



Report Title

Technical Report to Assess Culvert Location

At

**54 Derby Street,
Manchester,
M8 8HF**

For

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Appendix A: **Architects Drawings**

Appendix B: **LLFA Data Screen of 'hidden' Watercourses**

1. Introduction

- 1.1 Paul Graveney Consulting Ltd (PGC) has been appointed by Kacoo Investments Limited to prepare this technical report to assess the location of a potential culverted watercourse passing beneath land at 54 Derby Street, Manchester. The report will be used to support the planning application for a proposed retail / commercial development at the site.
- 1.2 An earlier planning application was submitted at the site in early 2023 for a similar scheme. The Lead Local Flood authority (LLFA) as statutory consultee objected to the proposal on the grounds that insufficient evidence had been provided to disprove that a culverted ordinary watercourse (Fairylane Brook) passed through the site.
- 1.3 The report has been commissioned to assess both desk-based mapping and to include findings from an intrusive site investigation to disprove that the culvert is located beneath the development site.
- 1.4 The Site Masterplan as indicated in Appendix A provides details of the proposed development intent.

2. Development Description and Location

2.1 Existing Site Description

- 2.1.1 The development site (Red Line Boundary) is irregular in plan shape and encompasses an existing large retail / commercial building to the western side, with an open service yard and car parking area to the eastern side.
- 2.1.2 The development boundary is located within a predominantly commercial led area, with existing highways and buildings to all sides.
- 2.1.3 Figure 1 identifies the overall site location details. Further details of the existing layout can be seen on the plans in Appendix A.



Figure 1: Location Plan as taken from Google Maps (2023)

3. Culverted Watercourse Assessment

3.1 Sources of Information

- 3.1.1 The following sources of information have been used to assess the identification of a culverted watercourse passing through the development site.

Source of Information	Details
Manchester City Council LLFA	Data Screen Service of Hidden Culverts and Watercourses.
Historic Maps	From various websites
United Utilities	Sewer Records
Intrusive Investigations	Trial Pits

Figure 2: Sources of Information

3.2 Existing Watercourses

- 3.2.1 The closest identified watercourses are the River Irk, located some 1km to the southeast and the River Irwell, located some 1km to the southwest. These features flow generally in a southerly direction towards Manchester City Centre, away from the site boundary.

3.3 'Hidden' Watercourses

- 3.3.1 The LLFA have been consulted to obtain a data screen of potential culverted or Hidden watercourses in the area of the development. The outputs highlight an indicative risk that the 'Fairy Lane Brook' culverted ordinary watercourse crosses the site from north to south. The output clearly indicates that the mapping is not accurate and has not been verified by survey. Refer to Figure 3 below and Appendix B for full details.
- 3.3.2 It is difficult to locate the specific routes of lost watercourses since they are culverted underneath the urban areas around Manchester, do not provide any manhole access for entry & investigation and in some cases may have been abandoned over time.
- 3.3.3 The LLFA have advised that investigations should be undertaken to determine if the watercourse does pass through the site as the indicative mapping implies.

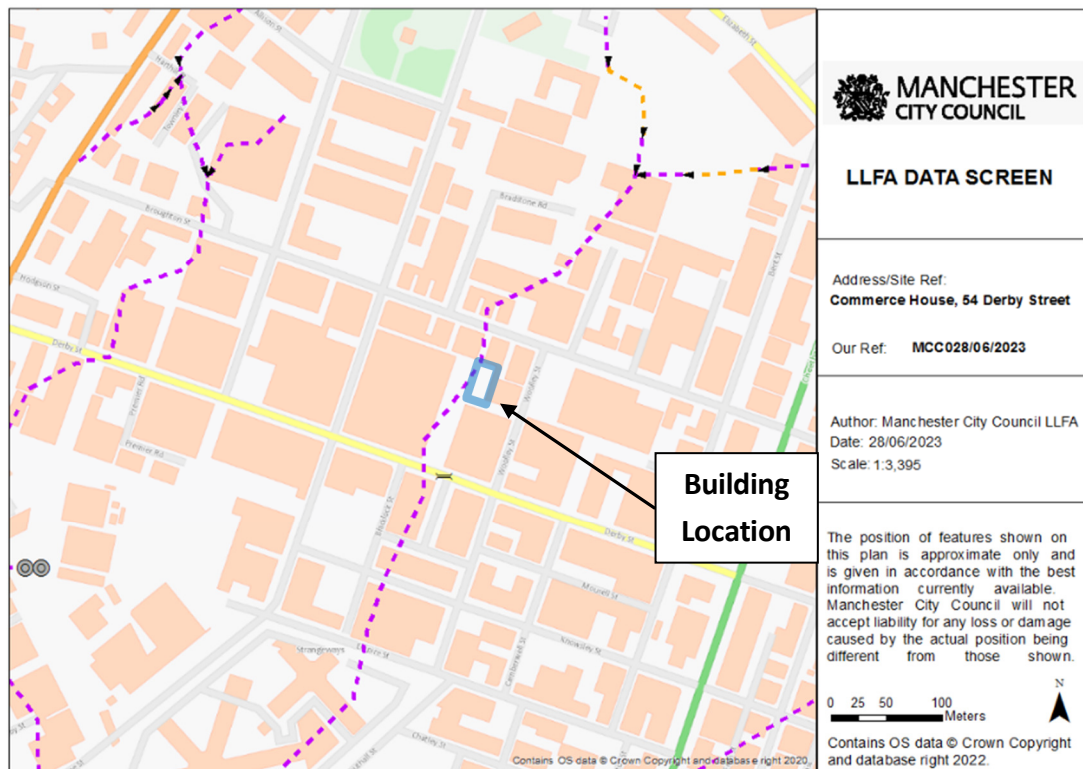


Figure 3: LLFA Culvert Data Screen

3.4 Historic Mapping

- 3.4.1 A review of the earliest historical Ordnance Survey (OS) mapping for the site dated 1848 indicates a possible open watercourse flowing south through the eastern side of the red line boundary, though it is difficult to be fully accurate from the clarity of the maps. By the next available historic mapping, dated 1892-1893, there is no evidence of any watercourse in the area and no evidence of a watercourse shown on site. Instead, the area immediately to the north on all sides are occupied by a series of extensive 'clay pits' associated with a brick works located circa 100m to the north. By the time of the 1909 mapping, extensive development had started to take place with highways and building constructed in the immediate area. directly to the south of the site a Police Station had been constructed. The 1930 map indicates a large building within the site (aligned with the current building) and the 1972 mapping indicates both the site and surrounding areas extensively developed with buildings to all sides. No evidence of the potential historic watercourse is identified on the later mapping and a significant number of buildings would have been constructed over the watercourse were it to have been retained in the original and that shown on the LLFA mapping.

3.5 Existing Drainage

- 3.5.1 United Utilities (UU) Sewer records have been reviewed (refer to Figure 4 below) and indicate no adopted sewers within the site boundary. Within the adjoining highways to all sides there are a number of combined water sewers ranging in size from 300mm diameter to 375mm diameter, flowing generally in a southerly direction to mimic the natural ground falls.

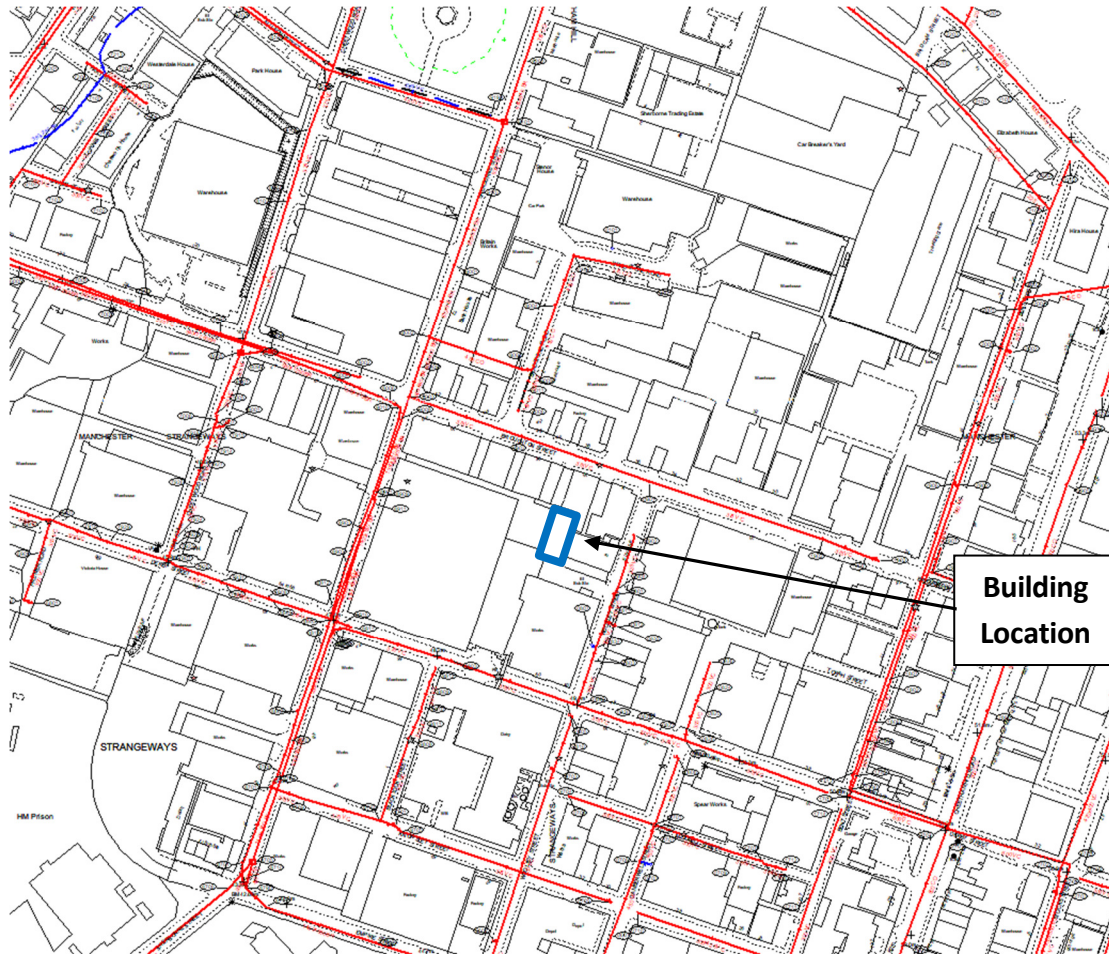


Figure 4: Extract of United Utilities Sewer Records

3.5.2 It is evident on this UU mapping that no surface water sewers or culverted watercourses are located in close proximity to the site. It is noted that the UU mapping does not always indicate such features, though generally from experience the maps would include culverts that had been surveyed and more accurately mapped.

3.6 Intrusive Investigations

3.6.1 On the 4th September 2023, a trial pit was excavated along the full width of the proposed building and 3m beyond the western boundary, to a depth of between 2.5m on the western side and 2.2m on the eastern side. This was considered the maximum depth to reduce the risk of collapse and negate any temporary supports. Refer to Figure 5 for the location.

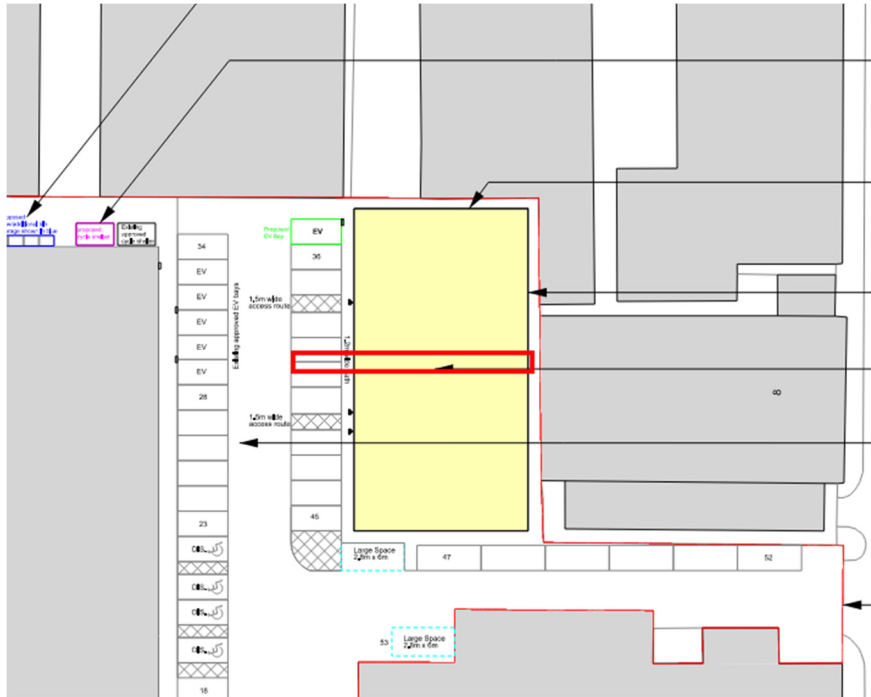


Figure 5: Location Plan of Trial Pit

- 3.6.2 The material excavated encompassed 'Made Ground' to the full depth.
- 3.6.3 No culverted watercourse was identified within the trial pit. The only service was a 150mm diameter drain at circa 1m depth within the centre of the pit.
- 3.6.4 Refer to the photographs below which define further.



Photograph 1 – Full Length Trial Pit



Photograph 2 – Trial Pit Viewing East

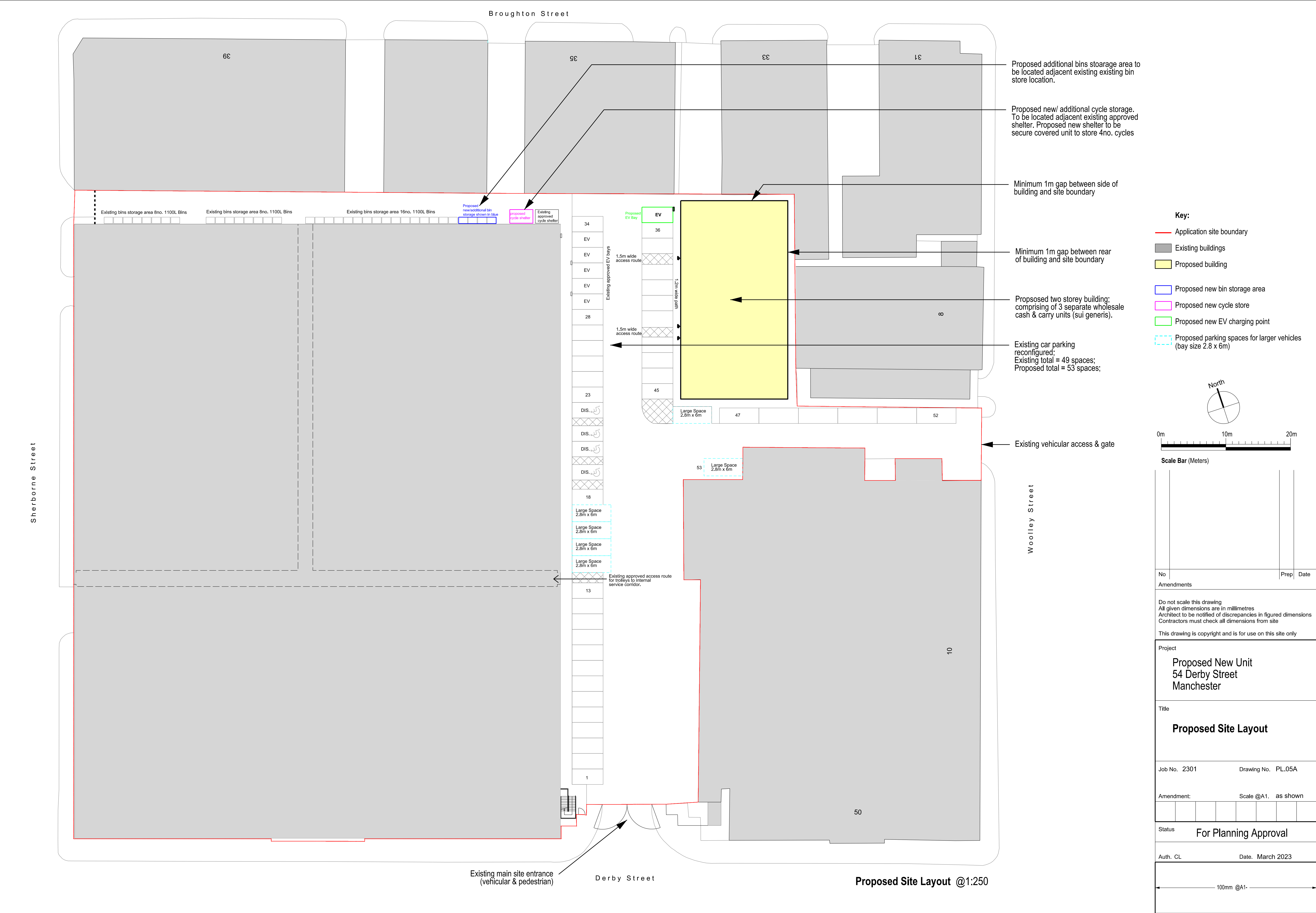


Photograph 3 – Trial Pit Viewing West

4. Conclusion

- 4.1 In conclusion, the historic maps, United Utilities sewer records and trial pit investigation do not show evidence of a historic watercourse passing through site as implied via the LLFA indicative hidden watercourse map. The feature therefore either pre-dates OS map records, is located off site beneath the highways or more than likely was abandoned as the area became extensively developed in the mid 1900's.
- 4.2 Based on the assessment undertaken it is considered extremely unlikely that the historic watercourse is located within the site boundary.

Appendix A – Architects Drawings



Appendix B – LLFA Indicative Culvert Mapping



**MANCHESTER
CITY COUNCIL**

Lead Local Flood Authority

Highways Service
Growth and Neighbourhoods Directorate
Manchester City Council
PO Box 532
Town Hall
Manchester
M60 2LA

Email: floodriskmanagement@manchester.gov.uk

DATE 28/06/2023

Dear Sir or Madam,

RE: Our Ref: MCC028/06/2023

We acknowledge with thanks your payment received on 09/06/2023 for our LLFA data screen service.

Please find enclosed plan showing the results of the data screen. The position of features shown on this plan is approximate only and is given in accordance with the best information currently available.

The enclosed plan cannot be used to substitute a competent site investigation.

The enclosed plan is being provided to you subject to Manchester City Council's terms and conditions which are shown attached.

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

If you have any queries regarding this matter, please do not hesitate to contact us.

Yours Faithfully,

T. Esmail

Talha Esmail, Flood Risk Engineer, Lead Local Flood Authority

TERMS AND CONDITIONS – LLFA DATA SCREEN

These provisions apply to LLFA data supplied by Manchester City Council (“MCC”).

TERMS AND CONDITIONS:

- This data 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.
- MCC has taken all reasonable care to compile this data Map. This data Map and any information supplied with it is provided for general guidance only and MCC makes no representation, undertaking or warranty of any kind as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position of any culverted assets shown on the data Map are approximate only. MCC strongly recommends that a comprehensive site investigation is undertaken in addition to reviewing this data Map to determine and ensure the precise location of any assets. The exact location, positions and depths should be obtained by an appropriate survey which may include but shall not be limited to GPR and CCTV.
- The data screened may be modified over time without notice and therefore this data 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 data Map have been made subsequent to issue and prior to any works being carried out.
- This data 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) or for the purpose of determining the suitability of a point of connection to discharge.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising from damages of any kind caused to assets by reason of the actual position and/or existence of assets being different from those shown on the data Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- 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 MCC from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

DATA SCREEN SYMBOLOGY

Bridge

-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Trash Screen

-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Culvert Orifice

-  Very Good
-  Good
-  Fair
-  Poor
-  Very Poor
-  Unknown

Culvert Conduit

-  CCTV surveyed
-  Not CCTV surveyed
-  Ordinary Watercourse Conduit
-  MCC SuDS
-  MCC Flood Incident Points
-  MCC Section 19 Report
-  MCC Flood Incident Polygons
-  MCC Local Authority Boundary

Supplementary Information where available:

Critical Drainage Area – The Site is in the Conurbation Core CDA.

Flood Incidents – There are 6 flood/drainage incidents adjacent to the site boundary:

Incident 1 and 2: 8 and 10 Wooley Street, dated 02/02/2018 described as “Blocked Grid / Gully”.

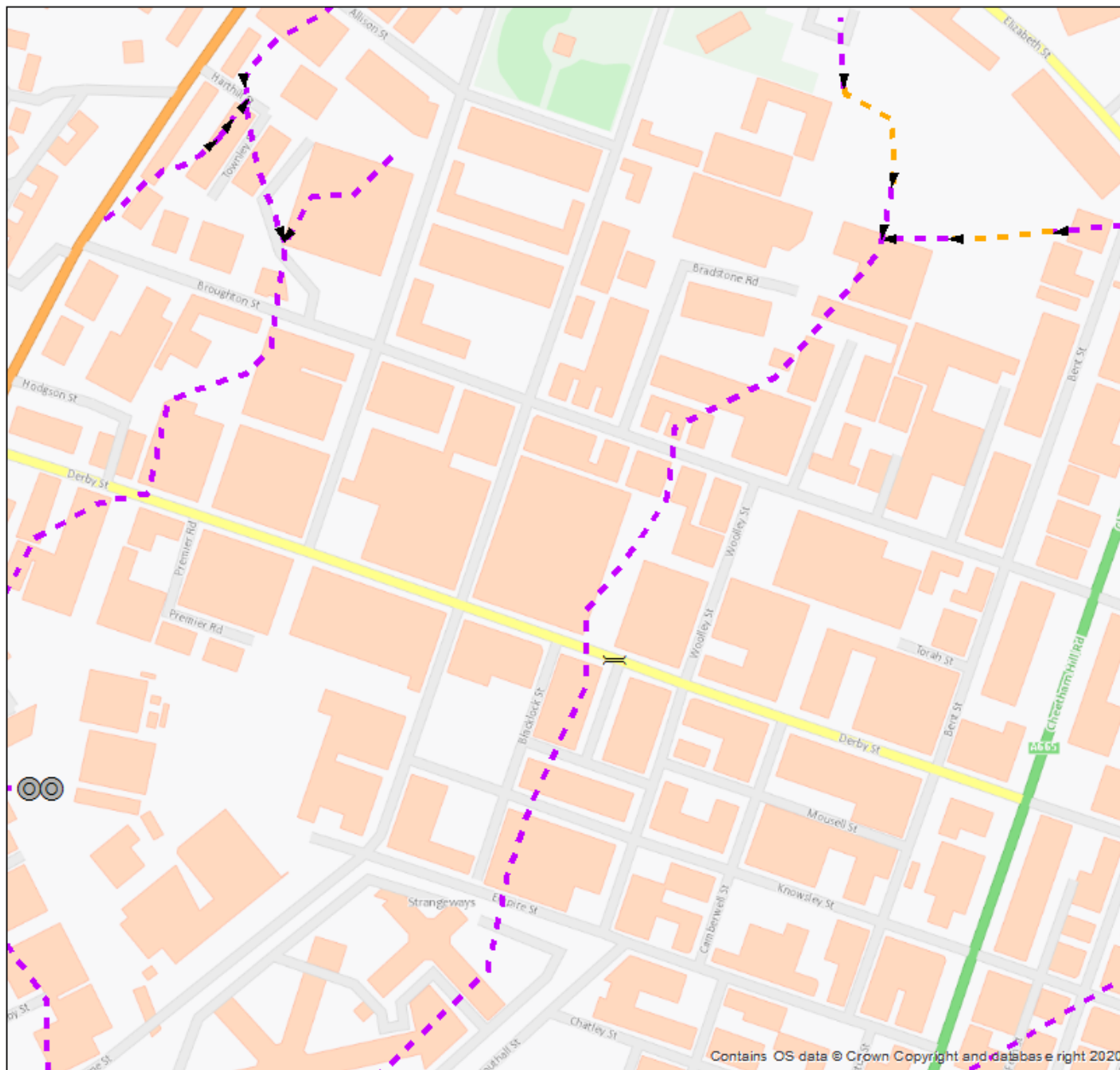
Incident 3 and 4: Derby Street, dated 02/02/2018 described as “Blocked Gully or Drain”.

Incident 5 and 6: Near Vitco House 49 Sherborne Street, dated 18/10/2020 describes as “Blocked Grid / Gully”.

Culvert Conduits – The asset register highlights an indicative risk that the “Fairy Lane Brook” culverted ordinary watercourse crosses the Site. An indicative culvert route is shown crossing the centre of the Site. This culvert is an indicative asset and has not been verified with survey.

Survey and Design Archive – Extract from the 1984 survey of major drainage is included.

Any other information - A planning application on this site would benefit from site investigation of the indicative culvert risk, which should be presented to support the planning application. Inadequate site investigations to prove or disprove the asset’s presence could result in an objection to the application from the LLFA. Should a culverted ordinary watercourse be identified during site investigations, any planning application’s masterplan should take account of the culverted watercourse and any required permissions should be obtained.



**MANCHESTER
CITY COUNCIL**

LLFA DATA SCREEN

Address/Site Ref:
Commerce House, 54 Derby Street

Our Ref: **MCC028/06/2023**

Author: Manchester City Council LLFA
Date: 28/06/2023
Scale: 1:3,395

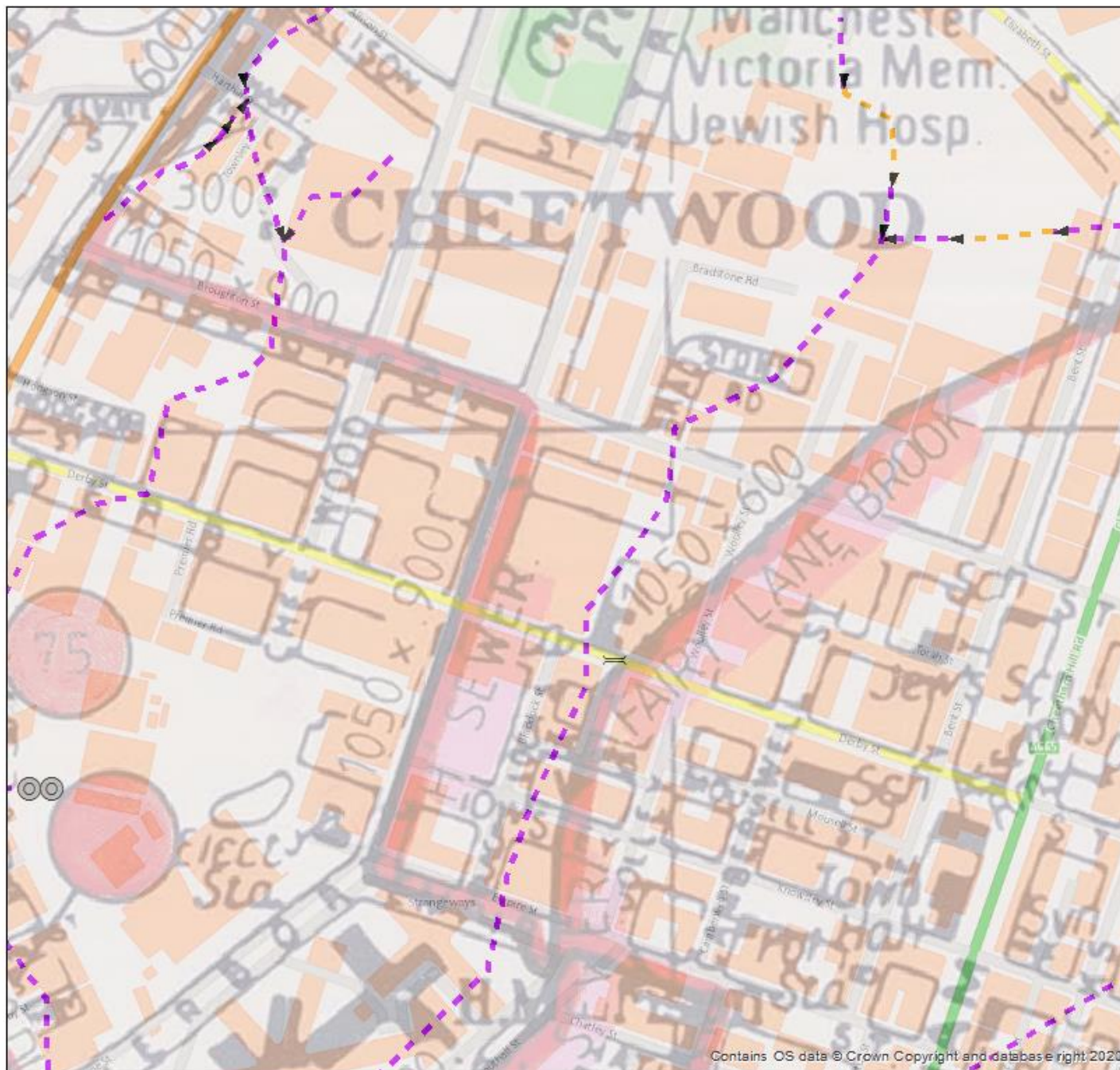
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0 25 50 100
Meters



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LLFA DATA SCREEN

Address/Site Ref:
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