



Liverpool Road Hotel, Manchester

Outline Drainage Strategy

Project No: 2205-02
May 2023
LRH-REN-XX-XX-RP-C-00002
Rev: P02

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P01	Preliminary issue	S Ahmad	16.02.2023	P Whitesmith
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1.0 INTRODUCTION

1.1 Purpose of this report

This Outline Surface Water Drainage Strategy has been prepared to support the proposed development at 123-125 Liverpool Road, Manchester.

The assessment includes a summary of the site, an estimate of the existing and proposed surface water discharge rates, infiltration assessment, SUDs assessment, and outline drainage proposals and performance criteria.

This report should be read in conjunctions with the Flood Risk Assessment produced by Hamilton Technical Services which was submitted as part of the planning application in 2019.

The proposals within this report are intended to demonstrate the feasibility of the overarching drainage strategy to support the planning proposal.

2.0 THE SITE

2.1 Site Location

The proposed development site is located on Liverpool Road, Manchester.

The site location is described below:

- Post Code M3 4JN
- OS X (Easting) 382987
- OS Y (Northing) 397825
- Nat. Grid SJ829978

The site location is illustrated in Figure 2.1 below.

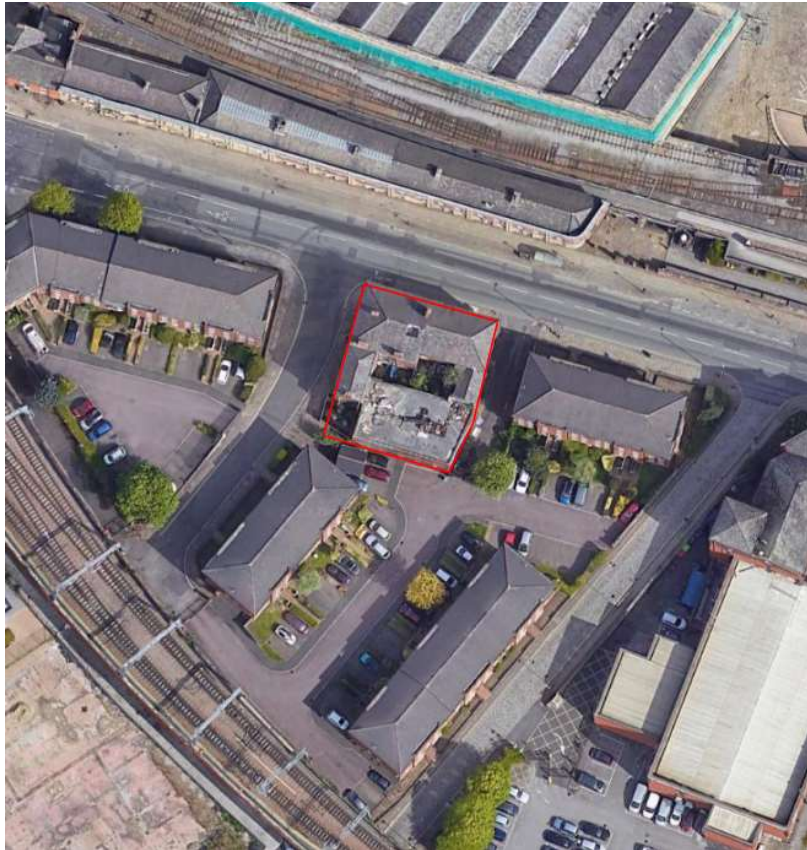


Figure 2.1: Site Location

2.1 Site Description

The development site is circa 0.06 hectares and currently comprises a Grade-II listed 3-storey hotel/residential building originally constructed in the early 19th century as well as later 2-storey extensions to the rear added in the mid-20th century. The site is bounded by Liverpool Road to the north, Old Medlock Street to the east and Woollam Place to the West. To the south of the site there is a private residential development with associated access roads and parking areas.

Existing ground levels across the site vary from approximately 28.070m to 27.420m AOD.

Refer to Appendix A for an existing topographical survey of the site.

2.2 Existing Site Drainage

The whole of the existing site is impermeable with a combination of roof areas and hardstanding.

United Utilities' sewer records (Appendix C) show there to be combined public sewers running underneath Liverpool Road, Woollam Place and Old Medlock Street.

Surveys of the on-site drainage show that surface water from the roof of 125 Liverpool Road and the rear extensions connect below ground into an existing combined drain running west to east

across the footprint of the existing basement. This combined drain connects into the public sewer underneath Old Medlock Street. The surface water from the roof of the original part of 123 Liverpool Road is collected in downpipes and discharged onto the footpaths around the building.

The foul water within the basement of the building discharges into the combined drain connecting into the public sewer underneath Old Medlock Street. There are existing soil vent pipes around the perimeter of the building picking up the foul water discharge from the upper floors. These SVPs appear to connect directly into the public sewers on all sides of the building.

2.3 Geology

The Phase-II ground investigation report for the site produced by Brownfield Solutions shows that the building is underlain by made ground to a depth of 0.96-1.20m BGL with natural superficial deposits comprising firm to stiff clay beneath this to a depth of approximately 2.70m BGL. Solid geology was encountered from 6.00-11.50m BGL with groundwater recorded at approximately 4.10m BGL.

The Phase-I desktop study produced by Sutcliffe in February 2019 has shown that the site does fall within a coal mining area. However, no significant risks or features are of note within the Coal Authority Report that would require further action to assess the risks associated with coal mining assets.

2.4 Hydrogeology & Hydrology

The bedrock underlying the site is classified as a Principal Aquifer. These are layers of rock or drift deposits that have a high intergranular and/or fracture permeability meaning that they may support water supply and/or river base flow on a strategic scale. The superficial deposits are classified as a Secondary A Aquifer capable of supporting water supplies at a local rather than strategic scale.

The third-party database and EA website indicate that the site is not located within a Groundwater Source Protection Zone (SPZ).

An Envirocheck report lists 12 groundwater abstraction points within 2000m of the site. The nearest is located 585m north-east of the site at Gartside Street.

The nearest surface water feature is located 76m south-east of the site and forms part of the Bridgewater Canal system with the River Irwell located 145m to the north-west.

There are 2 surface water abstractions listed within the Envirocheck Report within 2000m of the site. The nearest is located 625m south-west of the site at Irwell Works.

2.5 Proposed Development

The proposed development involves the demolition of the mid-20th century rear extension to 123 Liverpool Road with the creation of a new 5-storey extension and external alterations as part of proposals to refurbish and re-use 123-125 Liverpool Road as a hotel (Use Class C1) with associated bar and restaurant (Classes A3 and A4), servicing and ancillary works.

Refer to Appendix D for the proposed development plans.

3.0 EXISTING & PROPOSED SURFACE WATER DISCHARGE RATES

3.1 Pre-Development Surface Water Run-Off Rates

The existing site is occupied by existing buildings and areas of hard landscaping and is therefore considered 100% impermeable.

Refer to the existing drained area plan in Appendix B for further information.

3.1.1 Existing Brownfield Run-Off Rates

To estimate the pre-development surface water discharge into the public sewer, a two-pipe model has been modelled in industry approved Micro Drainage Software (Appendix E). The model uses a variable rainfall intensity for the different storm events and is based on a 60-minute storm duration. A summary of the results are presented in the Tables 3.1.1:

Return Period	$Q_{\text{Brownfield}}$ (l/s)
1 in 1 year	4.8
1 in 2 year	6.2
1 in 30 year	11.7
1 in 100 year	15.4

Table 3.1 – Brownfield Run-off Rates

3.1.2 Existing Greenfield Run-Off Rates

As a comparison, the greenfield run-off for the total site area has been considered. This has been calculated using the ICP SUDS method in Micro Drainage (Appendix F). The rates presented below are what would be typical of a site with an equivalent surface area which remains undeveloped/covered in grass or vegetation.

The equivalent greenfield run-off rate is tabled below: -

Return Period	$Q_{\text{Greenfield}}$ (l/s)
1 in 1 year	0.7
1 in 2 year	0.9
1 in 30 year	1.2
1 in 100 year	1.3

Table 3.2 – Greenfield Run-off Rates

3.2 Proposed Surface Water Discharge Rates

The non-Statutory Technical Standards for Sustainable Drainage Systems (2015) states that for greenfield developments, the peak runoff rate from the development to any highway drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event should never exceed the peak greenfield runoff rate for the same event. For developments which were previously developed (brownfield), the peak runoff rate from the development to any drain, sewer or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event must be as close as reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but should never exceed the rate of discharge from the development prior to redevelopment for that event.

Based on the above assessment of the existing site and advice from United Utilities following a pre-development enquiry submitted in November 2022, it is proposed that the maximum discharge will be limited to **5 l/s**. Compared to the existing brownfield run-off rates this provides a betterment of circa 67%.

4.0 SURFACE WATER DISCHARGE & SUDS ASSESSMENT

4.1 Surface Water Discharge Assessment

In accordance with NPPF, the following hierarchy of surface water drainage options has been considered:

- Discharge into the ground (infiltration);
- Discharge to a surface water body;
- Discharge to a surface water sewer, highway drain, or another drainage system;
- Discharge to a combined sewer.

The use of SUDS to control surface water discharge from the site has been considered. Due to the restrictions of space and the proximity of the onsite buildings and neighbouring properties, there are no suitable locations for soak-away systems.

Opportunities for discharge to watercourse have been considered. The nearest watercourse is located approximately 76m south-east of the site across adopted highways and 3rd party land. Based on the above, direct discharge to the watercourse is deemed not viable.

Therefore, it is proposed that surface water from the site will be collected by a dedicated gravity system designed in accordance with BS EN 752 before discharging into the existing on-site drainage and public combined sewers within Woollam place and Old Medlock Street. The new connection to the public sewer in Woollam Place will be subject to an S106 application with United Utilities.

4.2 Sustainable Urban Drainage

Table 4.1 below provides a summary of typical SUDs techniques outlined within CIRIA guide 753 SUDs manual. Based on a review of the suitability of the SUDs techniques it is proposed that the Liverpool Road Hotel development may incorporate the following:

SUDs Technique	Description	Suitability for Development Site	
Rainwater Harvesting	Collection of rainwater run-off for use	Not suitable due to minimal opportunity for rain/grey water use on site.	✗
Soft Landscaping	Grassed areas that allow direct infiltration of rainwater	Not suitable due to limited space.	✗
Filter Drains	Granular filled Linear drains / soakaway with either granular fill and perforated pipe, or dense vegetation that treat runoff from adjacent impermeable areas	Not suitable due to limited space.	✗
Swales	Shallow landscape channel that can infiltrate or convey runoff.	Not suitable due to limited space.	✗
Infiltration Basins	Depressions in the ground designed to store and infiltration runoff to the ground. Can be landscaped to provide amenity value.	Not suitable due to limited space.	✗
Wet Ponds	Basins with permanent pool of water providing water quality treatment, wildlife, and amenity benefit. Designed to provide temporary storage for additional runoff.	Not suitable due to limited space.	✗
Extended Detention Basins	Dry basins that are designed to temporarily store runoff providing water quality treatment.	Not suitable due to limited space.	✗
Constructed Wetland	Ponds and shallow wetland areas with vegetation to improve pollution removal and enhance wildlife habitat.	Not suitable due to limited space.	✗
Porous Paving	Granular build-up beneath permeable paving systems that can be used to either store runoff (lined system) and	Not suitable due to limited space.	✗

	increase time of concentration or allow percolation into the ground.		
Trees Pits	Managed permeable paving systems around tree pits that can be used to either store runoff (lined system) and increase time of concentration or allow percolation into the ground.	Not suitable due to limited space.	✗
Soakaways	Infiltration device to temporarily store runoff and allow it to percolate into the ground.	Not suitable due to limited space.	✗
Green Roof	Vegetated roof area that reduces runoff and increases time of concentration.	Potential use subject to coordination with roof levels.	✓
Blue Roof	Roof area designed to store and reduce peak runoff rates during intense storms.	Potential use subject to coordination with roof levels.	✓
Underground Storage	Attenuation structures installed below ground to provide runoff storage.	Suitable beneath ground floor slab of rear extension.	✓

✗ Not suitable

? Potentially suitable subject to further investigation

✓ Suitable

Table 4.1 – SUDs Techniques & Suitability for Development Site

4.3 Water Quality Assessment

The drainage from the site is from the roof of the original building and new rear extension as well as minimal areas of hard landscaped courtyard areas. Water quality is generally affected by frequent rainfall events, 1 in 1 year events or less, which is circa 5mm/hr for the proposed development site. To assess the water quality, consideration will be given to the guidance with the National Standard for Sustainable Urban Drainage (NSSUD) and CIRIA Guide C753. The pollution hazard levels for different land uses are presented in table 4.2 and are based on the definitions in the NSSUD and C753.

Pollution Hazard Level	Land Use
Very Low	Residential roofs
Low	Individual property driveways, non-residential roofs, residential car parks, low traffic roads, non-residential car parking with infrequent change (e.g. Schools, offices)
Medium	Commercial yards and delivery areas, non-residential car parking with frequent change (e.g. hospital, retail), minor roads
High	Site with heavy pollution (e.g. Haulage yards, lorry parks, waste sites, sites with chemical and fuels are delivered, handled, stored etc.)

Table 4.2 – Pollution Hazard Levels

The pollution hazard level is very low to low based on Table 4.2 with the primary consideration given to removal of gross solids and sediment.

The following tables indicate the minimum number of treatment stages required before surface runoff should reach the infiltration or receiving water body and are extracted from the NSSUD.

Pollution Hazard Level	Land Use	Low	Med	High
G1	Source Protection Zone 1, within 50m of a well, spring or borehole that supplies potable water.	1	3	Consult the EA
G2	Into or immediately adjacent to a sensitive receptor that could be influenced by infiltrated water. Includes designated nature conservation, heritage, and landscape sites – including Biodiversity Action Plan (BAP) habitats and Protected Species.	1	3	
G3	Source Protection Zone II and III or Principal Aquifer	1	3	
G4	Secondary Aquifer	1	2	
G5	Unproductive strata	1	2	

Table 4.3 – Groundwater Minimum Treatment Stages

Pollution Hazard Level	Normal surface water	Sensitive surface water
Low	0	1
Med	2	3
High	Consult the EA	

Table 4.4 – Surface Water Body Minimum Treatment Stages

For infiltration, discharge into the principal aquifer would require 1 level of treatment for a low pollution level.

Discharge of surface water to the receiving public combined water sewer requires no treatment stages due to the low pollution hazard level. However, the adoption of SUDs, sumps and good practice will provide inherent treatment.

Any areas of blue/green roofs dependant on detailing, would act to absorb most frequent rainfall events and filter out solids and sediment. Any drainage from roof areas not utilised as blue-roofs would pass through silt traps prior to entering the attenuation tank and flow control device. Sumps will also be provided to gullies and channels within the ground floor areas prior to connecting to the silt traps. The silt traps and sumps will allow most of the sediment and solids to settle out under low flows, prior to discharging to the public sewer.

4.4 SuDS Management Plan

The Sustainable Urban Drainage systems are to be generally maintained by the property owner and/or a maintenance company on their behalf. They will be required to maintain the SuDS features in line with the following recommendations and suppliers' requirements of the various features.

The following operation and maintenance requirements for the SUDS features incorporated into the development are to be adopted by the Building Management Company. These requirements are general and have been extracted from the CIRA Guide C753.

Table 12.5 - Operation and maintenance requirement for Green Roofs

(Also applies to blue roofs)

Table 21.3 - Operation and maintenance requirement for attenuation storage tanks

The Contractor delivering the development is to update the general requirements to reflect the product specific requirements of the as installed proprietary SuDS and incorporate these into the Operation & Maintenance manual for the building.

TABLE 12.5 Operation and maintenance requirements for green roofs

Maintenance schedule	Required action	Typical frequency
Regular inspections	Inspect all components including soil substrate, vegetation, drains, irrigation systems (if applicable), membranes and roof structure for proper operation, integrity of waterproofing and structural stability	Annually and after severe storms
	Inspect soil substrate for evidence of erosion channels and identify any sediment sources	Annually and after severe storms
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system	Annually and after severe storms
	Inspect underside of roof for evidence of leakage	Annually and after severe storms
Regular maintenance	Remove debris and litter to prevent clogging of inlet drains and interference with plant growth	Six monthly and annually or as required
	During establishment (ie year one), replace dead plants as required	Monthly (but usually responsibility of manufacturer)
	Post establishment, replace dead plants as required (where > 5% of coverage)	Annually (in autumn)
	Remove fallen leaves and debris from deciduous plant foliage	Six monthly or as required
	Remove nuisance and invasive vegetation, including weeds	Six monthly or as required
	Mow grasses, prune shrubs and manage other planting (if appropriate) as required – clippings should be removed and not allowed to accumulate	Six monthly or as required
Remedial actions	If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material, and sources of erosion damage should be identified and controlled	As required
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate	As required

TABLE 21.3 Operation and maintenance requirements for attenuation storage tanks

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

5.0 OUTLINE DRAINAGE STRATEGY

5.1 Surface Water System

The existing site constraints and Grade II listed buildings pose significant restrictions on the surface water management strategy, including how surface water is conveyed above ground level, due to existing features.

The sections of roof to the front of the existing building are to be collected at the building perimeter and connect into the existing surface water drainage run within the basement. This drainage run is to be re-laid due to its poor condition and adjustments to the basement floor levels. The drainage run is to connect to the existing outfall into the public sewer in Old Medlock Street. The reduced drained roof area into the basement system will be circa 172m², a circa 45% reduction in drained area to the sewer.

The sections of roof to the rear of the existing buildings and new rear extension are to be collected within the above ground surface water system and connect into the below ground drainage under the bin store adjacent to Woollam Place. The surface water is to connect into an attenuation tank, provided by an oversized manhole, prior to discharge into the public sewer system on Woollam Place at a restricted flow rate.

The unrestricted discharge to Old Medlock Street from the existing basement drainage route will be 3.3l/s, based on the proposed 172m² drained roof area. It is therefore proposed to restrict the surface water discharge, from the remaining 432m² roof area, into Woollam Place to 1.8l/s using a flow control device within the final manhole to ensure that the overall discharge rate from the site does not exceed the rate detailed within Section 3.2 of this report.

Due to the site constraints only circa 6.9m³ of storage can be practically provided below the bin store area. The remaining storage required to achieve the proposed limit to the discharge rate into the Woollam Place sewer is therefore proposed to be provided by a blue roof on the new extension upper roof.

The surface water drainage network is to be designed in accordance with Building Regulations Part H, BS EN 752 and Code for Adoption. In addition, the following requirements will also be adopted in accordance with the Non-Statutory Technical Standards for Sustainable Drainage: Practice Guidance and Manchester City Council SuDS requirements for new developments:

- The below ground drainage system will be designed to ensure there is no surcharging for a 1 in 2-year rainfall event.
- The below ground drainage system will be designed to ensure flooding does not occur on site for both the 1 in 30-year and 1 in 100-year rainfall events.
- The surface water system is to be designed to accommodate the 1-, 2-, 30- and 100-year return events with 45% climate change up to a 6hr duration for the free flow and surcharged outfall scenarios.

5.2 Foul Water System

The site will have a dedicated foul water network that will flow into a combined manhole on the site boundary and discharge into the public sewer system in Woollam Place via a new connection.

The drainage system is to be designed in accordance with Building Regulations Part H, BS EN 752, and Codes for Adoption.

5.3 Phasing & Surface Water Management During Construction

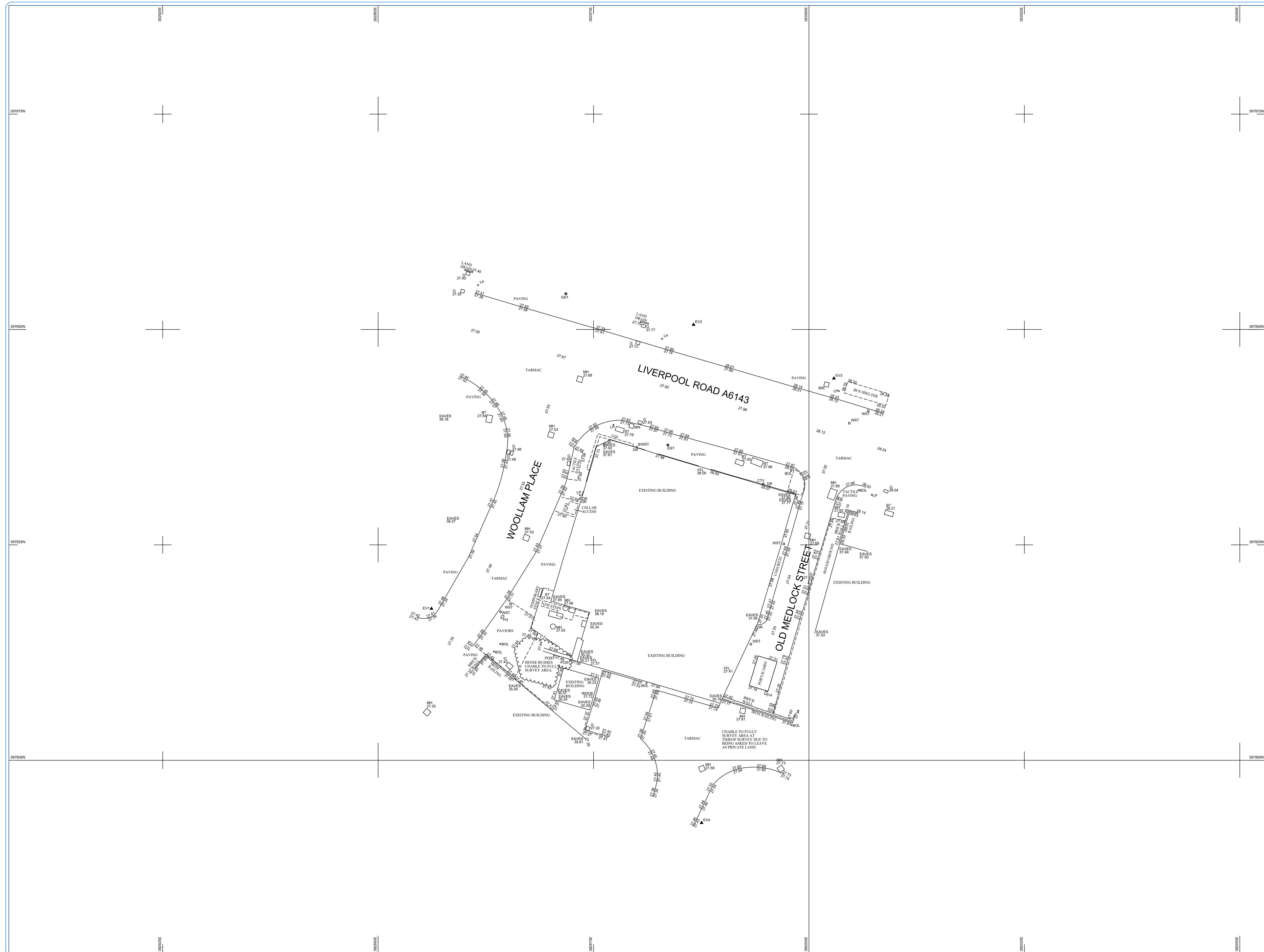
The development will be delivered in a single phase.

The management of surface water during construction will be addressed by the Main Contractor as part of their 'Construction Management Plan'.

A brief overview of the key considerations relating to surface water management and flood risk that will need to be incorporated into the Main Contractor's construction methodology include:

- Subject to the level of contamination beneath the site, level of site remediation, and quality of working platform compaction to reduce infiltration, consideration should be given to the risk of residual contamination on site affecting groundwater.
- The risk of spillage of diesel and other contamination risks during construction activities are to be assessed and measures implemented to ensure they do not cause a risk to groundwater.

APPENDIX A
Existing Topographical Survey



PLAN GRID NORTH

File Name: Layererv0001432.dwg

NOTES

All levels relate to OS (Newlyn) Datum. Established using Network RTK. Survey plotted on a plane Local Grid. Orientated to National Grid.

Services shown as 'From Statutory Authority Plans' line styles are taken from Statutory Records plans supplied by the relevant regional authority. These services were not located and are shown for indicative purposes only.

Please note survey control established for mapping only. Control shouldn't be used by third parties without confirmation from Layer Surveys.

Tree Spreads are symbolic only and are representative of the coverage spread.

Only manholes and services visible at time of survey shown.

Drainage information must be checked and verified with local authority records prior to work commencing.

Please note all drainage information and chamber position have be taken from CCTV condition survey.

LEGEND:

[illegible]

DISCLAIMER-

At Laysan Layer we used all range and experienced spot, modern as well as old techniques and top of the line equipment, and today we have a highly trained and experienced workforce. The performance of the equipment employed in non-livesaving present on Laysan is not the same as the equipment used in the past. Therefore Laysan cannot guarantee that all activities present on site are safe. The following are some of the hazards that may be encountered in regional coastal regions and underfield trail work where appropriate:

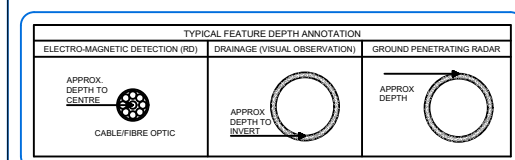
- **Slip, trip and fall** - The terrain is rugged and uneven, and is frequently covered with loose rocks and debris. Workers may slip or trip on these rocks and debris, or on the uneven terrain.
- **Exposure to the elements** - The weather is hot and sunny, and workers may be exposed to the sun, heat, and humidity. The displaced dune trail leads to the unfenced dunehead valley.
- **Wildlife encounters** - The area is home to many native plants and animals, including the Laysan duck. Workers may be disturbed by the presence of these animals, and may be injured by them. The dune trail is a wet trail, and it is possible that workers will be exposed to the water. It is not possible to guarantee that the trail is safe, and workers should be aware of the risks.
- **Accidents** - Workers may be injured by falling rocks or debris, or by tripping over uneven terrain. Workers should be aware of the risks and take appropriate precautions.

Some above ground features that we have observed of the trail are:

- **Slip, trip and fall** - The terrain is rugged and uneven, and is frequently covered with loose rocks and debris. Workers may slip or trip on these rocks and debris, or on the uneven terrain.
- **Exposure to the elements** - The weather is hot and sunny, and workers may be exposed to the sun, heat, and humidity.
- **Wildlife encounters** - The area is home to many native plants and animals, including the Laysan duck. Workers may be disturbed by the presence of these animals, and may be injured by them.
- **Accidents** - Workers may be injured by falling rocks or debris, or by tripping over uneven terrain. Workers should be aware of the risks and take appropriate precautions.

Having received information that date was provided by Laysan by the Laysan Island Council, we have been informed that the Laysan Island Council is not responsible for the information that should be regarded only as an indication and cannot be guaranteed.

Excavation in the vicinity of services should be carried out with the same care and attention as the excavation of the Laysan Island Council.



STATION CO-ORDINATES			
Name	Easting	Northing	Height
EV1	302966.185	207917.692	27.448
EV4	302987.537	207932.737	27.466
EV2	302986.603	207950.561	27.860
EV3	303002.693	207944.329	28.157

REV	DATE	DESCRIPTION
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LAYER SURVEYS LTD
SEE THE COMPLETE PICTURE

Client
Renaissance
Carvers Warehouse
77 Dale Street
Manchester, M1 2HG

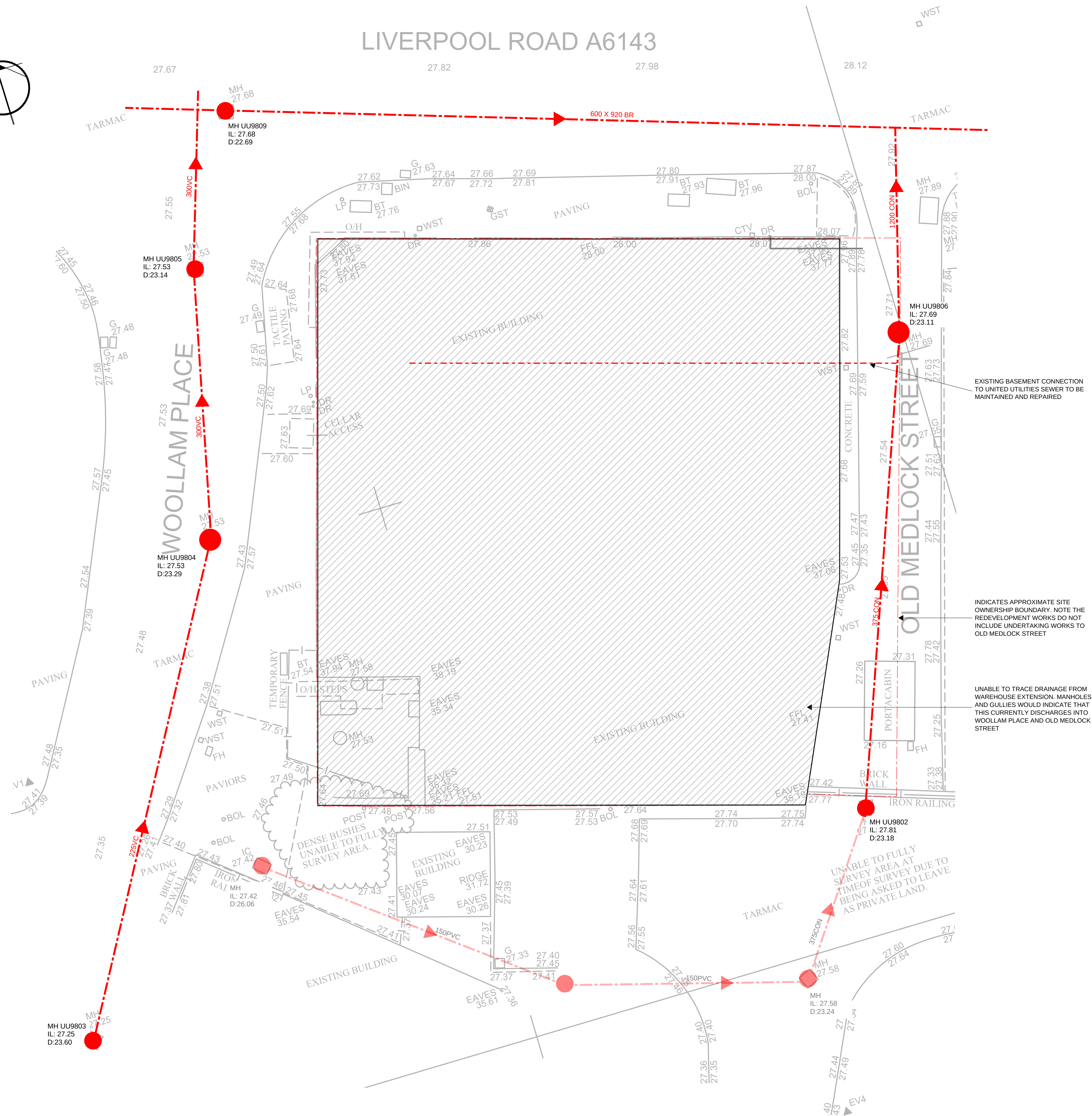
Project Title
Liverpool Road
Manchester, M3 4NQ

Drawing Ref. 1432		Surveyed T.W		Checked Layer Surveys		
Scale 1:200	Date September 200	Drawn L.T	No. 01	Size A1	Rev	

APPENDIX B
Existing Drained Area Plan

1. THIS DRAWING INDICATES THE APPROX DRAINED FROM THE EXISTING DEVELOPMENT.
2. FOR CCTV AND DRAINAGE SURVEY REFER TO LAYER SURVEYS LTD REFERENCE LAYERSERV0001432 DATED 14.09.22.

INDICATES 601m² OF IMPERMEABLE ROOF AND HARD
PAVED AREAS



P01	RIBA STAGE 3	04.01.23	SA	PW
Rev:	Description:	Date:	By:	Chd:
		Renaissance Associates Carvers Warehouse 77 Dale Street Manchester M1 2HG		
Project:				
LIVERPOOL ROAD MANCHESTER				
Drawing Title:				
EXISTING DRAINED AREA PLAN				
Status:				
STAGE 3				
Size:	JAN '23	Drawn by:	SA	Checked by:
A1		SA	-	PW
Scale:	1:100			
Project No:		2205-02		
Project:	Originator:	Volume:	Level:	Type:
Role:		Category/Number:		
Rev:				
LRH-REN-XX-FN-DR-C-00050-P01				

APPENDIX C
United Utilities Sewer Records

renaissance

Carvers Warehouse
77 Dale Street, renaissance
Manchester,
M1 2HG

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: Liverpool Road
Our Ref: UUPS-ORD-400107
Date: 07/06/2022**

Dear Sirs

Location: 123 LIVERPOOL ROAD, MANCHESTER, M3 4JN

I acknowledge with thanks your request dated 31/05/2022 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



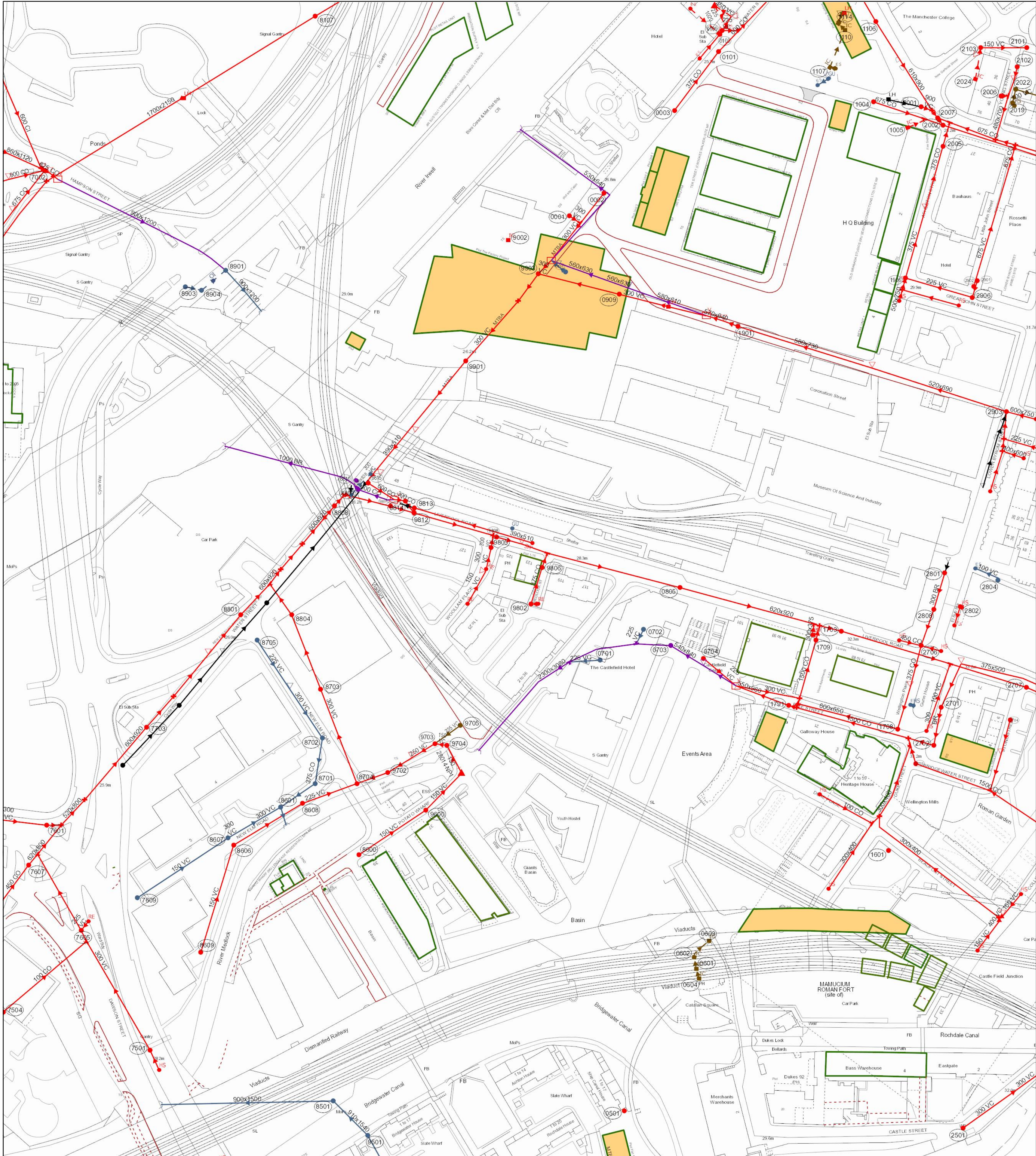
Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

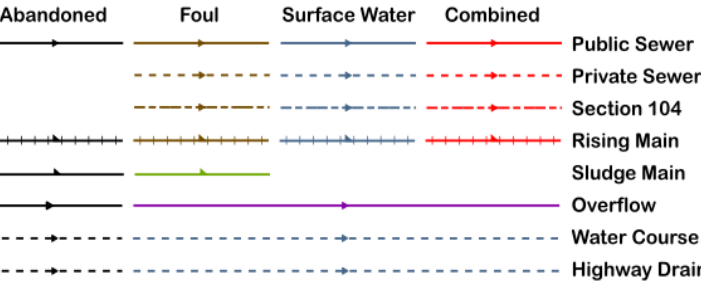
TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
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- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



Reho	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad
2901	225	CO	0	225			VC	8.942094	
2019	100	VC	0	100			VC	7.788029	
2103	0	VC	0	25			VC	25.421	
2902	675	VC	0	675			VC	66.70077	
9501	0	SW	0	910			VC	26.74985	
9808	27.56	CO	22.37	600			BR	14.52175	1 in 67
9808	26.07	CO	22.52	600			BR	7.952229	1 in 81
9807	26.52	CO	22.49	600			VC	13.20272	1 in 475
9814	26.56	CO	22.61	300			CO	8.002617	
9807	26.52	CO	22.49	600			VC	39.10406	
2022	0	VC	0	100			BR	47.51432	
9813	26.82	CO	22.92	300			VC	13.90394	
1709	31.39	CO	22.67	1500			CO	2.789395	
9800	0	VC	0	150			VC	8.246211	
2906	0	VC	0	225			VC	44.4917	
1791	29.37	CO	24.12	550			VC	38.33615	1 in 100
1901	28.95	CO	25	490			BR	30.95233	1 in 85
2005	28.13	CO	23.27	375			BR	8.544003	
9810	26.1	OV	22.39	1000			BR	13.67289	
7504	0	CO	0	100			BR	74.46583	
2903	33.04	CO	22.92	600			CO	60.30754	
2006	28.55	CO	28.22	150			VC	14.92341	
9704	0	VC	0	150			VC	6.711432	
7703	25.81	CO	22.63	600			BR	22.67157	
0702	25.59	SW	24.74	225			VC	8.944272	1 in 226
9003	25.85	CO	23.3	375			CO	49.6	1 in 121
9815	26.18	CO	22.87	600			CO	16.98176	1 in 173
9801	26.17	CO	23.18	300			VC	46.58489	1 in 557
8704	26.52	CO	23.45	300			VC	55.71355	
7607	26.21	CO	22.82	620			BR	24.2578	
9805	29.54	CO	22.25	620			BR	79.81735	
2001	27.8	CO	0	900			VC	6.334555	1 in 365
0101	25.65	CO	23.45	600			CO	40.15522	
0103	0	CO	0	25			VC	2.43491	
2102	26.41	CO	25.48	450			BR	8.246211	1 in 4
9705	25.83	FO	23.66	225			VC	17.20465	1 in 1293
2707	33.5	CO	22.19	600			BR	63.15933	
9703	25.88	CO	19.09	250			VC	15.26434	
9904	0	UN	0	17.21408			BR	17.21408	
2801	33.17	CO	30.67	300			BR	20.80691	1 in 54
0001	26.17	CO	23.61	300			VC	7.434013	
2907	0	OV	0	610			BR	5	
0703	25.81	OV	22.78	2300			BR	128.3602	1 in 74
9806	26.12	SW	24.73	225			VC	32.44996	
7002	27.6	CO	23.35	825			CO	3.31308	
7605	26.68	CO	23.09	300			VC	48.37355	1 in 164
2802	0	VC	0	150			VC	10.86986	1 in 97
9702	25.86	CO	23.58	300			VC	16.02776	
9808	26.42	CO	23.8	225			VC	31.95369	
7601	26.07	CO	23.34	300			VC	28.34524	
9801	25.83	CO	22.55	600			VC	9.339599	
0109	25.65	CO	24.01	225			VC	45.95947	1 in 68
0109	25.65	CO	24.01	225			VC	9.238211	
8702	26.47	SW	23.83	375			CO	25.31798	
0002	26.65	CO	23.81	300			VC	47.20398	
1106	27.68	CO	22.82	610			BR	57.96276	1 in 29
9806	27.43	CO	22.78	375			CO	8.844023	
9807	26.44	SW	24.28	300			VC	33.61547	1 in 254
2702	33.12	CO	25.87	1500			VC	14.96022	1 in 36
7501	28.1	CO	23.41	300			VC	76.17043	1 in 81
1004	25.65	CO	22.97	675			CO	40.34933	1 in 178
0704	26.25	CO	23.77	225			VC	23.5724	
8606	26.46	CO	24.07	225			VC	44.41945	
1703	31.99	CO	22.21	620			BR	106.9277	
9501	0	SW	0	900			VC	95.02105	
9503	26.37	CO	23.46	300			VC	18.60108	
9600	0	VC	0	150			VC	28.36117	
0701	25.8	SW	24.47	225			VC	17.02929	1 in 299
2501	31.09	CO	24.95	300			VC	68.8186	1 in 54
2808	27.01	CO	30.28	375			CO	21.18962	1 in 60
9802	27.01	CO	25.15	375			BR	20.80691	1 in 37
2903	32.21	CO	25.18	520			VC	77.7496	
9805	27.41	CO	23.01	300			VC	6.831364	
2804	33.44	CO	30.36	480			BR	15.06894	
2704	33.44	CO	30.36	480			BR	19.64688	
1708	32.57	CO	26.15	600			CO	56.75385	1 in 339
8703	26.23	CO	23.33	300			VC	44.01136	
9803	0	SW	0	900			UN	9.132774	
2002	28.04	CO	22.74	610			BR	84.11897	1 in 1402
8804	27.08	CO	23.18	300			VC	20.98865	
0901	26.68	SW	23.4	400			VC	20.98865	1 in 26
2706	32.91	CO	25.87	375			CO	23.79973	
9801	26.41	SW	23.12	375			CO	10.44031	
8609	0	VC	0	150			VC	61.65468	
7609	26.52	SW	23.71	150			VC	59.90826	
2701	33.05	CO	28.12	300			BR	10.18964	1 in 77
8701	26.44	SW	25.44	375			CO	23.03173	
8107	0	CO	0	1700			BR	173.7384	
9801	0	SW	0	900			BR	30.17171	

LEGEND



All point assets follow the standard colour convention:
red - combined
brown - foul
blue - surface water
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
- Lamp Hole
- T Junction / Saddle
- 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
- EG Egg
- FT Flat Top
- RE Rectangular
- SQ Square
- TR Trapezoidal
- AR Arch
- BA Barrel
- HO HorseShoe
- UN Unspecified

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 Culvert
- 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:

123 LIVERPOOL ROAD,
MANCHESTER,
M3 4JN

Scale: 1:1250 Date: 07/06/2022

Sheet: 1 of 1

Printed by: Property Searches

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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APPENDIX D

Proposed Development Plans

General Notes

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Main Contractor to submit relevant documents to building regulation and legislation approval authorities as required to comply with the Specification.

Legend and Notes

- Hotel Room
- Amenity
- Commercial
- Circulation
- Back of House

- DR Dry Riser
- ER Electrical Riser
- MR Mechanical Riser
- NSS Natural Smoke Shaft
- MSS Mechanical Smoke Shaft

Existing Building General Notes

All windows proposed to be retained within the scheme are to be replaced with replicas of the original six over six sashes to the ground and first floor levels and three over six sashes to the second floor level. Refer to Window Schedule and Historic Consultant Report for further information.

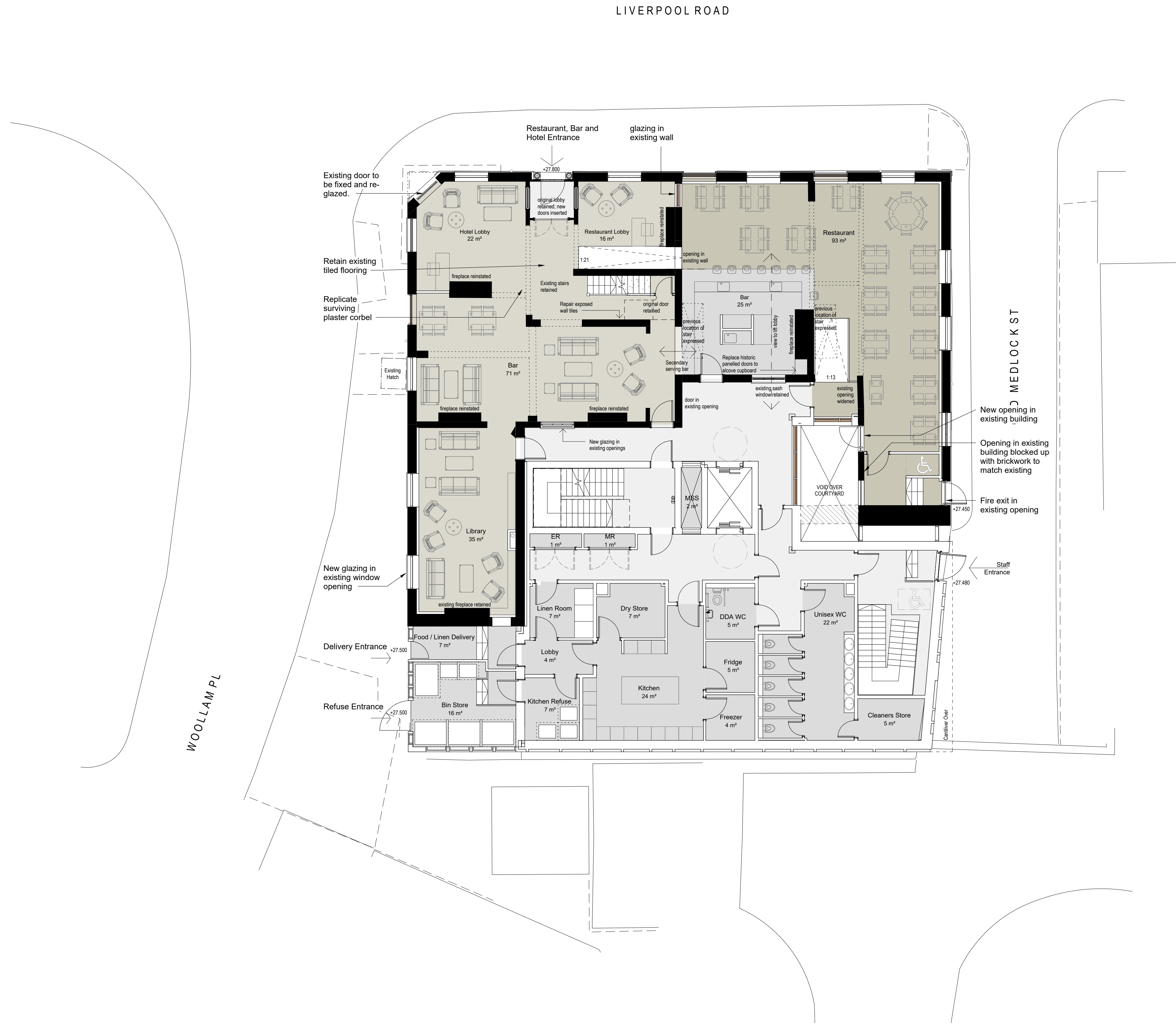
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All skirting boards to be replaced using historic templates from the building as reference.

All cornicing to be recreated using mouldings of fragments remaining within the building.

New fire surrounds of an authentic period and design to be reintroduced where possible.

Retain surviving timber window surrounds and panelling and replace any lost areas using the surviving parts as a template.



Rev	Description	Date	By
P01	Co-ordination Issue	18.10.22	LS
P02	Co-ordination with Orion Fire comments, issued for building control	01.12.22	AV
P03	Interior Design Issue	08.12.22	AV
P04	Stage 03 Preliminary Issue	20.12.22	AV

Title
General Arrangement - Level 00

Drawing No.
1073-TGA-XX-00-DR-A-03000

Revision
P04

Status
Stage 03

Scale
1:100@A1

Project
Liverpool Road

Client
DOMIS Construction

TIM GROOM ARCHITECTS

Eastgate, 2 Castle Street, Manchester, M3 4LZ

0161 870 1152

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- Amenity
- Commercial
- Circulation
- Back of House

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ER	Electrical Riser
MR	Mechanical Riser
NSS	Natural Smoke Shaft
MSS	Mechanical Smoke Shaft

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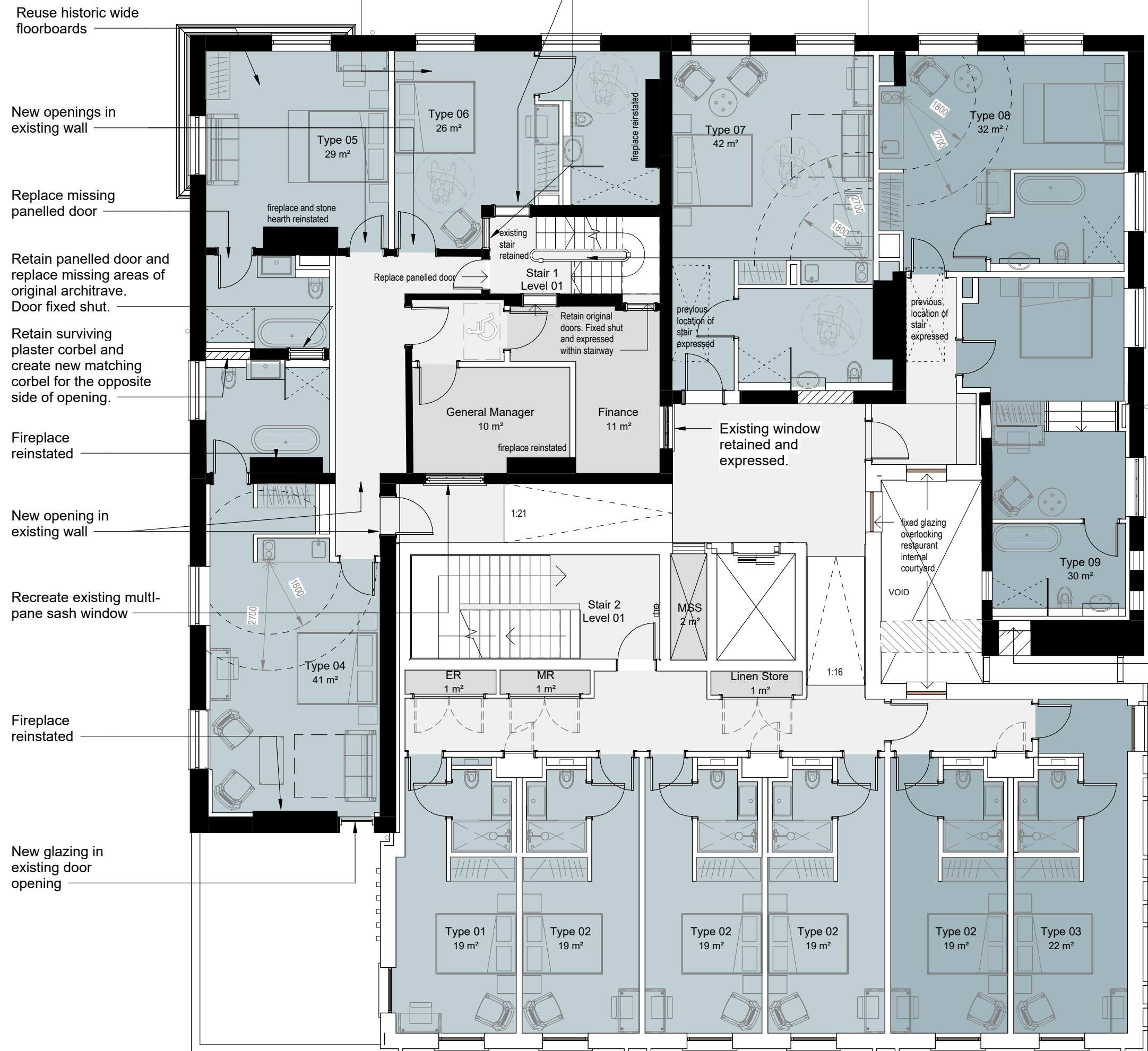
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P02	Co-ordination with Orion Fire comments, issued for building control	01.12.22	AV
P03	Interior Design Issue	08.12.22	AV
P04	Stage 03 Preliminary Issue	20.12.22	AV

Drawing No. 1073-TGA-XX-01-DR-A-03001 Revision P04

Drawing No. 1073-TGA-XX-01-DR-A-03001 Revision P04

Status Stage 03

Project: **Liverpool Road** Client: **DOMIS Construction**

TIM GROOM ARCHITECTS

Eastgate, 2 Castle Street, Manchester, M3 4LZ

0161 870 1152

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Legend and Notes

- Hotel Room
- Amenity
- Commercial
- Circulation
- Back of House

- DR Dry Riser
- ER Electrical Riser
- MR Mechanical Riser
- NSS Natural Smoke Shaft
- MSS Mechanical Smoke Shaft

Existing Building General Notes

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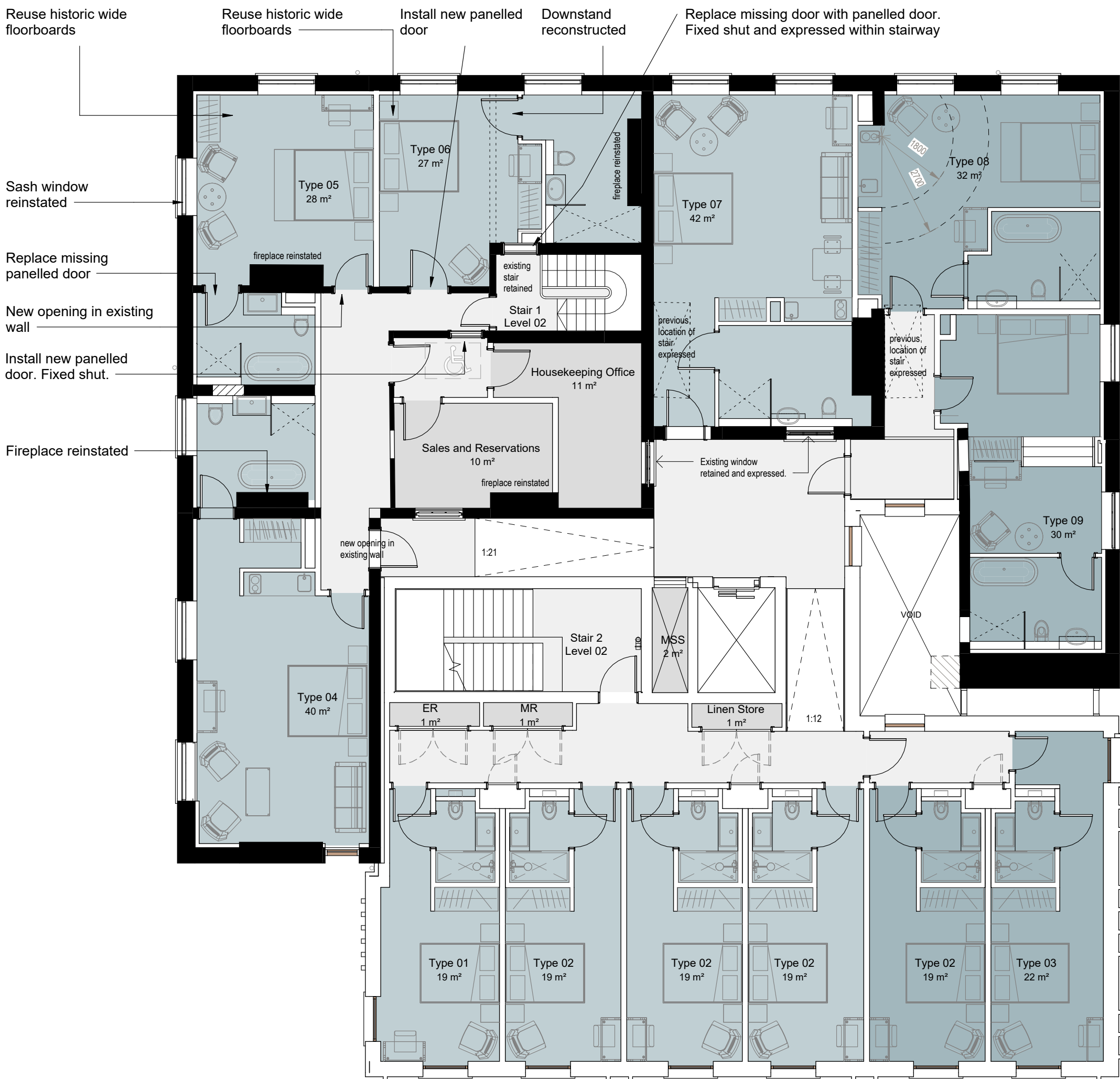
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P02	Co-ordination with Orion Fire comments, issued for building control	01.12.22	AV
P03	Interior Design Issue	08.12.22	AV
P04	Stage 03 Preliminary Issue	20.12.22	AV

Title
General Arrangement - Level 02

Drawing No.
1073-TGA-XX-02-DR-A-03002

Revision
P04

Status
Stage 03

Scale
1 : 100@A1

Project
Liverpool Road

Client
DOMIS Construction

TIM GROOM ARCHITECTS

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Legend and Notes

- Hotel Room
- Amenity
- Commercial
- Circulation
- Back of House
- Dry Riser
- Electrical Riser
- Mechanical Riser
- Natural Smoke Shaft
- Mechanical Smoke Shaft

Existing Building General Notes

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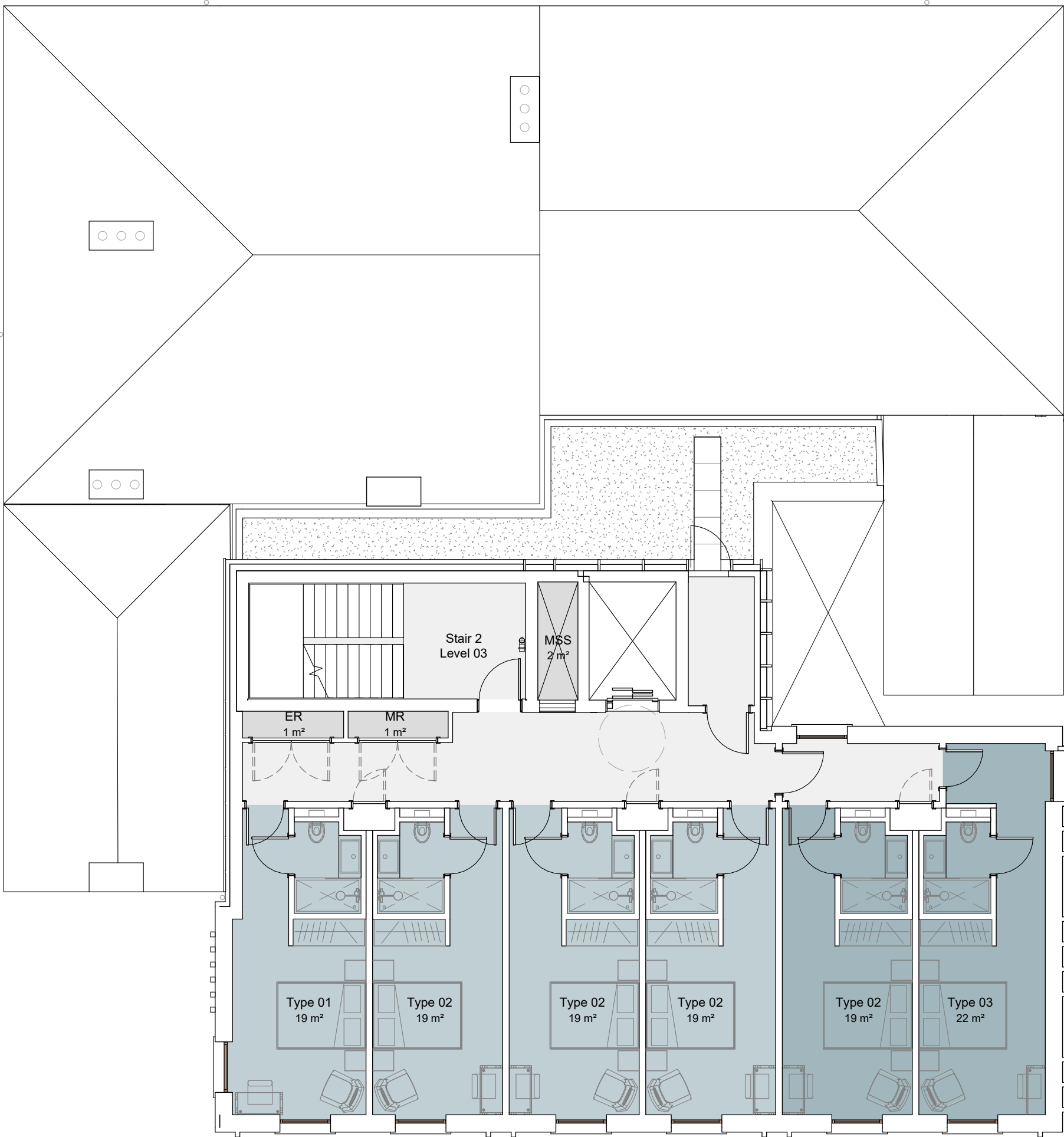
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P02	Co-ordination with Orion Fire comments, issued for building control	01.12.22	AV
P03	Interior Design Issue	08.12.22	AV
P04	Stage 03 Preliminary Issue	20.12.22	AV

Title
General Arrangement - Level 03

Drawing No. 1073-TGA-XX-03-DR-A-03003
Revision P04

Status Stage 03
Scale 1 : 100@A1

Project Liverpool Road
Client DOMIS Construction

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Legend and Notes

- Hotel Room
- Amenity
- Commercial
- Circulation
- Back of House

- DRDry Riser
- ERElectrical Riser
- MRMechanical Riser
- NSSNatural Smoke Shaft
- MSSMechanical Smoke Shaft

Existing Building General Notes

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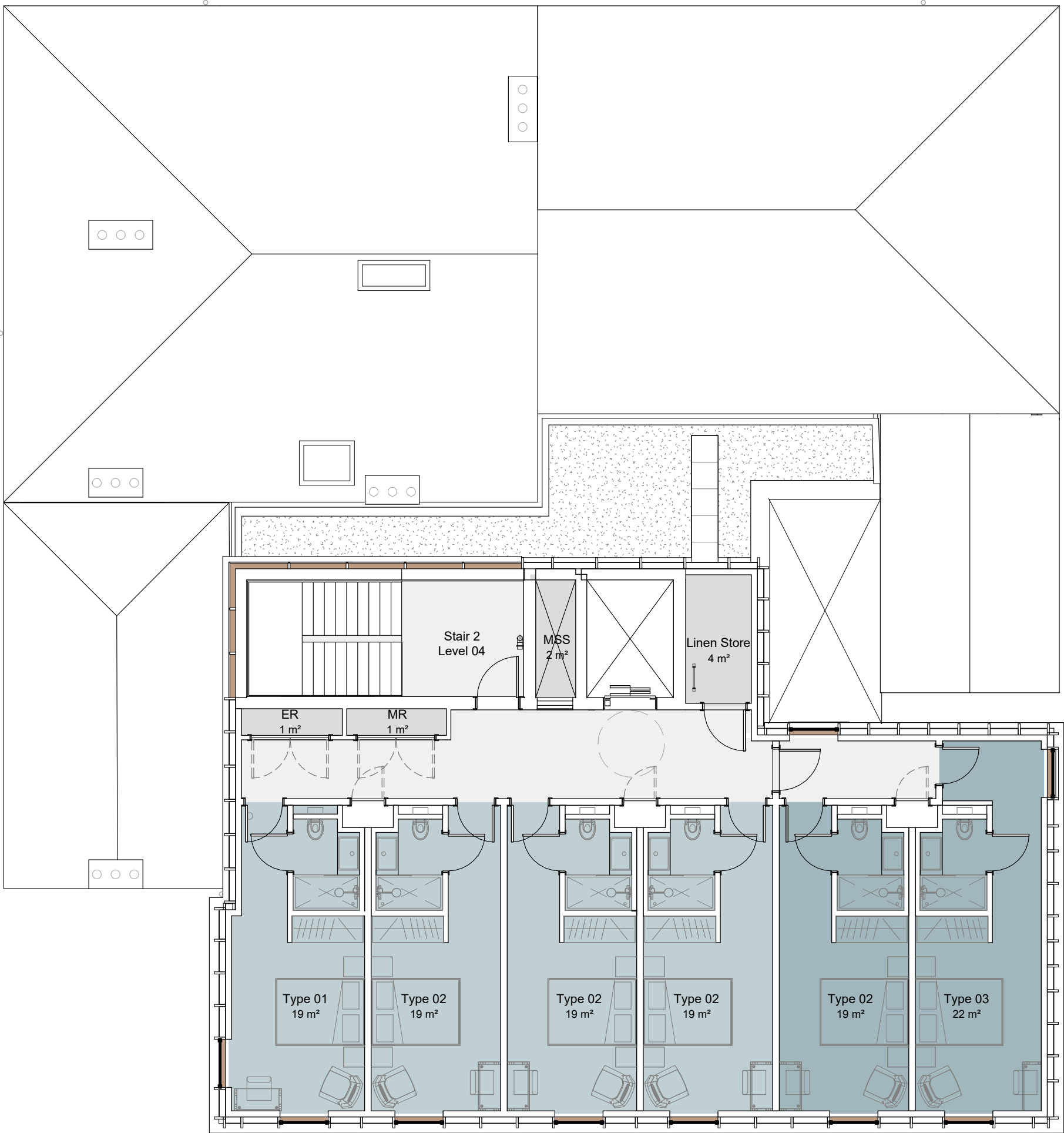
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P02	Co-ordination with Orion Fire comments, issued for building control	01.12.22	AV
P03	Interior Design Issue	08.12.22	AV
P04	Stage 03 Preliminary Issue	20.12.22	AV

Title
General Arrangement - Level 04

Drawing No. 1073-TGA-XX-04-DR-A-03004
Revision P04

Status Stage 03
Scale 1 : 100@A1

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Client DOMIS Construction

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- Hotel Room
- Amenity
- Commercial
- Circulation
- Back of House

DR	Dry Riser
ER	Electrical Riser
MR	Mechanical Riser
NSS	Natural Smoke Shaft
MSS	Mechanical Smoke Shaft

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P02	Co-ordination with Orion Fire comments, issued for building control	01.12.22	AV
P03	Interior Design Issue	08.12.22	AV
P04	Stage 03 Preliminary Issue	20.12.22	AV

Drawing No. 1073-TGA-XX-B1-DR-A-03010 Revision P04

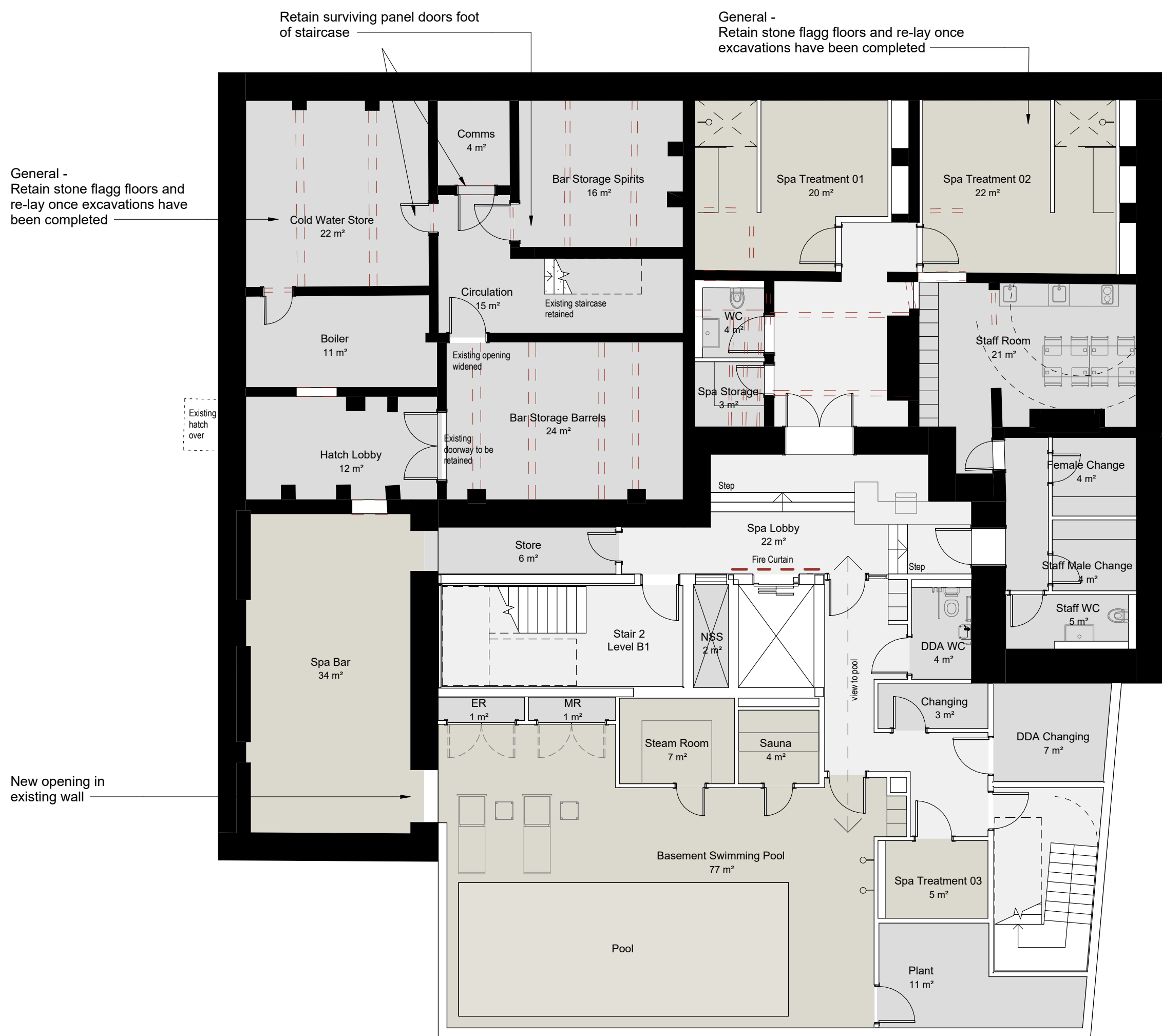
Status Stage 03 1:100@A1

Project
Liverpool Road

Client
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Eastgate, 2 Castle Street, Manchester, M3 4LZ 0161 870 1152

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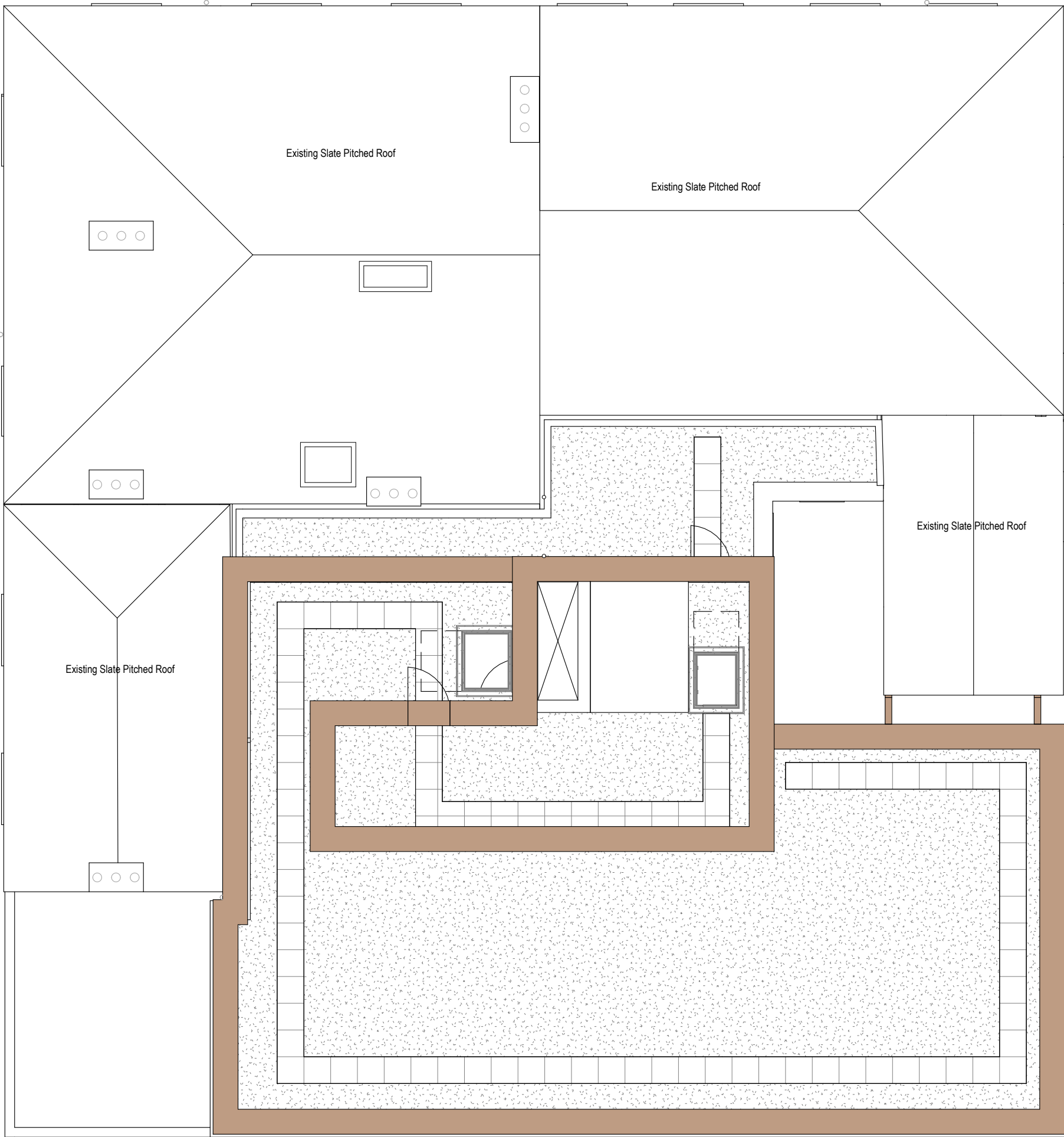
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Drawings to be read in conjunction with Architectural Specification, Structural Engineer's Drawings and Specifications, Mechanical & Electrical Engineer's Drawings and Specifications, all Supplemental Information, including but not limited to: Detailed Fire Strategy, Acoustic Report, Thermal Report & Overheating Report.

No portion of the Works to commence without acceptance of the required submittals by the Employer.

Main Contractor to submit relevant documents to building regulation and legislation approval authorities as required to comply with the Specification.



Roof top plant to ME spec- to be unobstrusive from street.
Grey denotes new gutter.
Existing eaves gutters to be replaced or made good as necessary.

Rev	Description	Date	By
P01	Co-ordination Issue	18.10.22	LS
P02	Co-ordination with Orion Fire comments, issued for building control	01.12.22	AV
P03	Interior Design Issue	08.12.22	AV
P04	Stage 03 Preliminary Issue	20.12.22	AV

Title
General Arrangement - Roof Level

Drawing No. 1073-TGA-XX-RF-DR-A-03005
Revision P04

Status Stage 03
Scale 1 : 100@A1

Project Liverpool Road
Client DOMIS Construction

TIM GROOM ARCHITECTS

Eastgate, 2 Castle Street, Manchester, M3 4LZ 0161 870 1152

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APPENDIX E
Micro Drainage Pre-Development Surface Water Run-Off

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Innovyze	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.359	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.040	4-8	0.020

Total Area Contributing (ha) = 0.060

Total Pipe Volume (m³) = 0.707

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	20.000	0.200	100.0	0.060	5.00	0.0	0.600	o	150	Pipe/Conduit	
1.001	20.000	0.200	100.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	45.48	5.33	18.000	0.060	0.0	0.0	0.0	1.00	17.8	7.4
1.001	44.30	5.66	17.800	0.060	0.0	0.0	0.0	1.00	17.8	7.4

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.060	0.060	0.060
1.001	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.060	0.060	0.060

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
---------------------	--------------	--------------	--------------	------------------	----------	--------

1.001		20.000	17.600	0.000	0	0
-------	--	--------	--------	-------	---	---

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.359		

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Summary Wizard of 60 minute 1 year Summer I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.356
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	60
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	1	7	18.055	-0.095	0.000	0.29		4.8	OK
1.001	2	7	17.855	-0.095	0.000	0.29		4.8	OK

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Summary Wizard of 60 minute 2 year Summer I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.356
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	60
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	1	5	18.063	-0.087	0.000	0.37		6.2	OK
1.001	2	5	17.863	-0.087	0.000	0.37		6.1	OK

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Summary Wizard of 60 minute 30 year Summer I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.356
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	60
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	3	18.093	-0.057	0.000	0.70		11.7	OK
1.001	2	3	17.893	-0.057	0.000	0.70		11.6	OK

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Summary Wizard of 60 minute 100 year Summer I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.356
Region England and Wales	Cv (Summer)	0.750	
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	60
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	1	18.113	-0.037	0.000	0.92		15.4	OK
1.001	2	1	17.913	-0.037	0.000	0.91		15.3	OK

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Summary Wizard of 60 minute 1 year Winter I+0% for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0
 Number of Online Controls 0 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.356
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status OFF
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 60
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	8	18.049	-0.101	0.000	0.23		3.9	OK
1.001	2	8	17.849	-0.101	0.000	0.23		3.9	OK

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Summary Wizard of 60 minute 2 year Winter I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.356
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	60
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	1	6	18.056	-0.094	0.000	0.30		5.0	OK
1.001	2	6	17.856	-0.094	0.000	0.30		5.0	OK

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Summary Wizard of 60 minute 30 year Winter I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.356
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	60
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	4	18.081	-0.069	0.000	0.57		9.5	OK
1.001	2	4	17.881	-0.069	0.000	0.57		9.5	OK

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Summary Wizard of 60 minute 100 year Winter I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.356
Region England and Wales	Cv (Summer)	0.750	
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	60
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 0

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	2	18.097	-0.053	0.000	0.75		12.5	OK
1.001	2	2	17.897	-0.053	0.000	0.74		12.4	OK

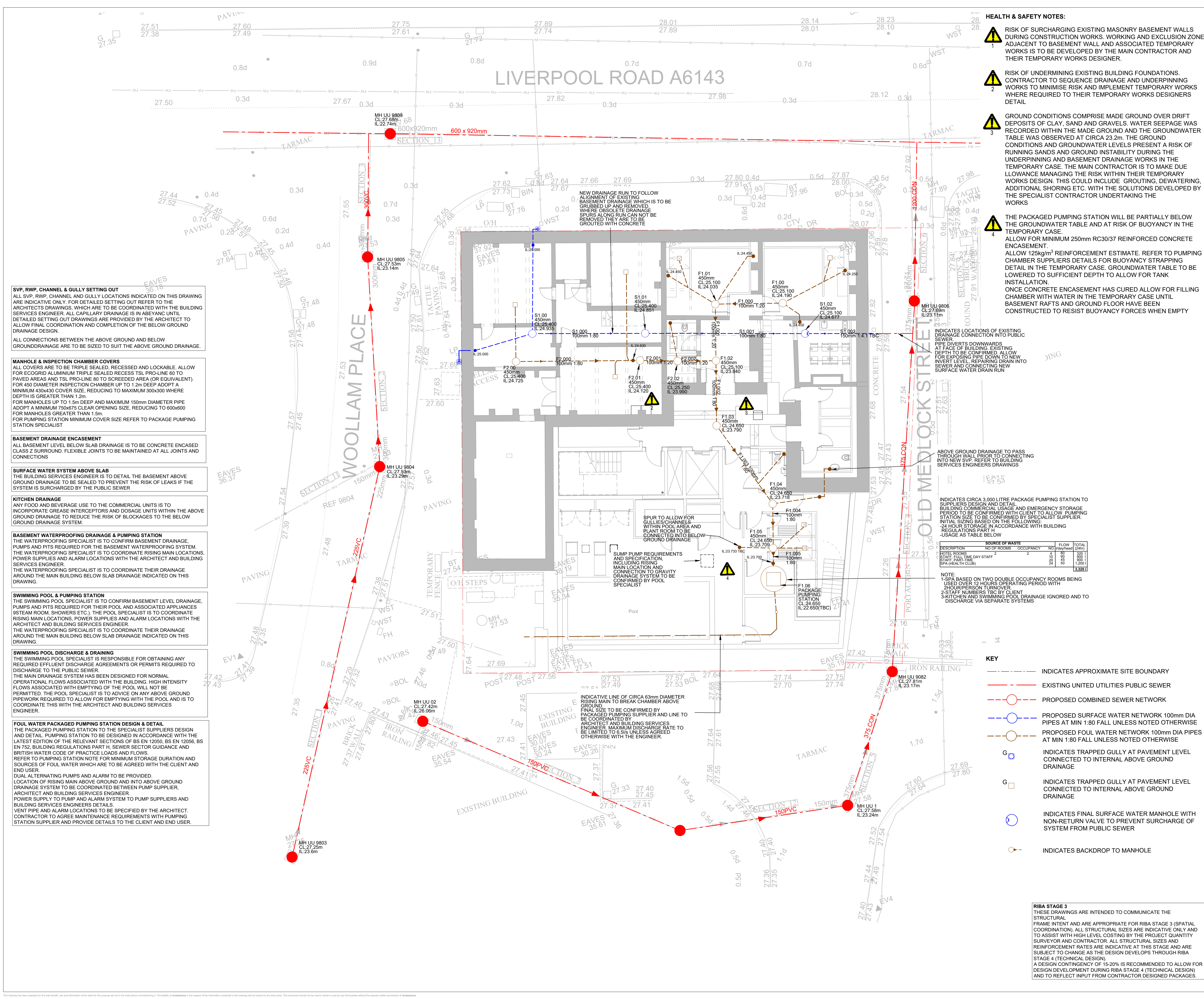
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APPENDIX F

Micro Drainage Greenfield Run-Off Rates

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Carvers Warehouse 77 Dale Street Manchester M1 2HG		
Date 13/06/2022 11:27 File	Designed by SelvanaAhmad Checked by	
Innovyze	Source Control 2020.1.3	
<u>ICP SUDS Mean Annual Flood</u> Input Return Period (years) 2 Soil 0.450 Area (ha) 0.060 Urban 0.750 SAAR (mm) 864 Region Number Region 10 Results 1/s QBAR Rural 0.3 QBAR Urban 0.8 Q2 years 0.9 Q1 year 0.7 Q30 years 1.2 Q100 years 1.3		
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APPENDIX G
Proposed Below Ground Drainage Drawings



HEALTH & SAFETY NOTES:

- 1**

RISK OF SURCHARGING EXISTING MASONRY BASEMENT WALLS DURING CONSTRUCTION WORKS. WORKING AND EXCLUSION ZONE ADJACENT TO BASEMENT WALL AND ASSOCIATED TEMPORARY WORKS IS TO BE DEVELOPED BY THE MAIN CONTRACTOR AND THEIR TEMPORARY WORKS DESIGNER.
- 2**

RISK OF UNDERMINING EXISTING BUILDING FOUNDATIONS. CONTRACTOR TO SEQUENCE DRAINAGE AND UNDERPINNING WORKS TO MINIMISE RISK AND IMPLEMENT TEMPORARY WORKS WHERE REQUIRED TO THEIR TEMPORARY WORKS DESIGNERS DETAIL
- 3**

GROUND CONDITIONS COMPRISE MADE GROUND OVER DRIFT DEPOSITS OF CLAY, SAND AND GRAVELS. WATER SEEPAGE WAS RECORDED WITHIN THE MADE GROUND AND THE GROUNDWATER TABLE WAS OBSERVED AT CIRCA 23.2m. THE GROUND CONDITIONS AND GROUNDWATER LEVELS PRESENT A RISK OF RUNNING SANDS AND GROUND INSTABILITY DURING THE UNDERPINNING AND BASEMENT DRAINAGE WORKS IN THE TEMPORARY CASE. THE MAIN CONTRACTOR IS TO MAKE DUE ALLOWANCE MANAGING THE RISK WITHIN THEIR TEMPORARY WORKS DESIGN. THIS COULD INCLUDE GROUTING, DEWATERING, ADDITIONAL SHORING ETC. WITH THE SOLUTIONS DEVELOPED BY THE SPECIALIST CONTRACTOR UNDERTAKING THE WORKS
- 4**

THE PACKAGED PUMPING STATION WILL BE PARTIALLY BELOW THE GROUNDWATER TABLE AND AT RISK OF BUOYANCY IN THE TEMPORARY CASE. ALLOW FOR MINIMUM 250mm RC30/37 REINFORCED CONCRETE ENCASEMENT. ALLOW 125kg/m³ REINFORCEMENT ESTIMATE. REFER TO PUMPING CHAMBER SUPPLIERS DETAILS FOR BUOYANCY STRAPPING DETAIL IN THE TEMPORARY CASE. GROUNDWATER TABLE TO BE LOWERED TO SUFFICIENT DEPTH TO ALLOW FOR TANK INSTALLATION. ONCE CONCRETE ENCASEMENT HAS CURED ALLOW FOR FILLING CHAMBER WITH WATER IN THE TEMPORARY CASE UNTIL BASEMENT RAFTS AND GROUND FLOOR HAVE BEEN CONSTRUCTED TO RESIST BUOYANCY FORCES WHEN EMPTY

SVP, RWP, CHANNEL & GULLY SETTING OUT
ALL SVP, RWP, CHANNEL AND GULLY LOCATIONS INDICATED ON THIS DRAWING ARE INDICATIVE ONLY. FOR DETAILED SETTING OUT REFER TO THE ARCHITECTS DRAWINGS, WHICH ARE TO BE COORDINATED WITH THE BUILDING SERVICES ENGINEER. ALL CAPILLARY DRAINAGE IS IN ABEYANCE UNTIL DETAILED SETTING OUT DRAWINGS ARE PROVIDED BY THE ARCHITECT TO ALLOW FINAL COORDINATION AND COMPLETION OF THE BELOW GROUND DRAINAGE DESIGN.
ALL CONNECTIONS BETWEEN THE ABOVE GROUND AND BELOW GROUND DRAINAGE ARE TO BE SIZED TO SUIT THE ABOVE GROUND DRAINAGE.

MANHOLE & INSPECTION CHAMBER COVERS
ALL COVERS ARE TO BE TRIPLE SEALED, RECESSED AND LOCKABLE. ALLOW FOR ECOGRID ALUMINIUM TRIPLE SEALED RECESS TSL PRO-LINE 80 TO PAVED AREAS AND TSL PRO-LINE 80 TO SCREEDED AREA (OR EQUIVALENT). FOR 450 DIAMETER INSPECTION CHAMBER UP TO 1.2m DEEP ADOPT A MINIMUM 430x430 COVER SIZE, REDUCING TO MAXIMUM 300x300 WHERE DEPTH IS GREATER THAN 1.2m.
FOR MANHOLES UP TO 1.5m DEEP AND MAXIMUM 150mm DIAMETER PIPE ADOPT A MINIMUM 750x75 CLEAR OPENING SIZE, REDUCING TO 600x600 FOR MANHOLES GREATER THAN 1.5m.
FOR PUMPING STATION MINIMUM COVER SIZE REFER TO PACKAGE PUMPING STATION SPECIALIST

BASEMENT DRAINAGE ENCASEMENT
ALL BASEMENT LEVEL, BELOW SLAB DRAINAGE IS TO BE CONCRETE ENCASED CLASS 2 SURROUND. FLEXIBLE JOINTS TO BE MAINTAINED AT ALL JOINTS AND CONNECTIONS

SURFACE WATER SYSTEM ABOVE SLAB
THE BUILDING SERVICES ENGINEER IS TO DETAIL THE BASEMENT ABOVE GROUND DRAINAGE TO BE SEALED TO PREVENT THE RISK OF LEAKS IF THE SYSTEM IS SURCHARGED BY THE PUBLIC SEWER

KITCHEN DRAINAGE
ANY FOOD AND BEVERAGE USE TO THE COMMERCIAL UNITS IS TO INCORPORATE GREASE INTERCEPTORS AND DOSAGE UNITS WITHIN THE ABOVE GROUND DRAINAGE TO REDUCE THE RISK OF BLOCKAGES TO THE BELOW GROUND DRAINAGE SYSTEM.

BASEMENT WATERPROOFING DRAINAGE & PUMPING STATION
THE WATERPROOFING SPECIALIST IS TO CONFIRM BASEMENT DRAINAGE, PUMPS AND PITS REQUIRED FOR THE BASEMENT WATERPROOFING SYSTEM. THE WATERPROOFING SPECIALIST IS TO COORDINATE RISING MAIN LOCATIONS, POWER SUPPLIES AND ALARM LOCATIONS WITH THE ARCHITECT AND BUILDING SERVICES ENGINEER.
THE WATERPROOFING SPECIALIST IS TO COORDINATE THEIR DRAINAGE AROUND THE MAIN BUILDING BELOW SLAB DRAINAGE INDICATED ON THIS DRAWING.

SWIMMING POOL & PUMPING STATION
THE SWIMMING POOL SPECIALIST IS TO CONFIRM BASEMENT LEVEL DRAINAGE, PUMPS AND PITS REQUIRED FOR THEIR POOL, AND ASSOCIATED APPLIANCES (STEAM ROOM, SHOWERS ETC.). THE POOL SPECIALIST IS TO COORDINATE RISING MAIN LOCATIONS, POWER SUPPLIES AND ALARM LOCATIONS WITH THE ARCHITECT AND BUILDING SERVICES ENGINEER.
THE WATERPROOFING SPECIALIST IS TO COORDINATE THEIR DRAINAGE AROUND THE MAIN BUILDING BELOW SLAB DRAINAGE INDICATED ON THIS DRAWING.

SWIMMING POOL DISCHARGE & DRAINING
THE SWIMMING POOL SPECIALIST IS RESPONSIBLE FOR OBTAINING ANY REQUIRED EFFLUENT DISCHARGE AGREEMENTS OR PERMITS REQUIRED TO DISCHARGE TO THE PUBLIC SEWER.
THE MAIN DRAINAGE SYSTEM HAS BEEN DESIGNED FOR NORMAL OPERATIONAL FLOWS ASSOCIATED WITH THE BUILDING. HIGH INTENSITY FLOWS ASSOCIATED WITH EMPTYING OF THE POOL WILL NOT BE PERMITTED. THE POOL SPECIALIST IS TO ADVISE ON ANY ABOVE GROUND PIPEWORK REQUIRED TO ALLOW FOR EMPTYING WITH THE POOL, AND IS TO COORDINATE THIS WITH THE ARCHITECT AND BUILDING SERVICES ENGINEER.

FOUL WATER PACKAGED PUMPING STATION DESIGN & DETAIL
THE PACKAGED PUMPING STATION TO THE SPECIALIST SUPPLIERS DESIGN AND DETAIL. PUMPING STATION TO BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE RELEVANT SECTIONS OF BS EN 12050, BS EN 12056, BS EN 752, BUILDING REGULATIONS PART H, SEWER SECTOR GUIDANCE AND BRITISH WATER CODE OF PRACTICE LOADS AND FLOWS.
REFER TO PUMPING STATION NOTE FOR MINIMUM STORAGE DURATION AND SOURCES OF FOUL WATER WHICH ARE TO BE AGREED WITH THE CLIENT AND END USER.
DUAL ALTERNATING PUMPS AND ALARM TO BE PROVIDED.
LOCATION OF RISING MAIN ABOVE GROUND AND INTO ABOVE GROUND DRAINAGE SYSTEM TO BE COORDINATED BETWEEN PUMP SUPPLIER, ARCHITECT AND BUILDING SERVICES ENGINEER.
POWER SUPPLY TO PUMP AND ALARM SYSTEM TO PUMP SUPPLIERS AND BUILDING SERVICES ENGINEERS DETAILS.
VENT PIPE AND ALARM LOCATIONS TO BE SPECIFIED BY THE ARCHITECT. CONTRACTOR TO AGREE MAINTENANCE REQUIREMENTS WITH PUMPING STATION SUPPLIER AND PROVIDE DETAILS TO THE CLIENT AND END USER.

- NOTES:**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RENAISSANCE, ARCHITECTS, LANDSCAPE ARCHITECTS AND BUILDING SERVICES ENGINEERS DRAWINGS.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE BELOW GROUND DRAINAGE SPECIFICATION SP-C-00030 AND DETAILS SHOWN ON DRAWING SERIES C-03100.
 - THE FINAL CONNECTIONS TO THE PUBLIC SEWER IS SUBJECT TO UNITED UTILITIES APPROVAL AND IS TO BE IN ACCORDANCE WITH THEIR AGREED DETAILS.
 - FOR ALL ABOVE GROUND DRAINAGE AND ASSOCIATED PUMPS REFER TO BUILDING SERVICES AND ARCHITECT'S DRAWING.
 - ALL BELOW GROUND DRAINAGE WORKS TO BE IN ACCORDANCE WITH RELEVANT BUILDING REGULATIONS AND SEWER SECTOR GUIDANCE (SSG) APPENDIX C- DESIGN AND CONSTRUCTION GUIDANCE. IF DISCREPANCIES ARE NOTED BETWEEN SSG AND DRAWINGS THESE SHOULD BE BROUGHT TO THE ATTENTION OF RENAISSANCE FOR REVIEW.
 - RWPs, SVPs, SSGs AND FLOOR GULLIES ARE TO HAVE RODDABLE ACCESS POINTS ABOVE GROUND FLOOR TO BUILDING SERVICES DETAILS. ALL FLOOR GULLIES AND RWPs ARE TO BE TRAPPED.
 - ALL GULLY AND CHANNEL DRAIN LOCATIONS INDICATIVE. REFER TO ARCHITECT AND LANDSCAPE ARCHITECT DRAWINGS FOR SETTING OUT AND SPECIFICATION.
 - ALL FOUL AND SURFACE WATER DRAINAGE TO BE 150mm DIA LAID TO A MINIMUM 1.80 FALL UNLESS NOTED OTHERWISE.
 - THE ATTENUATION TANK AND FLOW CONTROL ARE TO BE TO SUPPLIERS DESIGN AND DETAILS. INSTALLATION IS TO BE IN ACCORDANCE WITH THE SUPPLIERS REQUIREMENTS.
 - SEWERS TO BE LAID IN CLASS S BEDDING (150mm GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS OR VERGES, OR LESS THAN 0.9m IN PEDESTRIAN AREAS, THEN A 150mm CONCRETE SLAB SHOULD BE PROVIDED ABOVE THE GRANULAR BED AND SURROUND. REFER TO DETAILS SHEETS. BASEMENT DRAINAGE IS TO BE CONCRETE ENCASED.
 - THE CONTRACTOR IS TO UNDERTAKE A FULL CCTV SURVEY AT COMPLETION OF THE PROJECT TO DEMONSTRATE THAT THE DRAINAGE IS CLEAN. ANY DEFECTS ARE TO BE CORRECTED BY THE CONTRACTOR PRIOR TO HANDOVER OF THE SYSTEM TO THE CLIENT.
 - THE CONTRACTOR IS TO KEEP A RECORD SET OF THE AS INSTALLED DRAINAGE ON SITE AND PROVIDE THIS TO RENAISSANCE UPON COMPLETION OF THE WORKS TO ALLOW FOR PRODUCTION OF A FINAL CONSTRUCTION ISSUE DRAWING.
 - DURING THE WORKS ALTERATIONS TO THE DRAINAGE LAYOUT ARE TO BE MARKED UP BY THE CONTRACTOR AND AGREED WITH RENAISSANCE IN WRITING.
 - THE CHAMBER SIZE OF PCC MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.
 - MANHOLE COVERS ARE TO BE ACCORDANCE WITH BS EN 124 FOR THE RATING INDICATED IN THE MANHOLE SCHEDULE. THE CONTRACTOR IS TO SUBMIT DETAILS FOR THE PROPOSED MANHOLE COVERS TO THE ENGINEER AND LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.
 - COVER SLABS MUST CARRY THE BSI KITEMARK. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOAD BEARING REDUCING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO REQUIRED SIZE.
 - ALL SEWERS TO BE BSI KITEMARK (CERTIFIED TO WIS 4-35-01)
 - ALL CONCRETE PIPES TO BE TO ES EN 1916 CLASS 120 (54kN/m).
 - BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2).
 - IF PLASTIC PIPES ARE TO BE USED THEN THE FOLLOWING MUST APPLY:
A. BSI KITEMARK (CERTIFIED TO BS EN 13476-1 AND WIS 4-35-01)
B. PIPES LESS THAN OR EQUAL TO 500mm DIA
C. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE D. REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION 4-08092 (TABLE A2)
 - THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100mm DIA. 40kN/m, 150mm DIA. 40kN/m, 225mm DIA. 45kN/m AND 300mm DIA. 72kN/m.
 - THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE (CLASS-120 TO EN 1916/BS5911-1 2002). PLASTIC PIPES SHOULD CONFORM TO WIS 4-35-01 AND BS EN13476.
SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVIDING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
 - SEWER PIPES TO BE LAID IN MAXIMUM 3 METER LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER PIPES, AND THIS IS AGREED BY THE CONTRACTOR WITH THE PIPE MANUFACTURER.
 - ALLOW FOR ALL DISUSED DRAINAGE ON SITE TO BE GRUBBED UP AND BACKFILLED. ANY REDUNDANT CONNECTIONS FROM THE SITE TO THE PUBLIC SEWER TO THE SITE ARE TO BE CAPPED AND GROUTED.

KEY

- INDICATES APPROXIMATE SITE BOUNDARY
- EXISTING UNITED UTILITIES PUBLIC SEWER
- PROPOSED COMBINED SEWER NETWORK
- PROPOSED SURFACE WATER NETWORK 100mm DIA PIPES AT MIN 1.80 FALL UNLESS NOTED OTHERWISE
- PROPOSED FOUL WATER NETWORK 100mm DIA PIPES AT MIN 1.80 FALL UNLESS NOTED OTHERWISE
- INDICATES TRAPPED GULLY AT PAVEMENT LEVEL CONNECTED TO INTERNAL ABOVE GROUND DRAINAGE
- INDICATES TRAPPED GULLY AT PAVEMENT LEVEL CONNECTED TO INTERNAL ABOVE GROUND DRAINAGE
- INDICATES FINAL SURFACE WATER MANHOLE WITH NON-RETURN VALVE TO PREVENT SURCHARGE OF SYSTEM FROM PUBLIC SEWER
- INDICATES BACKDROP TO MANHOLE

RIBA STAGE 3
THESE DRAWINGS ARE INTENDED TO COMMUNICATE THE STRUCTURAL FRAME INTENT AND ARE APPROPRIATE FOR RIBA STAGE 3 (SPATIAL COORDINATION). ALL STRUCTURAL SIZES ARE INDICATIVE ONLY AND TO ASSIST WITH HIGH LEVEL COSTING BY THE PROJECT QUANTITY SURVEYOR AND CONTRACTOR. ALL STRUCTURAL SIZES AND REINFORCEMENT RATES ARE INDICATIVE AT THIS STAGE AND ARE SUBJECT TO CHANGE AS THE DESIGN DEVELOPS THROUGH RIBA STAGE 4 (TECHNICAL DESIGN).
A DESIGN CONTINGENCY OF 15-20% IS RECOMMENDED TO ALLOW FOR DESIGN DEVELOPMENT DURING RIBA STAGE 4 (TECHNICAL DESIGN) AND TO REFLECT INPUT FROM CONTRACTOR DESIGNED PACKAGES.

P02 UPDATED IN LINE WITH LATEST AGD LAYOUT 15.02.23 SA PW

P01 RIBA STAGE 3 04.01.23 SA PW

Rev. Description: Date: By: Chkd:

Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Project:

LIVERPOOL ROAD HOTEL, MANCHESTER

Drawing Title:

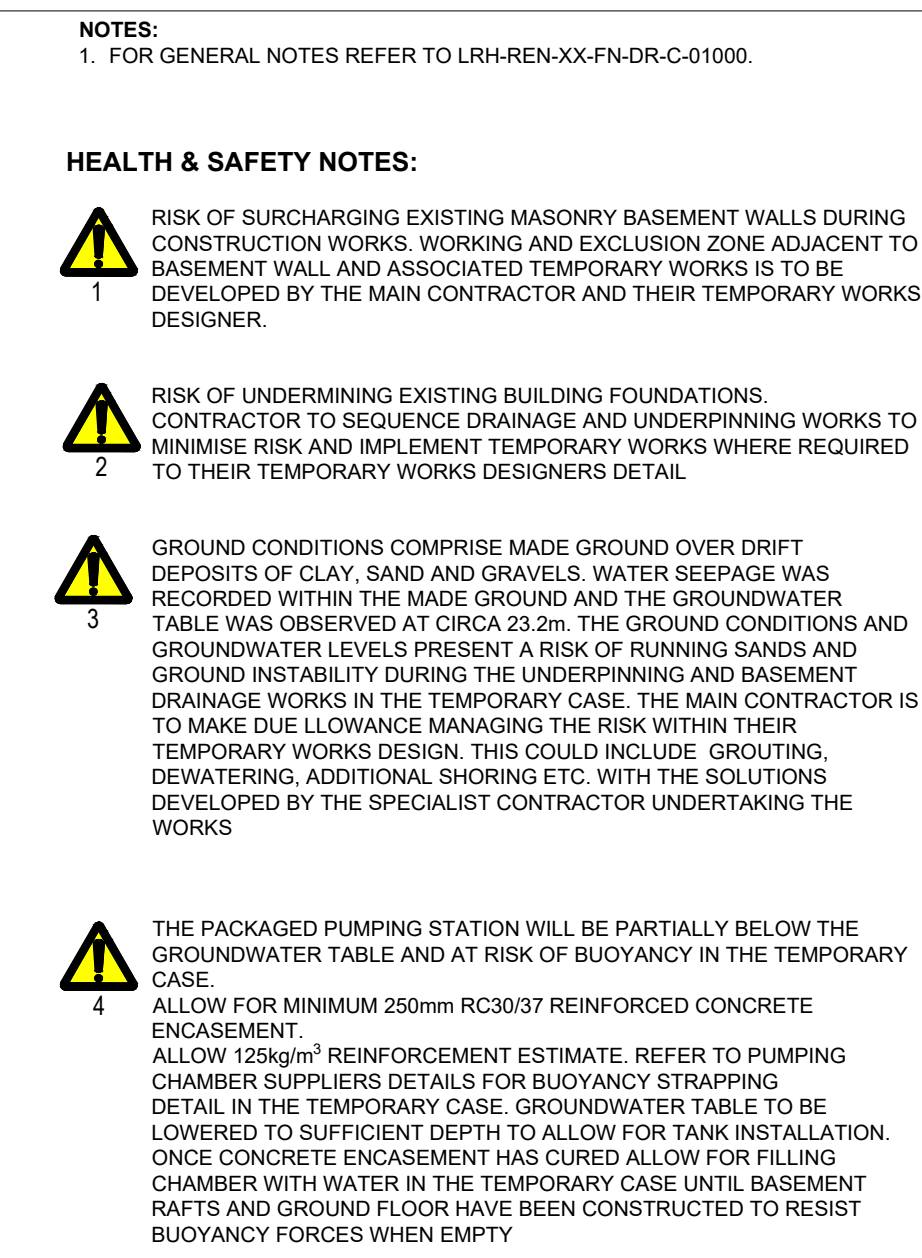
BELOW GROUND DRAINAGE BASEMENT PLAN

Status:

STAGE 3

Size:	A1	Date:	JAN'23	Drawn by:	SA	Designed by:	SA	Checked by:	PW
Scale:	1:100		Project No:		2205-02				
Project:	Originator:	Volume:	Level:	Type:	Role:	Category/Number:	Rev:		

LRH-REN-00-FN-DR-C-01000-P02



SWIMMING POOL DISCHARGE & DRAINING

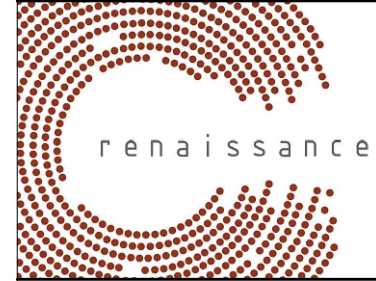
THE SWIMMING POOL SPECIALIST IS RESPONSIBLE FOR OBTAINING ANY REQUIRED EFFLUENT DISCHARGE AGREEMENTS OR PERMITS REQUIRED TO DISCHARGE TO THE PUBLIC SEWER.

THE MAIN DRAINAGE SYSTEM HAS BEEN DESIGNED FOR NORMAL OPERATIONAL FLOWS ASSOCIATED WITH THE BUILDING. HIGH INTENSITY FLOWS ASSOCIATED WITH EMPTYING OF THE POOL WILL NOT BE PERMITTED. THE POOL SPECIALIST IS TO ADVISE ON ANY ABOVE GROUND PIPEWORK REQUIRED TO ALLOW FOR EMPTYING WITH THE POOL AND IS TO COORDINATE THIS WITH THE ARCHITECT AND BUILDING SERVICES ENGINEER.

KEY

-  INDICATES APPROXIMATE SITE BOUNDARY
-  EXISTING UNITED UTILITIES PUBLIC SEWER
-  PROPOSED COMBINED SEWER NETWORK
-  PROPOSED SURFACE WATER NETWORK 100mm DIA PIPES AT MIN 1:80 FALL UNLESS NOTED OTHERWISE
-  PROPOSED FOUL WATER NETWORK 100mm DIA PIPES AT MIN 1:80 FALL UNLESS NOTED OTHERWISE
-  G  INDICATES TRAPPED GULLY AT PAVEMENT LEVEL CONNECTED TO INTERNAL ABOVE GROUND DRAINAGE
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-  INDICATES FINAL SURFACE WATER MANHOLE WITH NON-RETURN VALVE TO PREVENT SURCHARGE OF SYSTEM FROM PUBLIC SEWER
-  INDICATES BACKDROP TO MANHOLE
-  INDICATES DRAINAGE CHANNEL TO ARCHITECTS SPECIFICATION AND SETTING OUT
-  INDICATE ATTENUATION STORAGE TANK WITH FLOW CONTROL DEVICE

P02	UPDATED IN LINE WITH LATEST AGD LAYOUT	15.02.23	SA	PW
P01	RIBA STAGE 3	04.01.23	SA	PW
Rev:	Description:	Date:	By:	Chkd:



Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Drawing Title:

**BELOW GROUND DRAINAGE
GROUND FLOOR PLAN**

Status:

STAGE 3

Size: A1	Date: JAN'23	Drawn by: SA	Designed by: SA	Checked by: PW			
Scale: 1:100		Project No: 2205-02					
Project	Originator:	Volume:	Level:	Type:	Role:	Category/Number:	Rev:

LRH-REN-00-FN-DR-C-01001-P02

RIBA STAGE 3
THESE DRAWINGS ARE INTENDED TO COMMUNICATE THE STRUCTURAL FRAME INTENT AND ARE APPROPRIATE FOR RIBA STAGE 3 (SPATIAL COORDINATION). ALL STRUCTURAL SIZES ARE INDICATIVE ONLY AND TO ASSIST WITH HIGH-LEVEL COSTING BY THE PROJECT QUANTITY SURVEYOR AND CONTRACTOR. ALL STRUCTURAL SIZES AND REINFORCEMENT RATES ARE INDICATIVE AT THIS STAGE AND ARE SUBJECT TO CHANGE AS THE DESIGN DEVELOPS THROUGH RIBA STAGE 4 (TECHNICAL DESIGN).
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APPENDIX H
Planning Decision Notice

Important – Planning permission & notices of consent

Compliance with conditions

- Your planning approval or consent is attached. It will contain conditions that you must comply with.
- Please read the conditions and understand their requirements and restrictions, for example submission and approval of details or measures to protect trees.
- Some conditions will require action before you start development and it is imperative that you seek to have these discharged before any work commences.
- Whilst every effort has been made to group conditions logically, it is your responsibility to ensure that you are aware of the requirements and/or restrictions of all conditions.
- If you fail to comply with the conditions this may result in a breach of planning control and this may lead to enforcement action.
- Failure to comply with conditions may also result in the development not being lawful.
- It is in your interests to demonstrate that conditions have been complied with. Failure to do so may cause difficulties if the property is sold or transferred.
- A fee is payable for each request to discharge conditions.
- For advice on any of these matters, please contact Planning, Manchester City Council, PO Box 532, Town Hall, Manchester M60 2LA or email planning@manchester.gov.uk

Town & Country Planning Act 1990 (as amended)

Planning Permission

Applicant

Zoe Manchester Limited
C/o Agent

Agent (if used)

Mrs Rachel Poole
Deloitte LLP
2 Hardman Street
Spinningfields
Manchester
M3 3HF

Part 1 – Particulars of the application/development

Proposal: Demolition of c.1950-1960 rear extension to No.123 Liverpool Road with the creation of a new 5-storey extension and external alterations as part of proposals to refurbish and re-use No. 123 - No.125 Liverpool Road as a hotel (Use Class C1) with associated bar and restaurant (Classes A3 and A4), servicing and ancillary works.

Location: 123-125 Liverpool Road, Manchester, M3 4JN

Date of application: 16 October 2017

Application number: 117897/FO/2017

Part 2 – Particulars of decision

Manchester City Council gives notice that the development referred to in Part 1 has been **Approved** in accordance with the application and plans submitted subject to the condition(s) listed below (if any).

Article 35 Declaration

Officers have worked in a positive and proactive manner based on seeking solutions to problems arising in relation to dealing with the planning application. Appropriate conditions have been attached to the approval.

Condition(s) attached to this decision

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason - Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.

2) The development hereby approved shall be carried out in accordance with the following drawings and documents:

The submitted waste management strategy, received via email on 15 January 2018

The submitted Air Quality Assessment by Wardell Armstrong, dated August 2017, ref. LE13922, Report 001, particularly the proposed mitigation measures

Reason - To ensure that the development is carried out in accordance with the approved plans. Pursuant to policies SP1 and DM1 of the Core Strategy.

3) Prior to the commencement of development, a programme for the issue of samples and specifications of all materials to be used on all external elevations and within all external hard landscaped areas of the development shall be submitted to and approved in writing by the City Council, as local planning authority. Samples and specifications of all materials to be used within all external hard landscaped areas and on all external elevations of the development, including jointing and fixing details, details of the drips to be used to prevent staining and a strategy for quality control management, shall then be submitted to and approved in writing by the City Council as local planning authority in accordance with the programme as agreed above. The development shall be carried out in accordance with the approved details.

Reason - To ensure that the appearance of the development is acceptable to the City Council as local planning authority in the interests of the visual amenity of the area within which the site is located, as specified in policies SP1 and DM1 of the Core Strategy.

4) a) Before the development hereby approved commences, a report (the Preliminary Risk Assessment) to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority. The Preliminary Risk Assessment shall conform to City Council's current guidance document (Planning Guidance in Relation to Ground Contamination).

In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development shall not commence until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority.

The measures for investigating the site identified in the Site Investigation Proposal shall be carried out, before the development commences and a report prepared outlining what measures, if any, are required to remediate the land (the Site Investigation Report and/or Remediation Strategy) which shall be submitted to and approved in writing by the City Council as local planning authority.

b) When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to remediate the land (the Revised Remediation Strategy) is submitted to and approved in writing by the City Council as local planning authority and the development shall be

carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.

Reason - To ensure that the presence of or the potential for any contaminated land and/or groundwater is detected and appropriate remedial action is taken in the interests of public safety, pursuant to policies DM1 and EN18 of the Core Strategy.

5) No development shall commence until a surface water drainage scheme for the site, based on sustainable drainage principles and an assessment of the hydrological and hydrogeological context of the development, has been submitted to and approved in writing by the City Council as Local Planning Authority. Surface water shall discharge to a Sustainable Drainage System to meet the requirements of the NPPF. The surface water drainage scheme must be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards. The scheme shall subsequently be implemented in accordance with the approved details before the development is completed.

Reason - To prevent the increased risk of flooding and to ensure the future maintenance of the surface water drainage system, pursuant to policy EN8 of the Manchester Core Strategy.

6) The development hereby permitted shall not be occupied until details of the implementation, maintenance and management of the sustainable drainage scheme have been submitted to and approved in writing by the City Council as local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. Those details shall include:

- A verification report providing photographic evidence of construction as per design drawings;
- As built construction drawings (if different from design construction drawings);
- A management and maintenance plan for the lifetime of the development which shall include the arrangements for inspections, adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its lifetime.

Reason - To manage flooding and pollution, to ensure that a managing body is in place for the sustainable drainage system and to ensure there is funding and maintenance mechanism for the lifetime of the development, pursuant to policies EN8 and EN14 of the Core Strategy.

7) No development shall take place until the applicant or their agent or successor in title has secured the implementation of a programme of archaeological works. The works are to be undertaken in accordance with a Written Scheme of Investigation (WSI) that shall be submitted to and approved in writing by the Local Planning Authority prior to them commencing. The WSI shall cover the following:

1. A phased programme and methodology of investigation and recording to include:
 - an archaeological watching brief during stripping out works to record historic building fabric
 - a watching brief during reduction of current ground levels
 - archaeological excavation and survey of revealed features and deposits of archaeological interest.
2. A programme for post investigation assessment to include:

- analysis of the site investigation records and finds
- production of a final report on the significance of the archaeological and historical interest represented

3. Dissemination of the results commensurate with their significance

4. Provision for archive deposition of the report and records of the site investigation.

5. Nomination of a competent person or persons/organisation to undertake the works set out within the approved WSI.

Reason - In accordance with the NPPF (Section 12, Paragraph 141), to record and advance understanding of heritage assets impacted on by the development and to make information about the archaeological heritage interest publicly accessible.

8) The cycle parking area shown on the approved plans shall be made available at all times whilst the site is occupied.

Reason - To ensure that there is adequate cycle parking for the development proposed when the building is occupied in order to comply with policy DM1 of the Manchester Core Strategy.

9) Prior to the commencement of the development, a detailed construction/fit-out management plan outlining working practices during development shall be submitted to and approved in writing by the City Council as Local Planning Authority. For the avoidance of doubt this should include;

- Hours of site opening/operation
- Display of an emergency contact number;
- Details of Wheel Washing;
- Dust suppression measures;
- Compound locations where relevant;
- Details regarding location, removal and recycling of waste (site waste management plan);
- Phasing and quantification/classification of vehicular activity
- Types and frequency of vehicular demands
- Routing strategy and swept path analysis;
- Parking for construction vehicles and staff;
- Sheeting over of construction vehicles;
- A commentary/consideration of ongoing construction works in the locality;
- Construction and demolition methods to be used, including the use of cranes (and their location);
- The erection and maintenance of security hoardings;
- Details on the timing of construction of scaffolding;
- Details of how access to adjacent premises would be managed to ensure clear and safe routes into buildings are maintained at all time;
- Confirmation that contact will take place with residents prior to commencement of the work and at any time when there will be significant changes in the nature of work carried out, noise levels or access arrangements;
- Confirmation that local residents will be provided with a phone number in case of problems. The phone number shall be one which will be answered by someone authorised to take action to resolve problems, immediately if necessary.

The development shall be carried out in accordance with the approved construction management plan.

Reason - To safeguard the amenities of nearby residents and highway safety, pursuant to policies SP1, EN9, EN19 and DM1 of the Core Strategy.

10) Before first occupation of any part of the development, a Travel Plan including details of how the plan will be funded, implemented and monitored for effectiveness, shall be submitted to and approved in writing by the City Council as local planning authority. The strategy shall outline procedures and policies that the developer and occupants/users of the site will adopt to secure the objectives of the overall site's Travel Plan Strategy. Additionally, the strategy shall outline the monitoring procedures and review mechanisms that are to be put in place to ensure that the strategy and its implementation remain effective. The results of the monitoring and review processes shall be submitted in writing to the local planning authority and any measures that are identified that can improve the effectiveness of the Travel Plan Strategy shall be adopted and implemented. The Travel Plan shall be fully implemented, prior to first use/occupation of the building, and shall be kept in operation at all times thereafter.

Reason - In accordance with the provisions contained within planning policy guidance and in order to promote a choice of means of transport, pursuant to policies T2 and EN16 of the Core Strategy.

11) No externally mounted telecommunications equipment shall be mounted on any part of the building hereby approved, including the roof.

Reason - In the interests of visual amenity, pursuant to Core Strategy Policies DM1 and SP1.

12) Prior to development commencing, a local labour agreement relating to the construction phase of development shall be submitted to and agreed in writing with the City Council as local planning authority. The approved scheme shall be in place prior to the commencement of the development and shall be kept in place thereafter.

Reason - To safeguard local employment opportunities, pursuant to policies EC1 of the Core Strategy for Manchester.

13) The development hereby approved shall not be occupied or used until the City Council as local planning authority has acknowledged in writing that it has received written confirmation that the development has been built in accordance with the recommendations contained within sections 3.3 and 4 of the submitted Crime Impact Statement Version A, dated 21 September 2017, ref. 2004/0008/CIS/03, and the City Council as local planning authority has acknowledged in writing that it has received written confirmation of a secured by design accreditation.

Reason - To reduce the risk of crime pursuant to policies SP1 and DM1 of the Core Strategy and to reflect the guidance contained in the National Planning Policy Framework.

14) Deliveries, servicing and collections, including waste collections, shall not take place outside the following hours:

07:30 to 20:00, Monday to Saturday

10.00 to 18.00 on Sundays and Bank Holidays

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policy DM1 of the Manchester Core Strategy.

15) Before development commences, a scheme for the extraction of any fumes, vapours and odours from the premises hereby approved shall be submitted to, and approved in writing by, the City Council as local planning authority. An odour impact assessment is required together with suitable mitigation measures, information regarding the proposed cleaning/maintenance regime for the fume extraction equipment, and details in relation to replacement air. Mixed use schemes shall ensure provision for internal ducting in risers that terminate at roof level. Schemes that are outside the scope of such developments shall ensure that flues terminate at least 1m above the eaves level and/or any openable windows/ventilation intakes of nearby properties. Any scheme should make reference to the Defra document entitled 'Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems', particularly Annex B. The scheme shall be implemented in accordance with the approved details prior to first occupancy and shall remain operational thereafter.

Reason - In the interests of the amenities of the occupiers nearby properties in order to comply with saved policy DC10 of the Unitary Development Plan for the City of Manchester and policies SP1 and DM1 of the Core Strategy.

16) The premises shall be acoustically insulated and treated to limit the break out of noise in accordance with a noise study of the premises and a scheme of acoustic treatment that has been submitted to and approved in writing by the City Council as local planning authority. The scheme shall be implemented in full before the use commences.

Where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 10dB below the LA90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63Hz and 125Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB, respectively.

Before the Class A3 use hereby approved commences, the premises shall be acoustically insulated and treated to limit the break out of noise in accordance with a noise study of the premises and a scheme of acoustic treatment that has been submitted to and approved in writing by the City Council as Local Planning Authority. The scheme proposed shall normally include measures such as acoustic lobbies at access and egress points of the premises, acoustic treatment of the building structure, sound limiters linked to sound amplification equipment and specified maximum internal noise levels. Any scheme shall be implemented in full before the use commences.

Reason - To ensure an acceptable development in the interests of residential amenity, pursuant to policy DM1 of the Core Strategy.

17) a) Any externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location.

Before development commences, the scheme shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the site.

b) Upon completion of the development and before the new use becomes operational, a verification report will be required to validate that the work undertaken with regard to the new external plant conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that above criteria is met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the noise criteria.

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.

18) No part of the building that is to be occupied by the A3/A4 restaurant/bar shall be operational outside of the following hours:

11.00 to 00.00 (midnight) Sunday to Thursday

11.00 to 01.00 on Fridays, Saturdays and Bank Holidays

Reason - In interests of residential amenity in order to reduce noise and general disturbance in accordance with saved policy DC26 of the Unitary Development Plan for the City of Manchester and policies SP1 and DM1 of the Core Strategy.

19) Before the new use becomes operational, the plant at roof level shall be screened from view in accordance with a scheme that shall have been previously submitted to and approved in writing by the City Council as Local Planning Authority before this element of the works commences. The scheme to be submitted shall include:

- A sample and detailed manufacturer's specification of the screen to be erected at roof level around the plant
- The finished appearance, including colour, of the proposed screen at roof level

The development shall be implemented in accordance with the approved details.

Reason - To ensure an acceptable development at the listed building, pursuant to saved policy DC19.1 of the Unitary Development Plan.

20) The development hereby approved shall achieve a post-construction Building Research Establishment Environmental Assessment Method (BREEAM) rating of 'very good'. A post construction review certificate shall be submitted to and approved in writing by the City Council as local planning authority within 6 months of Practical Completion of the building hereby approved.

Reason - In order to minimise the environmental impact of the development pursuant to the principles contained in the Guide to Development in Manchester 2 and policies SP1, DM1 and EN8 of the Core Strategy

21) Before the building is first occupied, the external brickwork on the building that is currently painted shall be cleaned and the paint removed in accordance with a scheme that has been previously submitted to and approved in writing by the City Council as local planning authority. The works shall be carried out in accordance with the approved details.

Reason - To improve the appearance of the building in the interests of visual amenity and because proposed works affect a building which is included in the Statutory List of Buildings of Special Architectural or Historic Interest and careful attention to building work is required to protect the character and appearance of this building and in accordance with saved policy DC19.1 of the Unitary Development Plan for the City of Manchester and policies SP1, EN3 and DM1 of the Core Strategy.

22) Before the development first becomes operational, full details of a servicing strategy for the development shall be submitted to and approved in writing by the City Council as Local Planning Authority. The servicing strategy shall ensure that all vehicles requiring loading access to the site are scheduled and managed appropriately. The development shall be carried out in accordance with the approved details.

Reason - In the interests of public safety, pursuant to policy DM1 of the Core Strategy.

23) Before the development first becomes operational, full details of a traffic management plan for the development shall be submitted to and approved in writing by the City Council as Local Planning Authority. The development shall be carried out in accordance with the approved details.

Reason - In the interests of public safety, pursuant to policy DM1 of the Core Strategy.

Informatives

Building Regulations 2010

This permission does not grant approval under Building Regulations.

Street Naming & Numbering Requirements

Manchester City Council is responsible for allocating street naming and numbering within Manchester for new developments or property conversions. Individuals or businesses are not permitted to allocate their own property numbers, building or street names.

If your development includes the creation of new dwellings (either new build or conversion of existing buildings), creation of new commercial properties or the subdivision of existing properties you must ensure that you request new or changes to addresses through us so they can be officially allocated and registered in accordance with the Public Health Act 1925 Sections 17-19 & Greater Manchester Act 1981 Section 22.

Failure to do this may result in difficulties for the developer/occupier when requiring services such as connections to utilities, phone lines and postal services and may delay your development.

You can apply online at the following address:

http://www.manchester.gov.uk/info/100011/roads_parking_and_transport/1988/naming_and_numbering_of_houses_buildings_streets_and_roads/2

Mining Information

The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.

Construction/demolition works shall be confined to the following hours unless otherwise agreed in writing by the City Council as local planning authority:

Monday - Friday: 7.30am - 6pm

Saturday: 8.30am - 2pm

Sunday / Bank holidays: No work

Reason - To safeguard the amenities of the occupiers of nearby residential and commercial properties during the construction/demolition phase.

Any materials approved for planning purposes should be discussed in full with Building Control. This is to ensure they meet the guidance contained in the Building Regulations for fire safety. Should it be necessary to change the external facade treatment due to conflicts with the Building Regulations you should discuss these with the Planning Service as soon as possible as this could materially affect your permission.

The Woollam Place street sign that is currently affixed to the property shall be reinstated after completion of the refurbishment works.

Date: 9 February 2018

Signed:

A handwritten signature in black ink, appearing to read 'Julie Roscoe', written over a horizontal line.

Julie Roscoe

Head of Planning, Building Control & Licensing

Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA

Notes

1. This permission refers only to that required under the Town and Country Planning Act 1990 does not include any consent or approval under any other enactment, byelaw, order or regulation.

2 If the applicant is aggrieved by the decision of the local planning authority to refuse permission or approval for the proposed development, or to grant permission or approval subject to conditions, they may appeal to the Secretary of State in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of the notice of the decision.

The Planning Inspectorate have introduced an online appeals service that can be used to make appeals online. This service is available through the gov.uk website – www.gov.uk/appeal-planning-inspectorate. The Inspectorate will publish details of your appeal on the internet.

Alternatively, appeals can be made on a form which is obtainable from Planning Inspectorate, Customer Support Unit, Room 3/15, Eagle Wing, Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 or by telephone 0117 372 6372.

The Secretary of State has power to allow a longer period for the giving of a notice of appeal but they will not normally be prepared to exercise this power unless there are special circumstances that excuse the delay in giving notice of appeal.

3. The statutory requirements are those set out in Section 79(6) of the Town and Country Planning Act 1990, namely Sections 70(1) and 72(1) of the Act.

4. If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that they can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990

5. In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to them. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

Appendix A



**The Coal
Authority**

Any Planning Enquiries should be directed to:

Planning and Local Authority Liaison

Telephone: 01623 637 119

Email: planningconsultation@coal.gov.uk

Website: www.gov.uk/government/organisations/the-coal-authority

STANDING ADVICE - DEVELOPMENT LOW RISK AREA

The proposed development lies within a coal mining area which may contain unrecorded coal mining related hazards. If any coal mining feature is encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848.

Further information is also available on the Coal Authority website at:

www.gov.uk/government/organisations/the-coal-authority

This Standing Advice is valid from 1st January 2017 until 31st December 2018

APPENDIX I

Hydraulic Modelling Calculations

Renaissance Assoc.		Page 1
Carvers Warehouse 77 Dale Street Manchester M1 2HG	Liverpool Road Hotel Proposed SW Calculations	
Date 02/05/2023 10:27 File surface water drainage ...	Designed by SA Checked by PW	
Innovyze	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.357	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.038	4-8	0.005

Total Area Contributing (ha) = 0.043

Total Pipe Volume (m³) = 0.145

Network Design Table for Storm

- Indicates pipe length does not match coordinates

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	0.500#	0.007	71.4	0.022	5.00	0.0	10.000	o	100	Pipe/Conduit	
1.001	2.701	3.263	0.8	0.000	0.00	0.0	10.000	o	225	Pipe/Conduit	
1.002	1.922#	0.024	80.0	0.021	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	I.Area (ha)	Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.02	28.395	0.022	0.0	0.0	0.0	0.52	4.1	3.0
1.001	50.00	5.02	28.263	0.022	0.0	0.0	0.0	8.87	352.6	3.0
1.002	50.00	5.05	25.000	0.043	0.0	0.0	0.0	1.12	19.9	5.8

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.022	0.022	0.022
1.001	-	-	100	0.000	0.000	0.000
1.002	-	-	100	0.021	0.021	0.021
				Total	Total	Total
				0.043	0.043	0.043

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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1.002		27.350	24.976	0.000	0	0
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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.357		

Renaissance Assoc.		Page 3
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Online Controls for Storm

Depth/Flow Relationship Manhole: 1.01, DS/PN: 1.001, Volume (m³): 0.0

Invert Level (m) 28.263

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.006	0.0650	0.024	0.2420	0.042	0.3350	0.060	0.4080
0.008	0.1010	0.026	0.2540	0.044	0.3440	0.062	0.4160
0.010	0.1270	0.028	0.2650	0.046	0.3530	0.064	0.4230
0.012	0.1490	0.030	0.2760	0.048	0.3610	0.066	0.4300
0.014	0.1680	0.032	0.2870	0.050	0.3700	0.068	0.4370
0.016	0.1850	0.034	0.2970	0.052	0.3780	0.070	0.4440
0.018	0.2010	0.036	0.3070	0.054	0.3850	0.072	0.4500
0.020	0.2150	0.038	0.3170	0.056	0.3930	0.074	0.4570
0.022	0.2290	0.040	0.3260	0.058	0.4010	0.076	0.4630

Hydro-Brake® Optimum Manhole: 1.02, DS/PN: 1.002, Volume (m³): 6.4

Unit Reference MD-SHE-0053-1800-2100-1800
Design Head (m) 2.100
Design Flow (l/s) 1.8
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 53
Invert Level (m) 25.000
Minimum Outlet Pipe Diameter (mm) 75
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.100	1.8
Flush-Flo™	0.231	1.1
Kick-Flo®	0.475	0.9
Mean Flow over Head Range	-	1.3

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.0	1.000	1.3	2.400	1.9	5.500	2.8
0.200	1.1	1.200	1.4	2.600	2.0	6.000	2.9
0.300	1.1	1.400	1.5	3.000	2.1	6.500	3.0
0.400	1.1	1.600	1.6	3.500	2.3	7.000	3.1
0.500	0.9	1.800	1.7	4.000	2.4	7.500	3.2
0.600	1.0	2.000	1.8	4.500	2.5	8.000	3.3
0.800	1.2	2.200	1.8	5.000	2.7	8.500	3.4

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Carvers Warehouse 77 Dale Street Manchester M1 2HG	Liverpool Road Hotel Proposed SW Calculations																	
Date 02/05/2023 10:27 File surface water drainage ...	Designed by SA Checked by PW																	
Innovyze Network 2020.1.3																		
<u>Hydro-Brake® Optimum Manhole: 1.02, DS/PN: 1.002, Volume (m³): 6.4</u>																		
<table><tr><td>Depth (m)</td><td>Flow (l/s)</td><td>Depth (m)</td><td>Flow (l/s)</td><td>Depth (m)</td><td>Flow (l/s)</td><td>Depth (m)</td><td>Flow (l/s)</td></tr><tr><td>9.000</td><td>3.5</td><td>9.500</td><td>3.6</td><td></td><td></td><td></td><td></td></tr></table>			Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	9.000	3.5	9.500	3.6				
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9.000	3.5	9.500	3.6															
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Carvers Warehouse 77 Dale Street Manchester M1 2HG	Liverpool Road Hotel Proposed SW Calculations	
Date 02/05/2023 10:27 File surface water drainage ...	Designed by SA Checked by PW	
Innovyze	Network 2020.1.3	

2 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
 Hot Start Level (mm) 0 Inlet Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 1
 Number of Online Controls 2 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.358
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 18.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status OFF
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480
 Return Period(s) (years) 1, 2, 30, 100
 Climate Change (%) 0, 0, 40, 45

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level
									(m)
1.000	1.00	240 Winter	2	+0%					28.411
1.001	1.01	240 Winter	2	+0%					28.289
1.002	1.02	30 Summer	2	+0%	1/15 Summer				25.270

	US/MH	Depth	Volume	Flow /	Half Drain	Pipe		Level
PN	Name	(m)	(m ³)	Cap.	Overflow	Time	Flow	Exceeded
					(l/s)	(mins)	(l/s)	
1.000	1.00	-0.084	0.000	0.06		227	0.3	FLOOD RISK
1.001	1.01	-0.199	0.000	0.00			0.3	FLOOD RISK*
1.002	1.02	0.120	0.000	0.10			1.1	SURCHARGED

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Carvers Warehouse 77 Dale Street Manchester M1 2HG				Liverpool Road Hotel Proposed SW Calculations																																																							
Date 02/05/2023 10:27				Designed by SA																																																							
File surface water drainage ...				Checked by PW																																																							
Innovyze				Network 2020.1.3																																																							
<u>30 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm</u>																																																											
<u>Simulation Criteria</u>																																																											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																					
Hot Start Level (mm)		0		Inlet Coeffiecient		0.800																																																					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																					
Foul Sewage per hectare (l/s)		0.000																																																									
Number of Input Hydrographs				0		Number of Storage Structures		1																																																			
Number of Online Controls				2		Number of Time/Area Diagrams		0																																																			
Number of Offline Controls				0		Number of Real Time Controls		0																																																			
<u>Synthetic Rainfall Details</u>																																																											
Rainfall Model		FSR		Ratio R		0.358																																																					
Region England and Wales Cv (Summer)		0.750																																																									
M5-60 (mm)		18.000		Cv (Winter)		0.840																																																					
Margin for Flood Risk Warning (mm)				300.0																																																							
Analysis Timestep				2.5 Second Increment (Extended)																																																							
DTS Status				OFF																																																							
DVD Status				ON																																																							
Inertia Status				ON																																																							
Profile(s)				Summer and Winter																																																							
Duration(s) (mins)				15, 30, 60, 120, 180, 240, 360, 480																																																							
Return Period(s) (years)				1, 2, 30, 100																																																							
Climate Change (%)				0, 0, 40, 45																																																							
WARNING: Half Drain Time has not been calculated as the structure is too full.																																																											
<table><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">Water</td></tr><tr><td>PN</td><td>US/MH Name</td><td>Storm</td><td>Return Period</td><td>Climate Change</td><td>First (X) Surge</td><td>First (Y) Flood</td><td>First (Z) Overflow</td><td>Overflow Act.</td><td>Level (m)</td></tr><tr><td>1.000</td><td>1.00</td><td>60 Winter</td><td>30</td><td>+40%</td><td></td><td></td><td></td><td></td><td>28.431</td></tr><tr><td>1.001</td><td>1.01</td><td>480 Summer</td><td>30</td><td>+40%</td><td></td><td></td><td></td><td></td><td>28.430</td></tr><tr><td>1.002</td><td>1.02</td><td>60 Winter</td><td>30</td><td>+40%</td><td>1/15 Summer</td><td></td><td></td><td></td><td>26.427</td></tr></table>																		Water		PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	1.000	1.00	60 Winter	30	+40%					28.431	1.001	1.01	480 Summer	30	+40%					28.430	1.002	1.02	60 Winter	30	+40%	1/15 Summer				26.427
								Water																																																			
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)																																																		
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<table><tr><td colspan="2"></td><td colspan="2">Surcharged Flooded</td><td colspan="2"></td><td colspan="2">Half Drain</td><td colspan="2">Pipe</td></tr><tr><td>PN</td><td>US/MH Name</td><td>Depth (m)</td><td>Volume (m³)</td><td>Flow / Cap.</td><td>Overflow (l/s)</td><td>Time (mins)</td><td>Flow (l/s)</td><td>Status</td><td>Level Exceeded</td></tr><tr><td>1.000</td><td>1.00</td><td>-0.064</td><td>0.000</td><td>0.21</td><td></td><td></td><td>0.8</td><td>FLOOD RISK</td><td></td></tr><tr><td>1.001</td><td>1.01</td><td>-0.058</td><td>0.000</td><td>0.00</td><td></td><td></td><td>0.5</td><td>FLOOD RISK*</td><td></td></tr><tr><td>1.002</td><td>1.02</td><td>1.277</td><td>0.000</td><td>0.14</td><td></td><td></td><td>1.5</td><td>SURCHARGED</td><td></td></tr></table>												Surcharged Flooded				Half Drain		Pipe		PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded	1.000	1.00	-0.064	0.000	0.21			0.8	FLOOD RISK		1.001	1.01	-0.058	0.000	0.00			0.5	FLOOD RISK*		1.002	1.02	1.277	0.000	0.14			1.5	SURCHARGED	
		Surcharged Flooded				Half Drain		Pipe																																																			
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Innovyze				Network 2020.1.3					
<u>100 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm</u>									
<u>Simulation Criteria</u>									
Areal Reduction Factor 1.000				Additional Flow - % of Total Flow 0.000					
Hot Start (mins) 0				MADD Factor * 10m³/ha Storage 2.000					
Hot Start Level (mm) 0				Inlet Coefficient 0.800					
Manhole Headloss Coeff (Global) 0.500				Flow per Person per Day (l/per/day) 0.000					
Foul Sewage per hectare (l/s) 0.000									
Number of Input Hydrographs 0				Number of Storage Structures 1					
Number of Online Controls 2				Number of Time/Area Diagrams 0					
Number of Offline Controls 0				Number of Real Time Controls 0					
<u>Synthetic Rainfall Details</u>									
Rainfall Model				FSR		Ratio R 0.358			
Region England and Wales Cv (Summer)				0.750					
M5-60 (mm)				18.000 Cv (Winter)		0.840			
Margin for Flood Risk Warning (mm)						300.0			
Analysis Timestep 2.5 Second Increment (Extended)									
DTS Status						OFF			
DVD Status						ON			
Inertia Status						ON			
Profile(s)						Summer and Winter			
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480									
Return Period(s) (years)						1, 2, 30, 100			
Climate Change (%)						0, 0, 40, 45			
WARNING: Half Drain Time has not been calculated as the structure is too full.									