location of storage and supporting calculations. Where there is controlled flooding, extents and depths must be indicated.	☒

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 5.	Healy Consulting drawing 14311-D0002 rev I
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SECTION 6: WATER QUALITY PROTECTION

Contaminated surface water run-off can have negative impacts on the quality of receiving water bodies. The potential level of contamination will influence final the design of an appropriate treatment train as part of your sustainable drainage system.

Is the proposal site known to be or potentially contaminated?	Yes ☐	No ☒
If the site is contaminated, it should be demonstrated that the sustainable drainage system will not increase the risk of pollution to controlled waters through the mobilisation of contaminants and/or creation of new pollution pathways.		

Confirm the <i>Pollution Hazard Level</i> of the proposed development - Tick <u>ALL</u> that apply <i>Refer to Pollution Hazard Indices for different Land Use Classifications in Table 26.2 of The SuDS Manual C753 for further guidance.</i>		
Pollution Hazard Level <i>Tick <u>ALL</u> that apply</i>	Surface water run-off from the proposed development will drain from:	
VERY LOW	☐	Residential roofs
LOW	☐	- Other roofs (typically commercial/industrial roofs) - Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, home-zones and general access roads) - Non-residential car parking with infrequent change (e.g. schools, offices) i.e. < 300 traffic movements/day
MEDIUM	☒	- Commercial yard and delivery areas - Non-residential car parking with frequent change (e.g. hospitals, retail) - All roads except low traffic roads and trunk roads/motorways²
HIGH	☐	- Sites with heavy pollution (e.g. haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites) - Sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured - Industrial sites - Trunk roads and motorways¹

If the development's Pollution Hazard Level is 'Very Low' or 'Low', has the sustainable drainage design been risk assessed and appropriate mitigation measures included?	Yes ☐	No ☐
If the proposed development has a very low or low polluting potential, you should design your sustainable drainage system to include an appropriate treatment train in accordance with The SuDS Manual (C753).		

If the development's Pollution Hazard Level is 'Medium' or 'High', is the application supported by a detailed water quality risk assessment?	Yes ☒	No ☐
- If the proposed development has a high polluting potential, a detailed risk assessment <u>will</u> be required to identify an appropriate SuDS treatment train and ensure compliance with Paragraph 170 of the National Planning Policy Framework. - If the proposed development has a medium polluting potential, a detailed risk assessment <u>may</u> be required depending on the nature, scale and location of the development.		

Has pre-application advice on water quality been obtained from the Environment Agency?	Yes ☐	No ☒
If YES, provide details:		

² Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009).

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 6.

SECTION 7: DETAILS OF YOUR SUSTAINABLE DRAINAGE SYSTEM

a) Function of your Sustainable Drainage System

Do your proposals store rainwater for later use (as a resource)?

Yes ☐ No ☒

Evidence Required:

Please provide a brief sentence in the adjacent white box to describe how this function has been achieved.

Do your proposals promote source control to manage rainfall close to where it falls? (e.g. promoting natural losses through soakage, infiltration and evapotranspiration)

Yes ☐ No ☒

Evidence Required:

Please provide a brief sentence in the adjacent white box to describe how this function has been achieved.

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 7a.

b) Hierarchy of Drainage Options – Planning Practice Guidance

The proposed method of discharge are set out within order of priority. Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable.

Proposed method of surface water discharge		Is this proposed?	
Hierarchy Level 1: Into the ground (via infiltration)		Yes ☐ No ☒	
If YES - Evidence Required		If NO – Evidence Required Tick ALL that apply	
☐	A. Completed Infiltration Checklist from The SuDS Manual (C753) Appendix B <i>An editable version of this form is available on SusDrain website.</i>	☐	A. Site investigation to demonstrate that the ground is not free draining. Test results to be provided in accordance with: - The methodology within BRE 365 (2016), OR - Falling head permeability tests BS EN ISO 22282-2: 2012
☐	B. British Geological Survey (BGS) Infiltration SuDS Map	☐	B. NOTE: where an applicant is unable to access a site to undertake testing, e.g. where unable to access a site for an outline application, they can submit a SuDS GeoReport or similar.
☐	C. Infiltration testing to BRE 365 (2016) or falling head permeability tests to BS EN ISO 2228-2: 2012 (optional for outline)	☐	C. Evidence to confirm that infiltration to ground would result in a risk of deterioration to ground water quality.
☐	'Plan B' sustainable drainage plan and statement of approach with an alternative discharge method, in case infiltration proposals are proven not feasible upon	☐	D. Geotechnical advice from a competent person* which determines that infiltration of water to ground would pose an unacceptable risk of geohazards to the site and/or local area.

	further site specific ground investigation e.g. to consider seasonal variations to groundwater.		<i>*Note: Competent person may include a Chartered Engineer, Chartered Geologists, Registered Ground Engineering Professionals (RoGEP).</i>
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Proposed method of surface water discharge		Is this proposed?	
Hierarchy Level 2: To a surface water body <i>(select type)</i> NOTE: Consent from LLFA or Permit from Environment Agency may be required – refer to guidance		Yes ☐ No ☒ N/A ☐	
		☐ Main river ☐ Ordinary watercourse	☐ Canal ☐ Other water body
If YES - Evidence Required		If NO – Evidence Required Tick ALL that apply	
☐ Surface water body / watercourse survey and report	☐ Plan showing nearby watercourses and waterbodies AND ☐ Statement providing justification in your Sustainable Drainage Strategy <i>Note: Where discharge of any element in the hierarchy is discounted, an applicant should provide justification. If the reasoning for discounting a discharge of surface water to watercourse relates to issues associated with third party land or the securing of any other required consent, it may be necessary for the applicant to provide evidence to the local planning authority to support their proposed approach.</i>		

Proposed method of surface water discharge		Is this proposed?	
Hierarchy Level 3: To a surface water sewer or highway drain <i>(select type)</i>		Yes ☒ No ☐ N/A ☐	
		☒ Surface water sewer	☐ Highway drain
If YES - Evidence Required		If NO – Evidence Required Tick ALL that apply	
☐ Written correspondence from Water and Sewerage Company/ Highway Authority regarding proposed connection.	☐ Plan showing nearby sewers and highway drains AND ☐ Statement providing justification in your Sustainable Drainage Strategy		

Proposed method of surface water discharge		Is this proposed?	
Hierarchy Level 4: To combined sewer		Yes ☐ No ☒ N/A ☐	
If YES - Evidence Required		If NO – Evidence Required	
☐ Written correspondence from Water and Sewerage Company	N/A		

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 7b.	Healy Consulting drawing 14311-D0002 rev I
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c) Proposed SuDS Component Types

	Tick ALL that apply				
Within property boundary	☐ Rainwater harvesting	☐ Green/ blue roofs	☐ Pervious pavements [Type: A ☐ B ☐ C ☐	☐ Soakaway	☐ Bio retention systems

	Tick ALL that apply				
Within development site boundary (not property)	☐ Infiltration system [Type: ☐ Surface level ☐ Below ground]		☐ Filter strips	☐ Filter drains	☐ Swales
	☐ Bio retention system	☐ Detention basins	☐ Ponds and wetlands	☒ Attenuation tanks/ Oversized pipes	☐ Other (state below)
	If 'Other' please state:				

Off site (not within the boundary of the proposed development)	Please state:
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I confirm that the above selected components have been designed in accordance with The SuDS Manual (C753).	I confirm ☒
I confirm that the management of flows resulting from rainfall in excess of a 1 in 100 year plus climate change rainfall event, and their exceedance route(s), has been fully considered in order to minimise the risks to people, property (new and existing) and infrastructure.	I confirm ☒

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 7c.	Healy Consulting drawing 14311-D0002 rev I
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The applicant is responsible to ensure that ALL components selected in Section 7 can be maintained for the design life of the development. This information is required so the Local Planning Authority can ensure the maintenance and management of the sustainable drainage system. The Local Planning Authority will discuss how this will be secured (e.g. via planning condition or planning obligation).

	Information Provided?
Management Plan	Yes ☐ No ☐
Evidence Required: Plan/ drawing provided to show the position of the different SuDS components with: - Key included to identify any of the adopting bodies that you will be offering your sustainable drainage components for adoption (<i>relates to maintenance and management arrangements below</i>). - Plan/ drawing to identify any areas where certain activities are prohibited, detailing reasons why.	☐
Action plan for accidental pollutant spillages.	☐

		Information Provided?
Maintenance Schedule		Yes ☐ No ☒
Evidence Required: A copy of the maintenance schedule including: Proactive and preventative maintenance Detailing regular, occasional and remedial maintenance activities including recommendations for inspection and monitoring. This should include recommended frequencies, advice on plant/ machinery required and an explanation of the objectives for the maintenance proposed and potential implications of not meeting them. Reactive and corrective maintenance (e.g. product repair and replacement). Including advice on excavations, or similar works, in locations that could affect the SuDS components/ adjacent structures.		☐

Information Provided?	
Maintenance and Management Arrangements	Yes ☐ No ☒
Evidence Required: Evidence of formal agreement with the party responsible for undertaking maintenance. Please select any of the adopting bodies that you will be offering your sustainable drainage components for adoption. Tick all that apply. ☐ Water and Sewerage Company <i>Section 104 agreement (Water Industry Act 1991)</i> ☐ Highway Authority <i>Section 278/38 agreement (Highways Act 1980)</i> ☐ Local Authority Public Open Space <i>[Refer to Local Authority Policy]</i> Please select the arrangement(s) for all non-adopted sustainable drainage components. Tick all that apply. ☐ Management Company ☐ Property Owner <i>(for SuDS components within property boundary only)</i> ☐ Other (please state)	☐

Please list any relevant document and or drawing numbers (including revision reference) to support your answers to Section 8.

DECLARATION AND SUBMISSION

This pro-forma has been completed using evidence from information which has been submitted with the planning application.

The information submitted in the Sustainable Drainage Strategy and site-specific Flood Risk Assessment (FRA), where submitted, is proportionate to the site conditions, flood risks and magnitude of development and I agree that this information can be used as evidence to this sustainable drainage approach.

Submitter Details			
<u>Completed by</u>	Rob Croot	Email Address	rob.croot@buildwarranty.co.uk
		Telephone Number(s)	07971 032039
<u>Signed off by</u>	Rob Croot	Accreditation(s) and/or Qualification(s) of Signatory	BEng, CEng, MStructE
Date (dd/mm/yyyy)	06/08/24	Company	Build Warranty

Client Details			
Name	Marco De Angelis	Company	Iron Mountain

Calculated by:

Rob Croot

Site name:

Heywood

Site location:

Heywood

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:

53.58419° N

Longitude:

2.23747° W

Reference:

120068354

Date:

Aug 06 2024 16:57

Runoff estimation approach

IH124

Site characteristics

Total site area (ha):

2.78

Methodology

Q_{BAR} estimation method:

Calculate from SPR and SAAR

SPR estimation method:

Calculate from SOIL type

Notes

(1) Is $Q_{\text{BAR}} < 2.0 \text{ l/s/ha}$?

When Q_{BAR} is $< 2.0 \text{ l/s/ha}$ then limiting discharge rates are set at 2.0 l/s/ha .

Soil characteristics

	Default	Edited
SOIL type:	4	4
HOST class:	N/A	N/A
SPR/SPRHOST:	0.47	0.47

(2) Are flow rates $< 5.0 \text{ l/s}$?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

Hydrological characteristics

	Default	Edited
SAAR (mm):	1058	1058
Hydrological region:	10	10
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 30 years:	1.7	1.7
Growth curve factor 100 years:	2.08	2.08
Growth curve factor 200 years:	2.37	2.37

(3) Is $\text{SPR/SPRHOST} \leq 0.3$?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Q _{BAR} (l/s):	21.76	21.76
1 in 1 year (l/s):	18.93	18.93
1 in 30 years (l/s):	36.99	36.99
1 in 100 year (l/s):	45.26	45.26
1 in 200 years (l/s):	51.57	51.57

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.