

Recorded Flood Outline Map centred on Collyhurst Road, Cheetham Hill, Manchester, M40 7RU.

Created on 17/09/2021 [GMMC233160AB]



1:10,001



Legend

Site Location

Main River

Recorded Flood Outlines

Start Date

16/03/2019

Map Reference	Model Node Reference	Easting	Northing	Data	Undefended			
					4 % AEP (1 in 25 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 20% increase in flow	0.1 % AEP (1 in 1000 year)
1	ea013_Model_Irk_00001	385282	400638	Modelled Water Level (m aodN)	36.91	37.20	37.44	38.82
				Modelled Flow (cumecs)	47.30	58.06	65.76	105.48
2	ea013_Model_Irk_00010	385200	400330	Modelled Water Level (m aodN)	34.67	35.04	35.28	36.40
				Modelled Flow (cumecs)	47.35	58.02	65.80	104.48
3	ea013_Model_Irk_00014	385004	400115	Modelled Water Level (m aodN)	33.00	33.25	33.46	34.97
				Modelled Flow (cumecs)	47.51	58.11	65.95	105.35
4	ea013_Model_Irk_00015	384977	400082	Modelled Water Level (m aodN)	32.94	33.16	33.31	34.05
				Modelled Flow (cumecs)	47.51	58.12	66.14	105.47
5	ea013_Model_Irk_00042	385005	400027	Modelled Water Level (m aodN)	32.62	32.75	32.85	33.79
				Modelled Flow (cumecs)	47.51	58.11	65.94	82.01
6	ea013_Model_Irk_00017	384981	399981	Modelled Water Level (m aodN)	32.58	32.75	32.95	33.91
				Modelled Flow (cumecs)	47.32	55.10	57.40	53.22
7	ea013_Model_Irk_00019	384919	399987	Modelled Water Level (m aodN)	31.88	32.21	32.77	33.96
				Modelled Flow (cumecs)	47.36	56.85	58.55	53.09
8	ea013_Model_Irk_00027	384745	399555	Modelled Water Level (m aodN)	30.47	30.95	31.22	31.91
				Modelled Flow (cumecs)	55.25	64.94	71.86	90.18
9	ea013_Model_Irk_00033	384356	399278	Modelled Water Level (m aodN)	28.79	29.10	29.32	30.21
				Modelled Flow (cumecs)	55.63	65.43	72.49	101.64

Model data taken from River Irk SFRA 2011 Study

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes: Climate Change Scenario - We only hold climate change measurements based on the previous climate change guidance (20% increase in flow). The new climate change guidance is available at <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>. The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.

Map Reference	Model Node Reference	Easting	Northing	Data	Defended	Undefended	
					1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year)	0.1 % AEP (1 in 1000 year)
10	ea01313_MOST01_0240	385087	399989	Modelled Water Level (m aodN)	33.70	33.69	36.19
				Modelled Flow (cumecs)	14.06	14.07	28.20
11	ea01313_MOST01_0230	385077	399991	Modelled Water Level (m aodN)	33.70	33.69	36.19
				Modelled Flow (cumecs)	14.05	14.06	28.18
12	ea01313_MOST01_0200	385049	399996	Modelled Water Level (m aodN)	33.68	33.67	36.19
				Modelled Flow (cumecs)	14.01	14.03	28.18
13	ea01313_MOST01_0177J	385030	400005	Modelled Water Level (m aodN)	33.67	33.66	36.15
				Modelled Flow (cumecs)	14.00	14.01	28.17

Model data taken from Irk, Moston and Whit Brook 2007 Study

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes: Climate Change Scenario - We do not hold climate change measurements at this location. For further guidance on climate change within the GMMC area please see the attachment 'Flood risk assessments: Climate change allowances'. Particularly section 3, table B which shows the Local precautionary allowances for potential climate change impacts.

Flood Event Code	Name	Start Date	End Date	Source of Flooding	Cause of Flooding
69510	Collyhurst Road	16/03/2019	16/03/2019	Main River	channel capacity exceeded (no raised defences)

Clancy Consulting
Dunham Court (2) Dunham Road
Altrincham
Cheshire
WA14 4NX

Our ref: SO/2021/121679/02-L01
Your ref: 131476/FO/2021
Date: 17 March 2022

FAO: Paul Fleming / Clancy Consulting

Dear Mr Fleming

ENVPAC/1/GMC/00385: HMG PAINTS REVISED DEVELOPMENT LAYOUT / FLOOD RISK REQUIREMENTS DISCUSSION (ASSOCIATED WITH PLANNING APPLICATION 131476/FO/2021)

VIRTUAL MEETING (11:00-12:00 08/03/2022)- EA / CLANCY CONSULTING LTD -

PROPOSED ERECTION OF ADDITIONAL STORAGE AREA EXTENSION (ca. 730 sqm) TO EXISTING HMG PAINTS DESPATCH WAREHOUSE AND CREATION OF ASSOCIATED OUTDOOR BUNDED AREA (ca. 978 sqm)

RIVERSIDE WORKS, COLLYHURST ROAD, MANCHESTER, M40 7RU

Thank you again for meeting virtually with the Environment Agency (EA) on the 8th March 2022 to discuss the revised development proposal outlined above.

As follow-on from this, please find detailed below our written summary of key discussion items arising and supplementary/ additional post-meeting guidance for consideration by your project team.

Please be advised to facilitate our meeting and provide this written response we have utilised 5 hours of extended chargeable planning agreement ENVPAC/1/GMC/00385 (3 hours remaining).

Associated Drawing Received:

- GA Ground Floor Plan - HMG Paints: Project Crystal –. Drawing Ref: 7703-FDG-DR-XX-GF-A-11101. Prepared by Fairhurst Design Group. Date 11/05/2022.

EA – HMG Paints Extension Revised Development Meeting Summary Note

Meeting Attendees:

EA Attendees	Role
Andy Davies (AD)	Planning Advisor / Project Manager
John Ruckledge (JR)	Flood Risk Officer
Sharon Holden (SH)	Flood Risk Officer
Ben Owen (BO)	Flood Risk Officer (Training)
External Attendees	Organisation
Paul Fleming (PF)	Clancy Consulting
Naveera Fasahat (NF)	Clancy Consulting
Ian Chapman (IC)	Fairhursts

Environment Agency
Richard Fairclough House Knutsford Road, Warrington, WA4 1HT.
Customer services line: 03708 506 506
www.gov.uk/environment-agency

Cont/d..

Steve Crossman (SC)	HMG Paints
Ashley Wallen	HMG Paints

Meeting Purpose

As introduction to discussions, it was confirmed that intention of the meeting was to enable the HMG project team to seek an initial preliminary opinion and commentary from the EA on the potential progression of a revised development proposal for extension of existing HMG Paints Site (NGR: SJ8495699948).

Revised Development Proposal – EA Understanding

N.B - As outlined by PF to the EA with additional input from HMG paints project team where required.

The revised development proposal / extension, if progressed, would represent a notable revision in development quantum when compared against the previous proposal reviewed and discussed with the EA (as under 131476/FO/2021 and EA letter SO/2021/121679/02-L01).

In terms of purpose and site constraints, it was noted that intend end-use(Class B8 – Storage or Distribution) and general location (site area) of the revised development would remain as previously presented - situated adjacent to the River Irk and within land designated as Flood Zone 3. The revised development proposal therefore remains at risk of flooding and requiring of a site-specific Flood Risk Assessment (FRA). However, comparable to the previous design, the revision would avoid creating newly built development over the Moston Brook sub-surface culvert (thus avoiding potential misalignment with Water Framework Directive objectives and removing the risks associated with building over sub-surface watercourses).

In terms of flood volumes, factoring the requirements of paragraph 167 of the National Planning Policy Framework (NPPF), to ensure no increase in adverse flood risk elsewhere (providing compensatory storage for any flood volume lost), further to the creation of external storage areas it was noted that that the intention for the revised proposal would be to allow during higher flow/ level flood event (e.g. 1-100 year period) the internal volume of built-development to be inundated (with finished floors remaining the same or in similar alignment with the existing/ adjoining HMG Paints building).

To address the matter of flood water inundation, it was advised that as part of wider flood mitigation measures, that any contents stored within the warehouse would be situated on raised storage racking, above the design flood level and fixed to the foundations of the warehouse. It was further confirmed no items within the warehouse would be stored at ground level, with open voids beneath the racking being maintained.

In relation to the external associated work yard, as shown within 7703-FDG-DR-XX-GF-A-11101, it was noted to account for potential spillages that this would include a bunded area. The height of this bund was not confirmed but it was estimated to likely be approximately 300mm in height (although a lesser height may be possible).

In relation to the proximity of the revised development to the River Irk (adjacent to western site boundary), it was noted that there was no current intention to alter the existent boundary wall situated on the (although this wall would be surveyed to determine if repairs are required). It is anticipated that an access strip (of ca.3-4 meters width) will be provisioned for.

Revised Development Proposal – EA Preliminary Opinion Summary

In connection with our initial understanding revised proposal as detailed above, in principle, we welcome the consideration being made by the project team to revise the HMG extension proposal. We anticipate that this latest revision of development's positioning and quantum will have associated with it lesser risks to several environmental aspects/factors most notably flood risk (with a reduced development footprint and avoidance of building over Moston Brook's sub-surface culvert).

However, as identified during discussions and correspondence associated with the previous development proposal / design, for matters within EA remit, there remains several environmental constraints and risks which will require appropriate and sufficient assessment and design considerations should the revised proposal be further progressed. For ease of reference, these are ensuring that flood risk can be appropriately managed (NPPF paragraph 167), ensuring that the proposed development will not result in adverse impact upon the natural environment (NPPF paragraph 174) and ensuring that new development suitably addresses any unacceptable level of pollution remediating where appropriate.

Revised Development Proposal – EA Additional Post-Meeting Flood Risk Officer Commentary

The current plan submitted to the EA (7703-FDG-DR-XX-GF-A-11101) does not clearly show proximity to the existing river channel wall, as part of meeting discussions we discussed the principle of its location and importance of ensuring access the river in the future (for emergency / maintenance) is provisioned for and where possible enhanced.

We recognise the ability and availability to access the existing river from development proposal area is currently limited, although we note the proposed warehouse location (is situated within an open yard area which could be considered to be providing good access to the river.

Any additional buildings (the revised development proposal) must ensure access to inspect and potentially repair the riverbanks is provisioned. As riparian landowner, it is in your client's interest to ensure new buildings would not prevent future access for repair if necessary.

As part of meeting discussions, it was suggested that 3 metre clear width from building to bank top would be the minimum width provisioned as part of the revised proposal proposals. In response, we would advise that a width of 3 metres width, whilst welcomed, could prove prohibitive to use of larger vehicles or machinery. Consequently, if possible, we suggest you maximise the width of this access. We will be able to advise on acceptability from a flood risk viewpoint subject to seeing cross sections showing existing and proposed levels through the bank.

In terms of flood risk, we note the proposals outlined to allow a water entry strategy in relation to dealing with flood events rather than raising ground levels leading to potential water displacement. However, the reference to proposed perimeter bund will need to be clarified in relation the position and potential impact on flood flows across the site.

Any proposed walls or bunds would have potential to redirect or displace flood water and your FRA/plans will need to be clear on the position and potential impact of these features. The FRA must also outline flood resilience measures for the building

construction to mitigate flood damages and enable recovery after any flood.

Where water entry strategy is proposed, the FRA must show how occupants/users of the development would be “safe”. A flood warning and evacuation plan is likely to be required and we suggest an outline of this is provided for within the FRA.

We note your proposed approach to piled foundations for the building but would also recommend an inspection of the riverbank retaining structures as part of the proposals. Any repairs required should be undertaken as part of the proposed development before the available access is reduced.

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Additional General Informatives Relevant to Development

Flood Risk - Flood Risk Activity Permit

The Environmental Permitting (England and Wales) Regulations 2016 require a permit or exemption to be obtained for any activities which will take place:

- on or within 8 metres of a main river (16 metres if tidal)
- on or within 8 metres of a flood defence structure or culverted main river (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it's a tidal main river) and you don't already have planning permission

For further guidance please visit <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>

The grant of planning permissions does not necessitate the grant of an environmental permit or vice versa.

Flood Risk - Flood Resilience Measures

We strongly recommend the use of flood resistance and resilience measures. Physical barriers, raised electrical fittings and special construction materials are just some of the ways you can help reduce flood damage.

To find out which measures will be effective for this development, please contact your building control department. If you'd like to find out more about reducing flood damage, visit the Flood Risk and Coastal Change pages of the planning practice guidance. Further guidance on flood resistance and resilience measures can also be found in:

Government guidance on flood resilient construction

<https://www.gov.uk/government/publications/flood-resilient-construction-of-new-buildings>

CIRIA Code of Practice for property flood resilience

https://www.ciria.org/Research/Projects_underway2/Code_of_Practice_and_guidance_for_property_flood_resilience.aspx

British Standard 85500 – Flood resistant and resilient construction

Further guidance on preparing properties for flooding can be found at <https://www.gov.uk/government/publications/prepare-your-property-for-flooding>.

Flood Risk - Sequential Test

In accordance with the National Planning Policy Framework (paragraph 162), development in flood risk areas should not be permitted if there are reasonably available alternative sites, appropriate for the proposed development, in areas with a lower risk of flooding. The sequential test establishes if this is the case. Development is in a flood risk area if it is in Flood Zone 2 or 3, or it is within Flood Zone 1 and your strategic flood risk assessment shows it to be at future flood risk or at risk from other sources of flooding such as surface water or groundwater.

The only developments exempt from the sequential test in flood risk areas are:

- Householder developments such as residential extensions, conservatories or loft conversions
- Small non-residential extensions with a footprint of less than 250sqm
- Changes of use (except changes of use to a caravan, camping or chalet site, or to a mobile home or park home site)
- Applications for development on sites allocated in the development plan through the sequential test, which are consistent with the use for which the site was allocated.

Avoiding flood risk through the sequential test is the most effective way of addressing flood risk because it places the least reliance on measures such as flood defences, flood warnings and property level resilience.

It is for the local planning authority, to decide whether the sequential test has been satisfied, but it is for the applicant to demonstrate, with evidence, what area of search has been used. Further guidance on the area of search can be found in the planning practice guidance [here](#).

Sustainable Urban Drainage Systems

Surface water run-off should be controlled as near to its source as possible through a sustainable drainage approach to surface water management (SuDS). SuDS manage surface water run-off by simulating natural drainage systems. Whereas traditional drainage approaches pipe water off-site as quickly as possible, SuDS retain water on or near to the site. As well as reducing flood risk, this promotes groundwater recharge, helps absorb diffuse pollutants, and improves water quality. Ponds, reedbeds and seasonally flooded grasslands can also be particularly attractive features within public open spaces.

SuDS involve a range of techniques including soakaways, infiltration trenches, permeable pavements, grassed swales, green roofs, ponds and wetlands. As such, virtually any development should be able to include a scheme based around these principles. In doing so, they'll provide multiple benefits and will reduce costs and maintenance needs.

Support for the use of SuDS to ensure development does not increase flood risk elsewhere is set out in paragraph 167 of the National Planning Policy Framework.

The Government's expectation is that sustainable drainage systems (SuDS) will be provided in new developments wherever this is appropriate. The Environment Agency supports this expectation. Where infiltration SuDS are to be used for surface run-off from roads, car parking and public or amenity areas, they should:

- be suitably designed
- meet Government's non-statutory technical standards for sustainable drainage systems – these standards should be used in conjunction with the National Planning Policy Framework and Planning Practice Guidance
- use a SuDS management treatment train – that is, use drainage components in series to achieve a robust surface water management system that does not pose an unacceptable risk of pollution to groundwater.

Approved Document Part H of the Building Regulations 2010 establishes a hierarchy for surface water disposal and encourages a SuDS approach. The first option for surface water disposal should be the use of SuDS, which encourage infiltration such as soakaways or infiltration trenches. In all cases, it should be established that these options are feasible, can be adopted and properly maintained and would not lead to any other environmental problems. For example, using soakaways or other infiltration methods on contaminated land carries groundwater pollution risks and may not work in areas with a high-water table. Where the intention is to dispose to soakaway, these should be shown to work through an appropriate assessment carried out under Building Research Establishment (BRE) Digest 365.

Trade Effluent / Discharge to Surface Water / Ground

Effluent discharged from any premises carrying on a trade or industry and effluent generated by a commercial enterprise where the effluent is different to that which would arise from domestic activities in a normal home is described as trade effluent.

If you are not able to discharge effluent it will be classed as waste and you must then comply with your duty of care responsibilities.

A trade effluent consent or a trade effluent agreement with your water and sewerage company must be obtained before you discharge trade effluent to a public foul sewer or a private sewer that connects to a public foul sewer.

You may need an environmental permit if you intend discharge liquid effluent or waste water:

- into surface waters, for example, rivers, streams, estuaries, lakes, canals or coastal waters – known as 'water discharge activities'
- into or on the ground, such as spreading waste sheep dip, or discharging treated sewage effluent to ground through an infiltration system – known as 'groundwater activities'

Waste water includes:

- poisonous, noxious or polluting matter
- polluting substances
- waste matter

- trade or sewage effluent

For further guidance associated with the above please refer to:

- [Discharges to surface water and groundwater: environmental permits - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/discharges-to-surface-water-and-groundwater-environmental-permits)
- [Pollution prevention for businesses](https://www.gov.uk/guidance/pollution-prevention-for-businesses)

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We trust that you find the contents of this letter beneficial. However, you should you wish to seek further discussion or review by the EA prior to formal planning submission, then please do not hesitate to contact me.

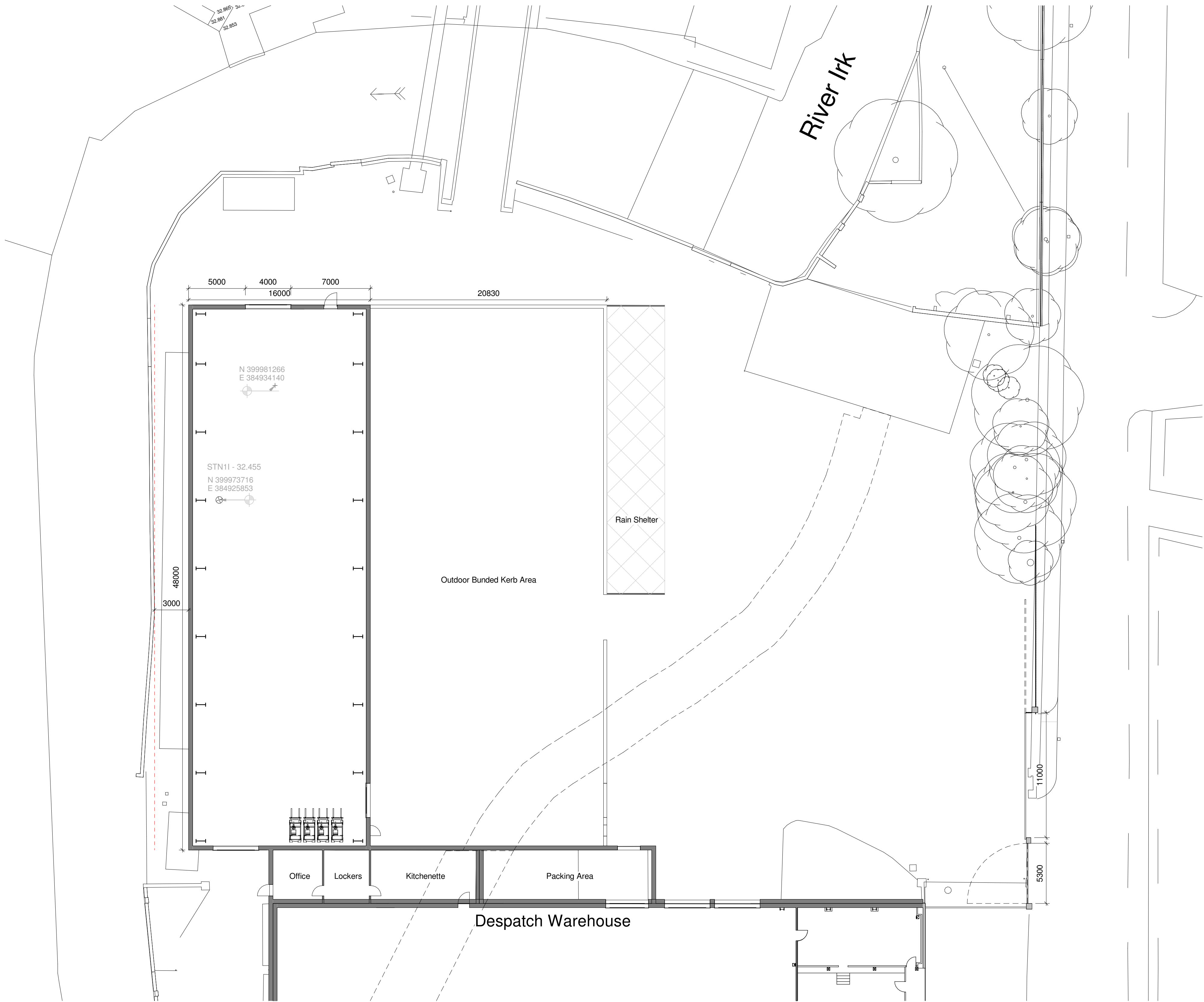
Yours faithfully

Mr Andy Davies

Sustainable Places Project Manager

Direct e-mail andy.davies1@environment-agency.gov.uk

Appendix E – Proposed Site Plans



1 08001 - Site Plan
1 : 200

Notes

The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.

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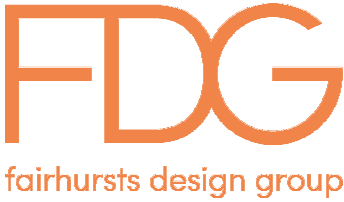
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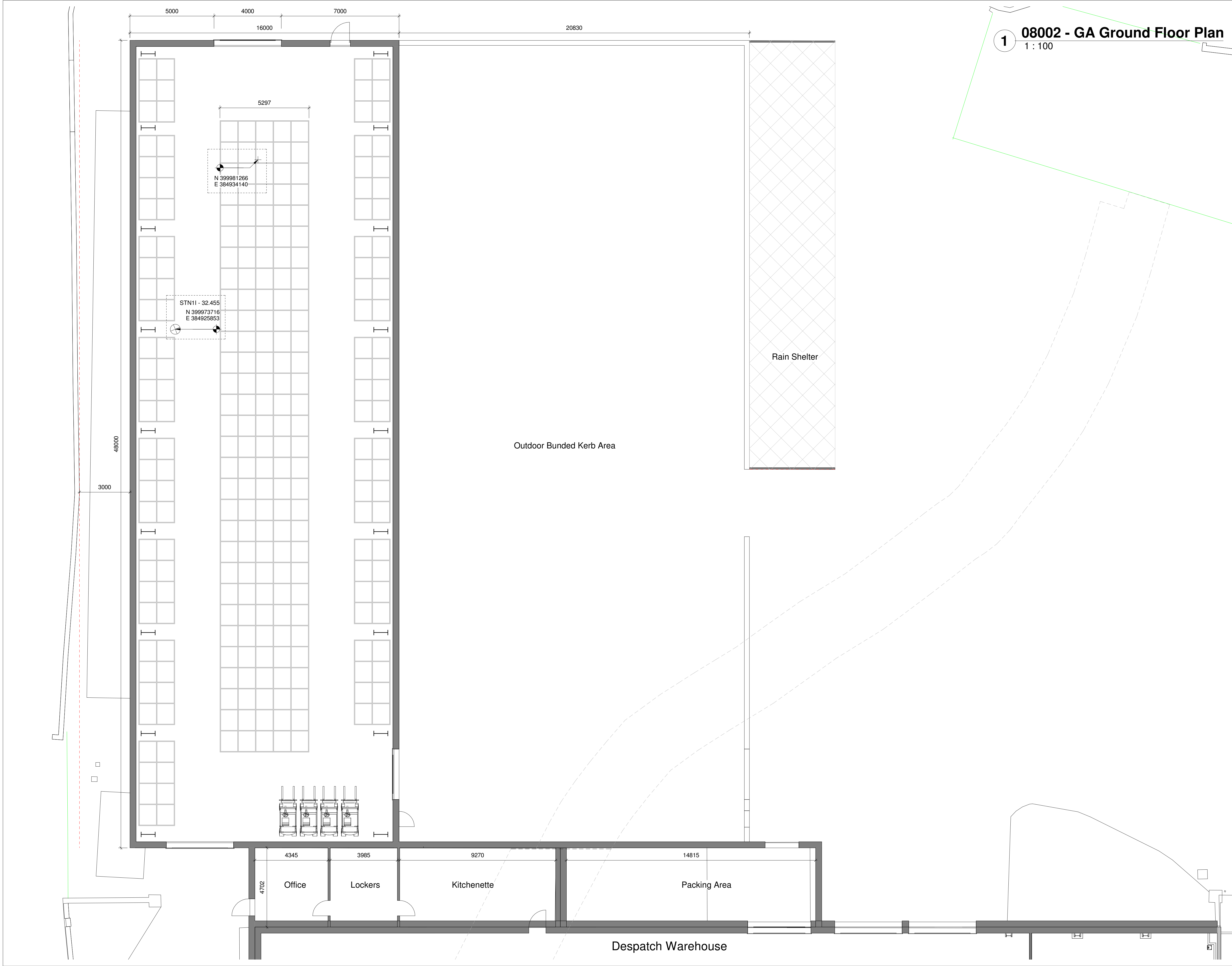
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1:1250	M	0	10	20	30	40	50

KEYPLAN

Rev	Description	By	Date
Project Status		Drawing Status	
Stage 2		S4	
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Client / Project			
HMG Paints			
Project Crystal			
Drawing			
Site Plan			
Date	30/06/22	Scale	1 : 200
Drawn By	MCA	AS	Checked
Drawn By	AS	Checked	IRC
Manchester: 55 King Street Manchester M2 4LQ +44 (0)161 831 7300 Souhampton: Menor Park Minstead Southampton SO43 7FY +44 (0)23 8081 7900 Cambridge: CB1 Business Centre 20 Station Road Cambridge CB1 2JD +44 (0)1223 863 868			
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7703-08001		Status	Rev
7703-FDG-DR-XX-00-A-08001		Status	Rev





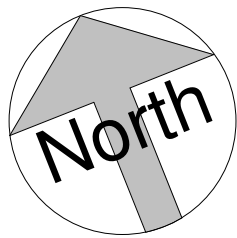
1 08002 - GA Ground Floor Plan
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1:1250	M	0	10	30	50
					70

KEYPLAN



Note: Indicative Structural Steel Column (Awaiting Structural Design)

Rev	Description	By	Date
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Project Status	Drawing Status
Stage 2	S4

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Project Crystal

Drawing
GA Ground Floor Plan

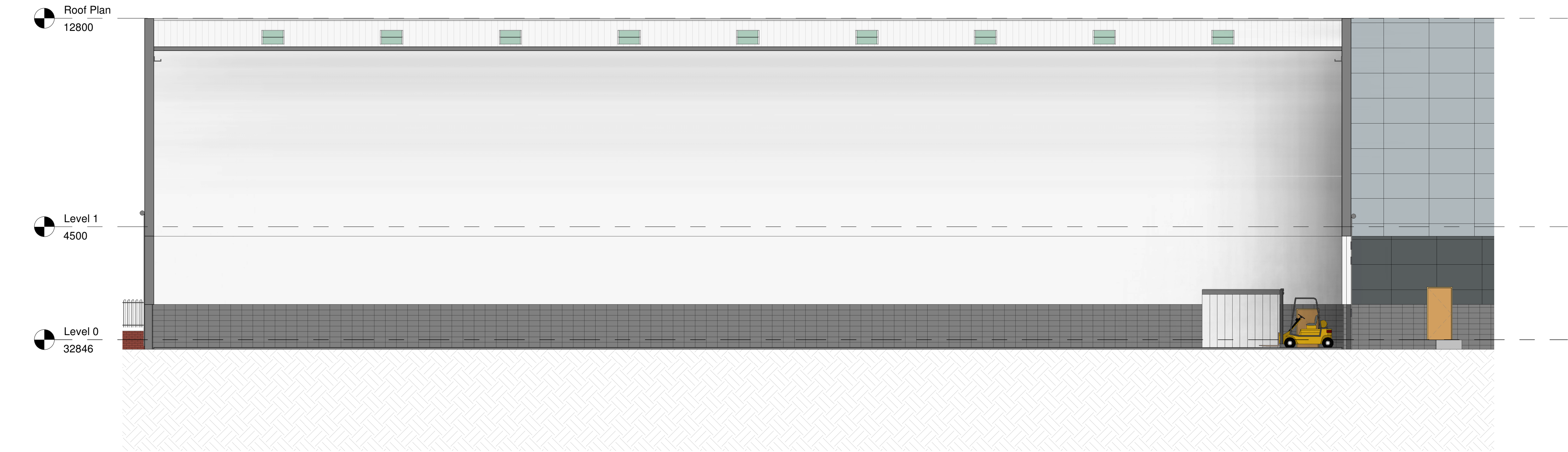
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MCA			

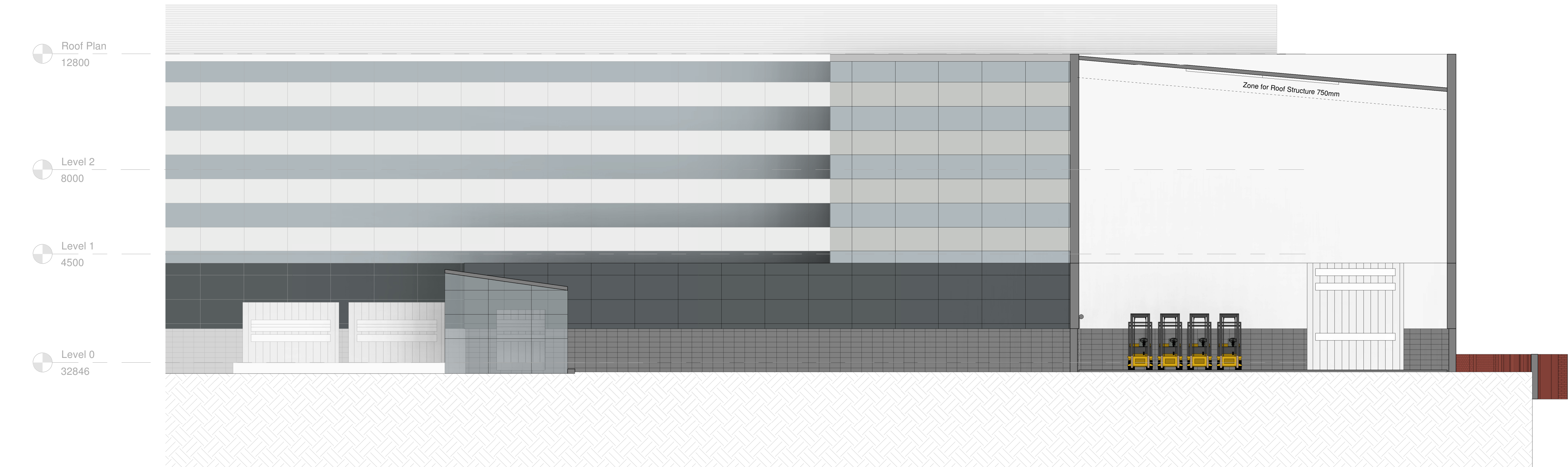
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55 King Street
Manchester M2 4LQ
+44 (0)161 851 7500
Southampton:
Minor Park
Minstead
Southampton SO43 7FY
+44 (0)23 8081 7900
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7703-FDG-DR-XX-GF-A-08002		



1 Section A
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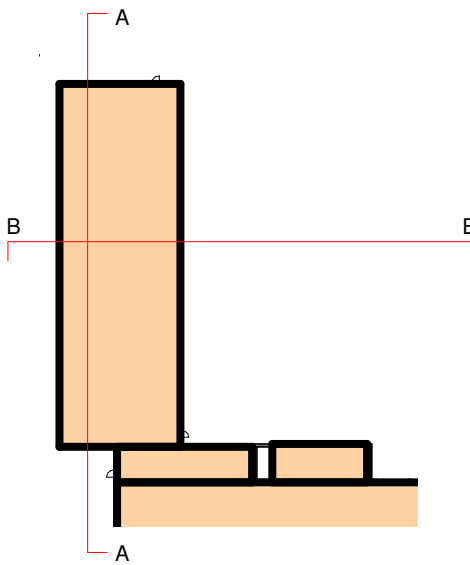
2 Section B
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Key Plan:



Rev	Description	By	Date
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Project Status	Drawing Status
Stage 2	S4

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Client / Project
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Project Crystal

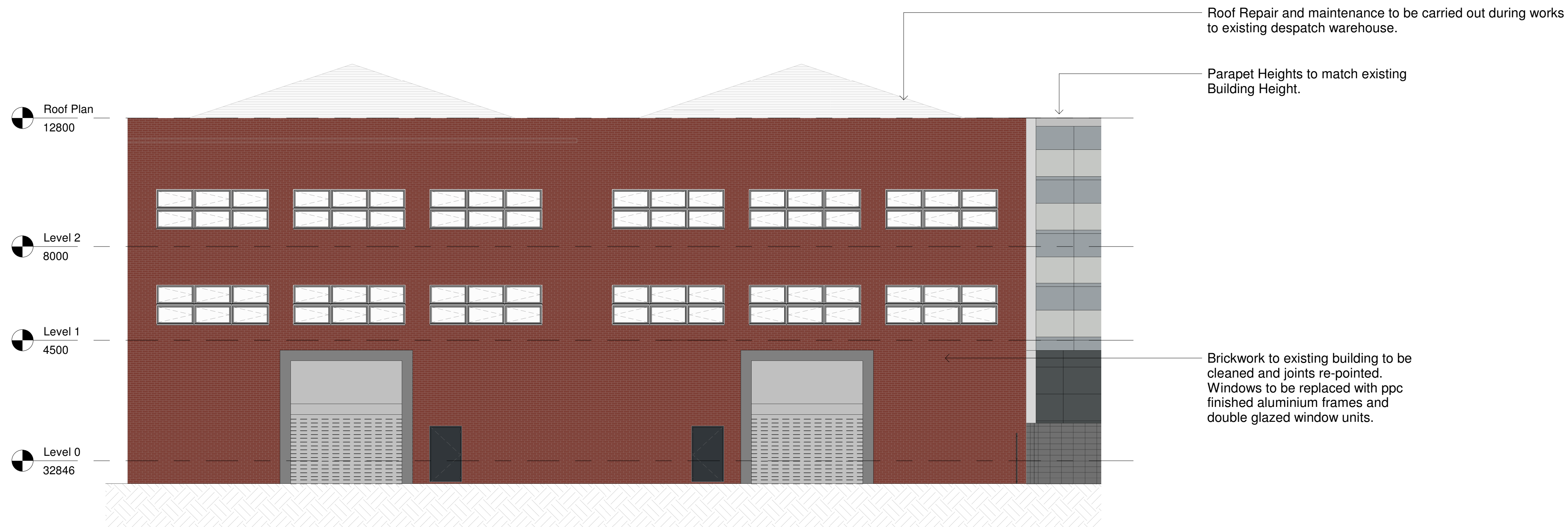
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GA Sections

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Checked		Checked		IRC

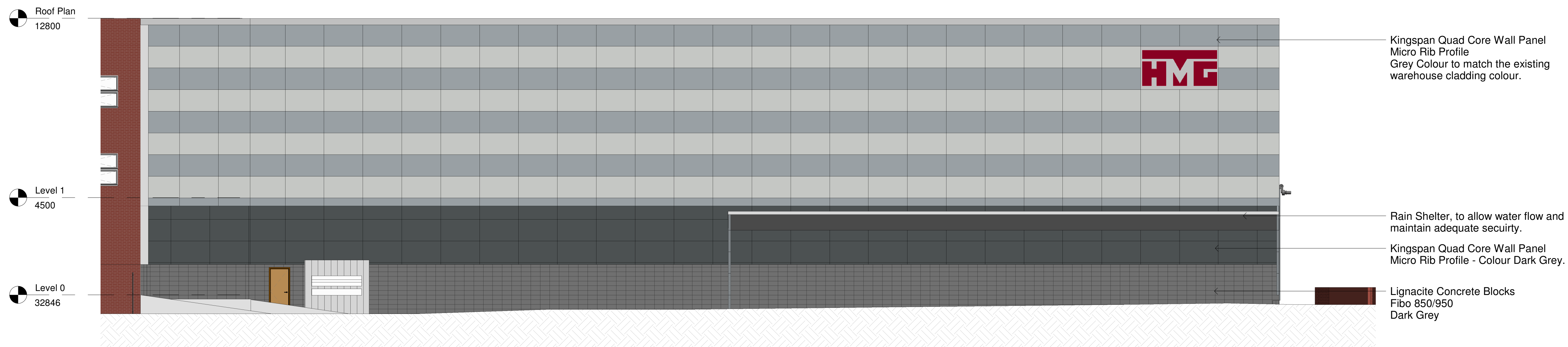
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Manchester M2 4LQ
+44 (0)161 831 7300
Southampton:
Minor Park
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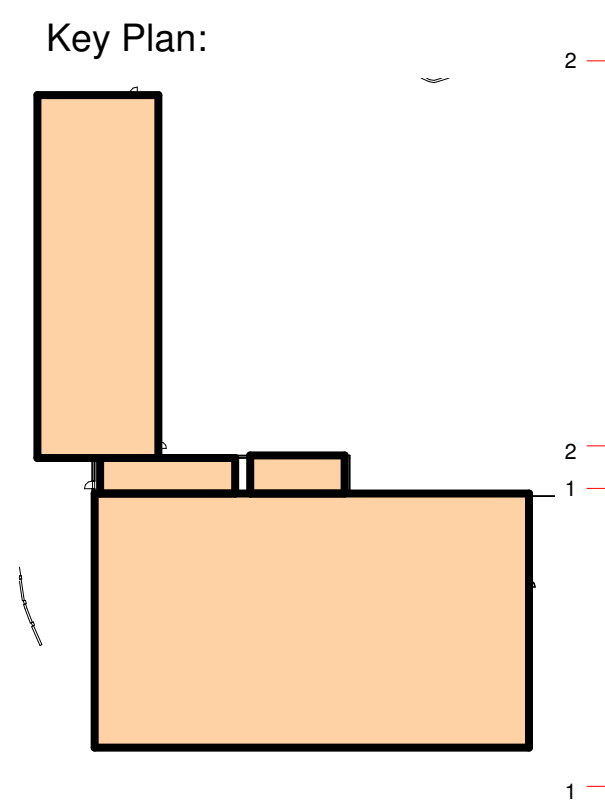
7703-08006	Status	Rev
7703-FDG-DR-XX-XX-A-08006		



1 Elevation 1
1 : 100



2 Elevation 2
1 : 100



Notes
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1:1250	M		10	30	50 70

KEYPLAN

Rev	Description	By	Date
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Project Status
Stage 2

Drawing Status	S4
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HMG Paints

Project Crystal

Drawing
GA Elevations - Sheet
1

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3D CoOrd	MCA	Drawn By	AS	Checked	IRC

Manchester:
55 King Street
Manchester M2 4LQ
+44 (0)161 831 7300

Southampton:

Manor Park
Minstead
Southampton SO13 7E

+44 (0)23 8081 7900

Cambridge:
CB1 Business Centre
20 Station Road

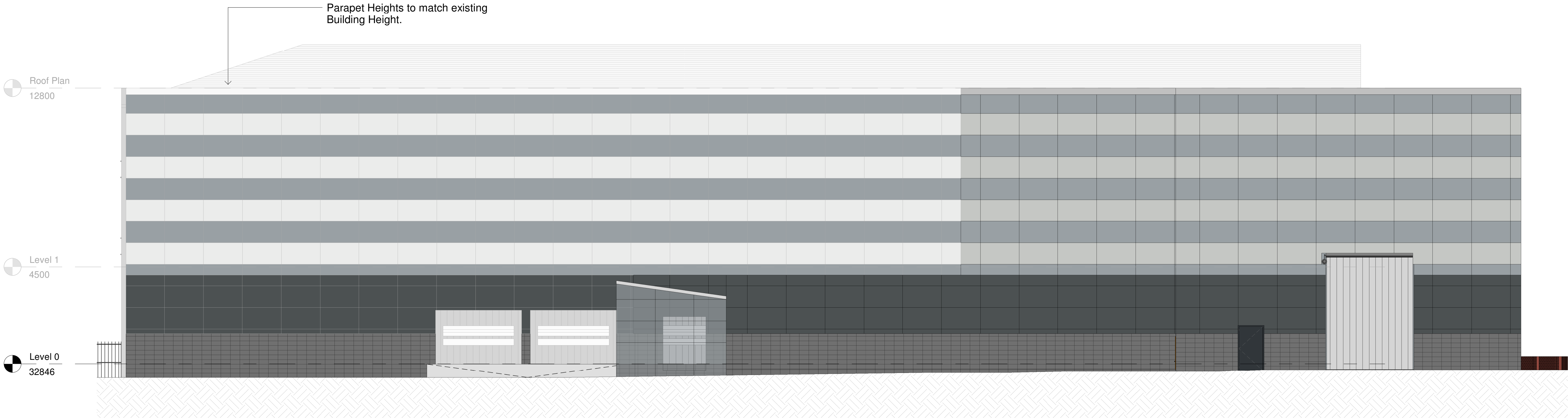
Cambridge CB1 2JD
+44 (0)1223 803 868

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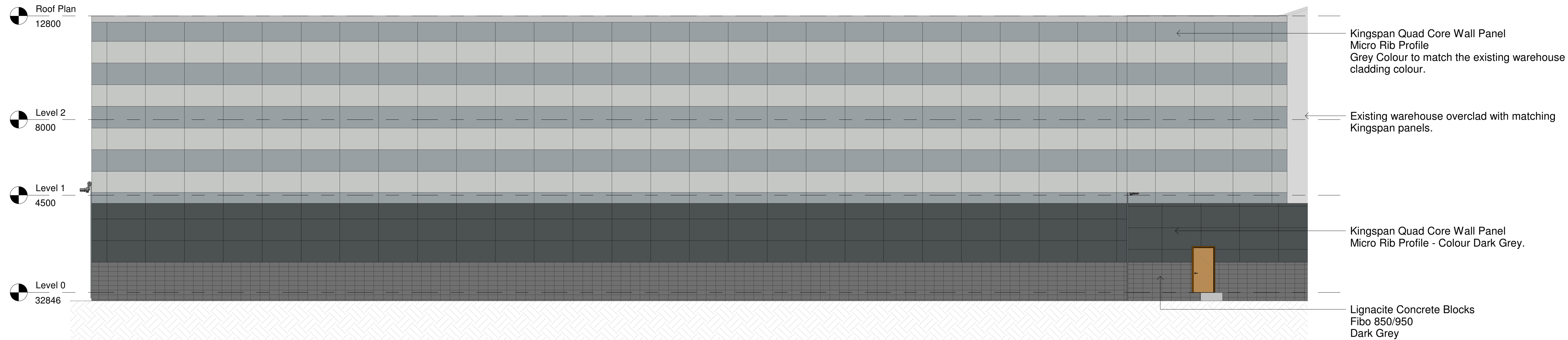
7703-0800

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3 Elevation 3
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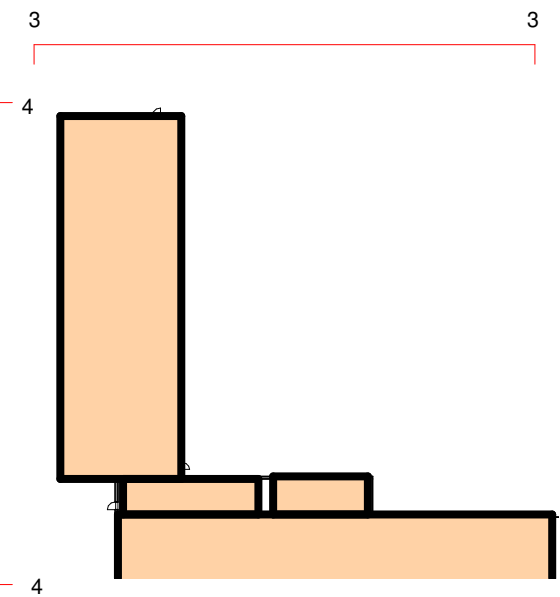
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Notes
The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.

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Scale Bars		TO BE USED ONLY AS GUIDANCE			
1:100	mm	0	1000	2000	5000
1:200	mm	0	5000	10000	25000
1:500	M	0	5	15	25
1:1250	M	0	10	30	70

Key Plan:



Rev	Description	By	Date
Project Status	Stage 2	Drawing Status	S4
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Client / Project
HMG Paints

Project Crystal

Drawing
GA Elevations - Sheet 2

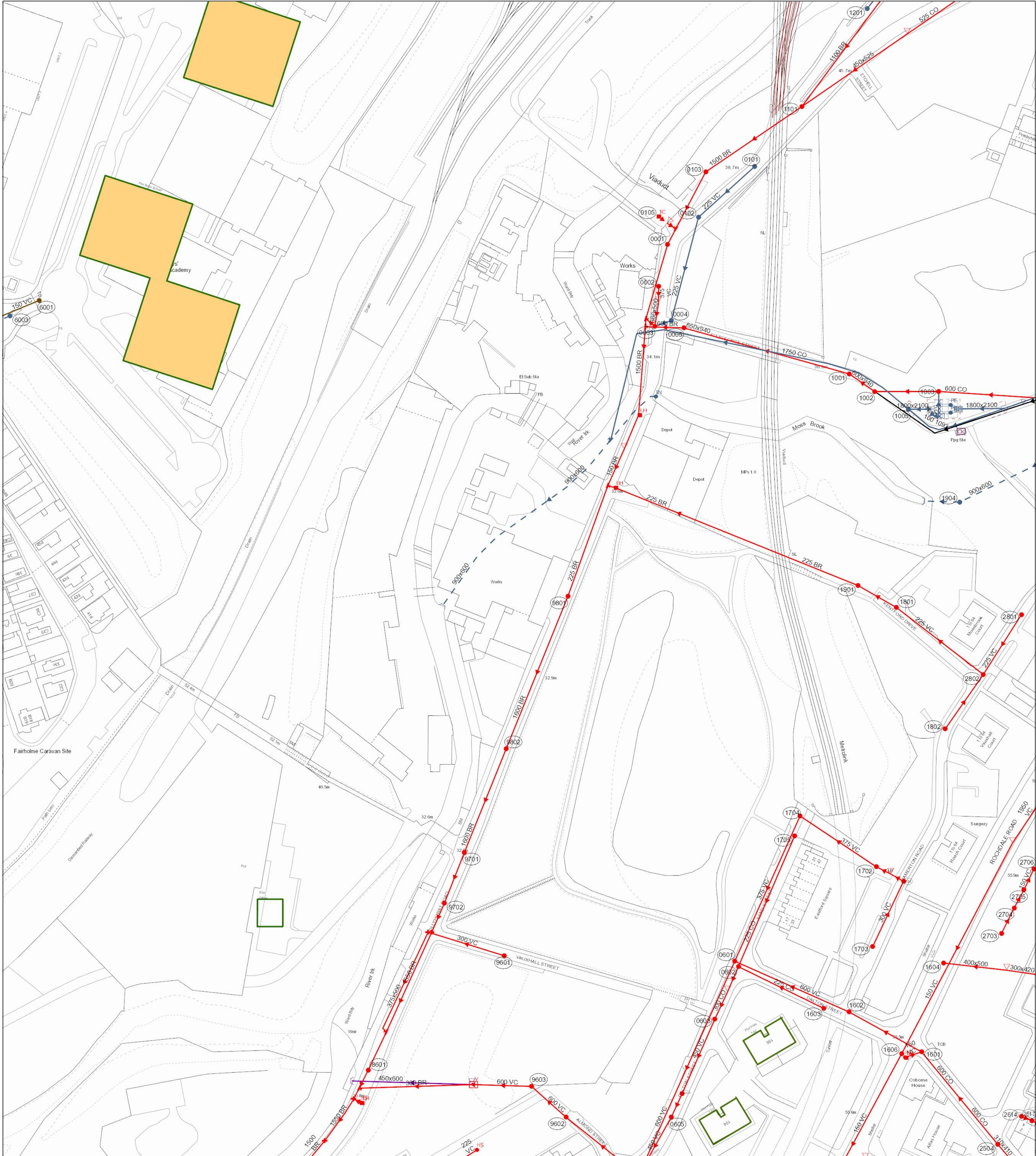
Date	30/06/22	Scale	As indicated	@ A1
Drawn By	MCA	Drawn By	AS	Checked
Drawn By	MCA	Drawn By	AS	Checked

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7703-08008	Status	Rev
7703-FDG-DR-XX-XX-A-08008	Status	Rev

Appendix F – UU Sewer Records



The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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Refo	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad
2704	56.34	CO	150	300			VC	11.3542	1 in 138
6003	56.34	SW	54.61	300			VC	64.73236	
2703		CO		150			VC	15.7045	
9802	44.42	CO	34.86	600			VC	25.9951	
9802	32.69	CO	25.44	1600			BR	61.46544	1 in 1537
9702	32.14	CO	25.46	1550			BR	17.45425	
9701	32.54	CO	25.4	1550			BR	30.98322	
9601	32.65	CO	26.71	300			VC	43.9659	
1803	49.27	CO	0	225			CO	52.3259	1 in 40
1003	36.1	CO	34.54	600			CO	35.2818	1 in 69
0602	50.07	CO	47.61	225			CO	15.23155	1 in 154
6001		FO	0	150			VC	54.45673	
2706		CO		150			VC	13.45889	
2705		CO		150			VC	12.74012	
1705	49.78	CO	48	225			CO	78.35005	
9801	32.82	CO	26.03	1600			BR	90.62009	
0604	49.88	CO	44.37	450			VC	14.31782	
2802	54.15	CO	50.89	225			VC	60.65528	
2614		CO		150			VC	6.270708	
2617		CO		150			VC	7.520038	
1802	55.09	CO	53.45	225			VC	36.61967	1 in 51
1801	51.7	CO	46.4	225			VC	24.19677	
0605	49.67	CO	43.5	450			VC	36.71512	1 in 408
0103	38.33	CO	25.3	1500			BR	45.17743	1 in 502
8601	30.23	CO	25.24	1550			BR	17.88854	
1001	36.74	CO	33.74	600			BR	94.65053	1 in 45
1601	55.41	CO	0	600			VC	45.65085	
0101	38.63	SW	37	225			VC	41.7732	1 in 45
9803		CO		600			VC	31.98159	
1901	50.07	CO	40.69	225			BR	213.4405	
0005	35.62	CO	29.44	600			BR	21.27618	
0001	36.31	CO	26.2	1500			BR	116.4867	1 in 44
1101	42.32	CO	26.77	1000			BR	84.00277	1 in 246
1802	53.78	CO	41.67	600			VC	68.542	
0003	34.47	CO	31.25	375			VC	6.403124	
1804		SW	0	900			BR	19.88334	
1201	42.13	SW	40.21	300			VC	48.41488	1 in 138
0601	50.04	CO	41.37	600			VC	129.3561	1 in 152
0102	37.87	SW	35.38	225			VC	58.94065	1 in 21
1005	37.9	SW	1750				CO	219.5274	
0603	49.89	CO	44.85	450			VC	44.77723	
0002	35.99	CO	31.78	375			VC	9	1 in 41
1606		CO		150			VC	113.8486	
1704	49.82	CO	41.81	375			VC	87.72685	1 in 204
1701	53.98	CO	40.54	300			VC	8.802258	
1702	53.6	CO	0	375			VC	50.47772	
2801	53.15	CO	51.62	225			VC	38.11622	1 in 59
2504	57.84	CO	46.63	600			CO	66.0815	1 in 47
0004	34.95	SW	31.8	225			VC	9.485533	
1703	53.56	CO	50.46	300			VC	39.61706	1 in 105

Refo	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad
1101	42.32	CO	26.77	1000			BR	84.00277	1 in 246
1802	53.78	CO	41.67	600			VC	68.542	
0003	34.47	CO	31.25	375			VC	6.403124	
1804		SW	0	900			BR	19.88334	
1201	42.13	SW	40.21	300			VC	48.41488	1 in 138
0601	50.04	CO	41.37	600			VC	129.3561	1 in 152
0102	37.87	SW	35.38	225			VC	58.94065	1 in 21
1005	37.9	SW	1750				CO	219.5274	
0603	49.89	CO	44.85	450			VC	44.77723	
0002	35.99	CO	31.78	375			VC	9	1 in 41
1606		CO		150			VC	113.8486	
1704	49.82	CO	41.81	375			VC	87.72685	1 in 204
1701	53.98	CO	40.54	300			VC	8.802258	
1702	53.6	CO	0	375			VC	50.47772	
2801	53.15	CO	51.62	225			VC	38.11622	1 in 59
2504	57.84	CO	46.63	600			CO	66.0815	1 in 47
0004	34.95	SW	31.8	225			VC	9.485533	
1703	53.56	CO	50.46	300			VC	39.61706	1 in 105

LEGEND

Abandoned

Foul

Surface Water

Combined

Public Sewer

Section 104

Rising Main

Sludge Main

Overflow

Water Course

Highway Drain

All point assets follow the standard colour convention:
red - combined
blue - surface water
brown - foul
purple - overflow

Manhole

Head of System

Extent of Survey

Rodding Eye

Inlet

Discharge Point

Vortex

Penstock

Washout Chamber

Valve

Air Valve

Non Return Valve

Soakaway

Gully

Cascade

Flow Meter

Hatch Box

Oil Interceptor

Summit

Drop Shaft

Orifice Plate

Side Entry Manhole

Outfall

Screen Chamber

Inspection Chamber

Bifurcation Chamber

T Junction / Saddle

Lamp Hole

Catchpit

Valve Chamber

Vent Column

Vortex Chamber

Penstock Chamber

Network Storage Tank

Sewer Overflow

Ww Treatment Works

Ww Pumping Station

Septic Tank

Control Kiosk

Change of Characteristic

MANHOLE FUNCTION

FO Foul
SW Surface Water
CO Combined
OV Overflow

SEWER SHAPE

CI Circular	TR Trapezoidal
EG Egg	AR Arch
OV Oval	BA Barrel
FT Flat Top	HO HorseShoe
RE Rectangular	UN Unspecified
SQ Square	

SEWER MATERIAL

AC Asbestos Cement
BR Brick
PE Polyethylene
RP Reinforced Plastic Matrix
CO Concrete
CSB Concrete Segment Bolted
CSU Concrete Segment Unbolted
CC Concrete Box Culverted
PSC Plastic / Steel Composite
GRC Glass Reinforced Plastic
DI Ductile Iron
PVC Polyvinyl Chloride
CI Cast Iron
SI Spun Iron
ST Steel
VC Vitrified Clay
PP Polypropylene
PF Pitch Fibre
MAC Masonry, Coursed
MAR Masonry, Random
U Unspecified

Address or Site Reference:

HMG Paint Ltd,

Scale: 1:1250 Date: 14/09/2021
Nodes: 50
Sheet: 1 of 1
Printed by: Property Searches

SEWER RECORDS

Water for the North West

Appendix G – BH Logs and Plan