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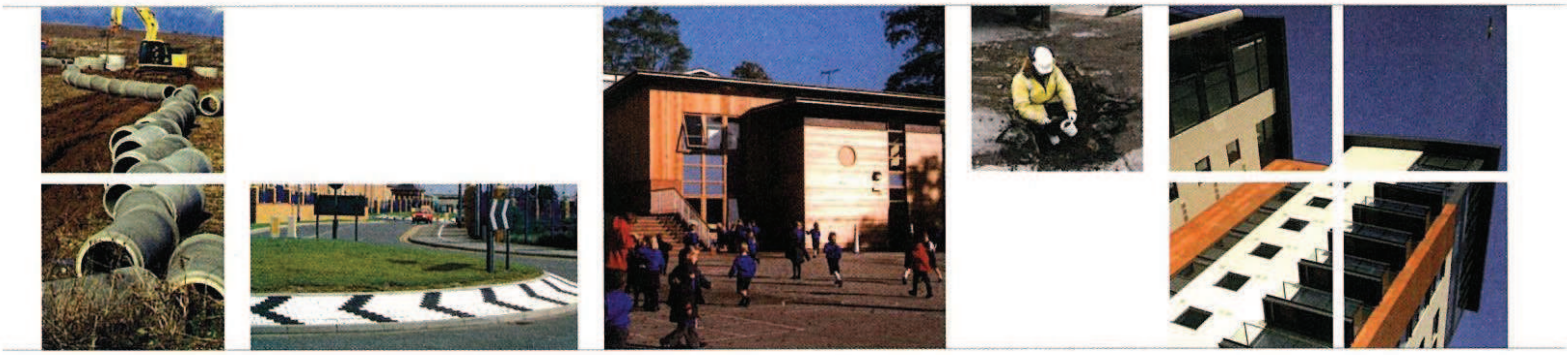
FLOOD RISK ASSESSMENT REPORT

Land at Rochdale Road, Manchester

Client: RCP Limited

November 2013

Job No: 45270



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Revision Status

Issue	Date	Description	Author	Checker	Approver

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FIGURES & DRAWINGS

Figure 1	Site Location Plan
Figure 2	Environment Agency Flooding and Groundwater Plans
Drawing No 45270/C/SK01	Car Park Layout
Drawing No 45270/C/SK02	Preliminary Drainage Strategy

1. INTRODUCTION

1.1. Richard Jackson Limited has been instructed by RCP Limited to undertake a Flood Risk Assessment (FRA) Report for car park proposal on a redevelopment site off Rochdale Road, Manchester, see site location on Figure 1.

1.2. The site is in EA Flood Zone 1 (low risk) as shown on the Environment Agency indicative flood mapping, see Figure 2. This report therefore comprises an overview of a surface water drainage strategy to mitigate and address the potential for the car park and associated features, to prevent the site flooding from surface water, and flooding surrounding land and property. The document has been produced in accordance with the NPPF – Technical Guidance 2012, published by the Department of Communities and Local Government (DCLG).

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2. DEVELOPMENT DESCRIPTION AND LOCATION

2.1. The site, as shown in Figure 1, has an approximate Ordnance Survey midpoint of 384822,399342 and a postcode of M4 4JA. The total area of the site is approximately 1.376 Ha (3.40 acres) and comprises of a former Police station.

2.2. The existing drainage consists of a series of gullies and sewers across the site which outfall into Bromley Street and Peary Street.

2.3. The approximate levels of the site are 53.5m Above Ordnance Survey Datum (AOD) towards the southern corner of the site and 47.15m AOD towards the northwest corner of the site as taken from the topographical survey. It is proposed that the land is developed for a car park and a copy of the layout 45270/C/SK01 is appended to this report with the topographical survey data.

3. DEFINITION OF FLOOD HAZARD

3.1. When assessing any development site, there are three potential sources of flooding which need to be considered both in terms of their effect on the development itself, its end users and that caused to others. The main sources of flooding that need to be considered are as follows:

- fluvial and/or tidal flooding;
- ground water;
- overloading of the existing drainage network

Fluvial and Tidal Sources of Flooding

3.2. An investigation of the existing watercourses and the Environment Agency indicative flood mapping shows that there are no identified influences of fluvial or tidal flooding at the site.

Groundwater

3.3. A brief investigation has been undertaken into the groundwater for the site and it has been considered that there is no significant risk to the proposals from ground water heading. There are no indications of secondary aquifers identified and therefore should not affect the proposed development. See Figure 2 for confirmation of this issue.

Surface Water System

3.4. The site adequately copes with surface water run off at present. It is not anticipated that any additional water will affect the existing sewer as the impermeable area of the site is to be smaller than the present. The assessment of surface water run-off and reduction of flood risk is assessed in Chapter 5 of this report.

4. FLOOD RISK IMPACT

4.1. The level information available from the topographical survey undertaken and that the fall across the site provides sufficient fall for the existing drainage to capture the rainfall as it falls across the site.

4.2. The site has been considered against the existing impermeable area and the proposed area. These are indicated below;

Total Site Area	1.376 Ha
Existing impermeable Area	0.8289 Ha
Proposed Impermeable Area	0.7849 Ha

4.3. It is clear that the proposal for the site will have a reduction in water discharge from the site due to the reduction in impermeable area.

4.4. The Environment Agency website indicates that the site is not located within a Source Protection Zone associated with a groundwater abstraction point (refer to Figure 2). Nevertheless, it is imperative that the pollution risk to groundwater from any surface water soaking into the ground from hardstanding areas (which can carry pollutants such as oils and soap suds, etc), is mitigated against in order to prevent potential soil and water contamination.

Soil Types and SuDS Suitability

4.5. The Technical Guidance of the NPPF indicates that the FRA report should identify the risks of flooding and manage those risks to ensure sites remains safe. One way to manage the flood risk is to incorporate Sustainable Drainage Systems (SuDS) within proposals for new sites. There is a general requirement that sustainable drainage systems (SuDS) be installed where appropriate, in order to limit the amount of surface water runoff entering drainage systems and to return surface water into the ground to follow its natural drainage path.

4.6. It has been identified from mapping published by the British Geological Survey that the soil conditions are likely to be mudstone or sandstone and this soil type is therefore not suitable for infiltration drainage i.e. soakaways.

5. FLOOD RISK MANAGEMENT

5.1. Having determined that the soil across the site does not possess sufficient infiltration capacity for the use of infiltration devices, the alternative use of the existing sewers has been considered to accommodate the proposed water discharge as the proposed impermeable area is less than the existing.

5.2. A drainage strategy has been prepared and is indicated on drawing 45270/C/SK02, which also shows the proposed petrol interceptor to help protect the downstream sewers against potential pollution flow from the site.

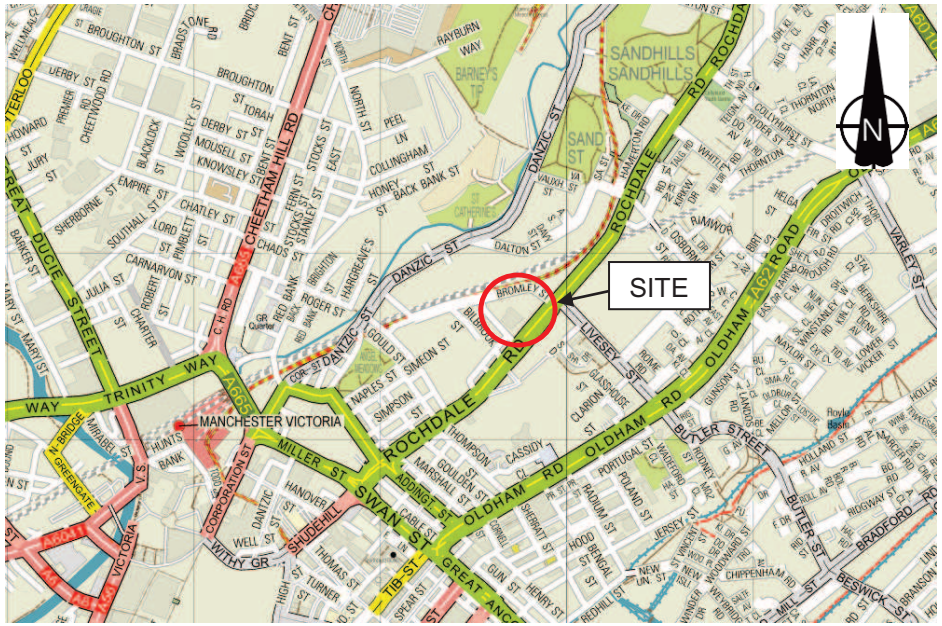
5.3. It is therefore concluded that the report shows how the flood risk can be managed and that there is no flood risk reason why this site cannot be granted planning permission for residential development.

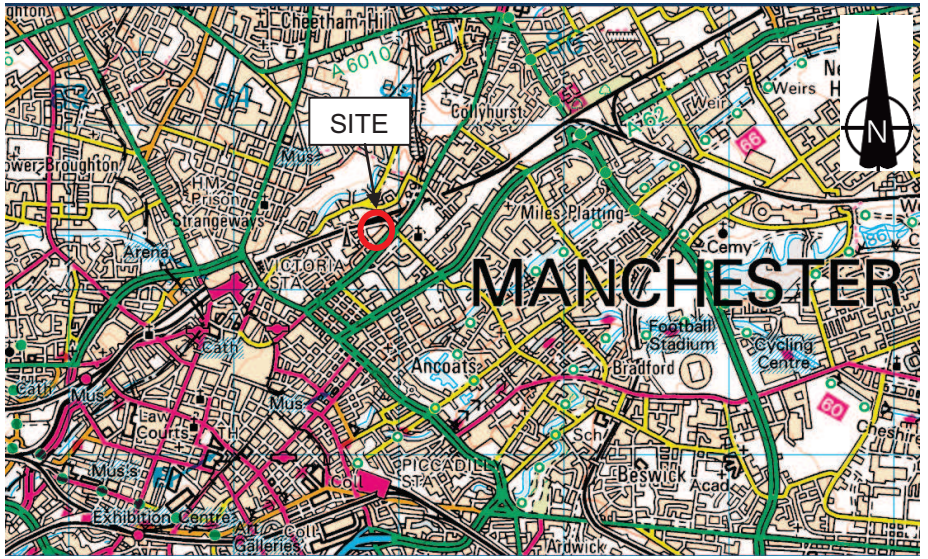
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FIGURES & DRAWINGS

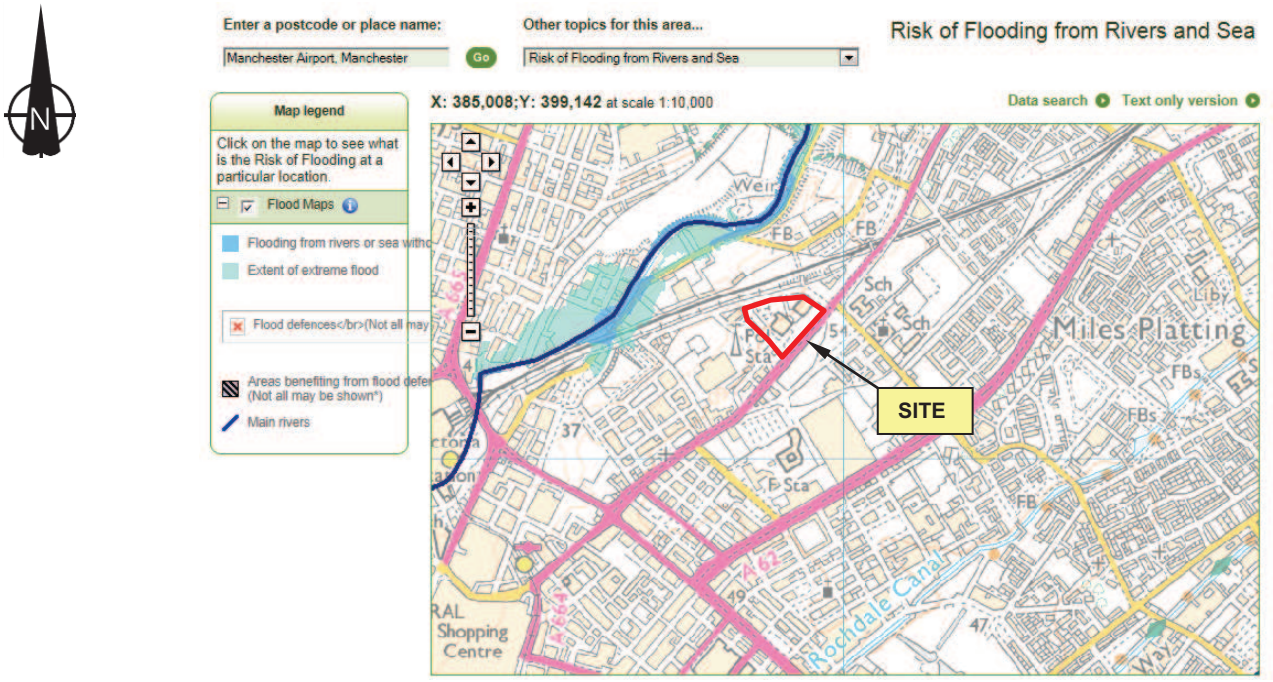


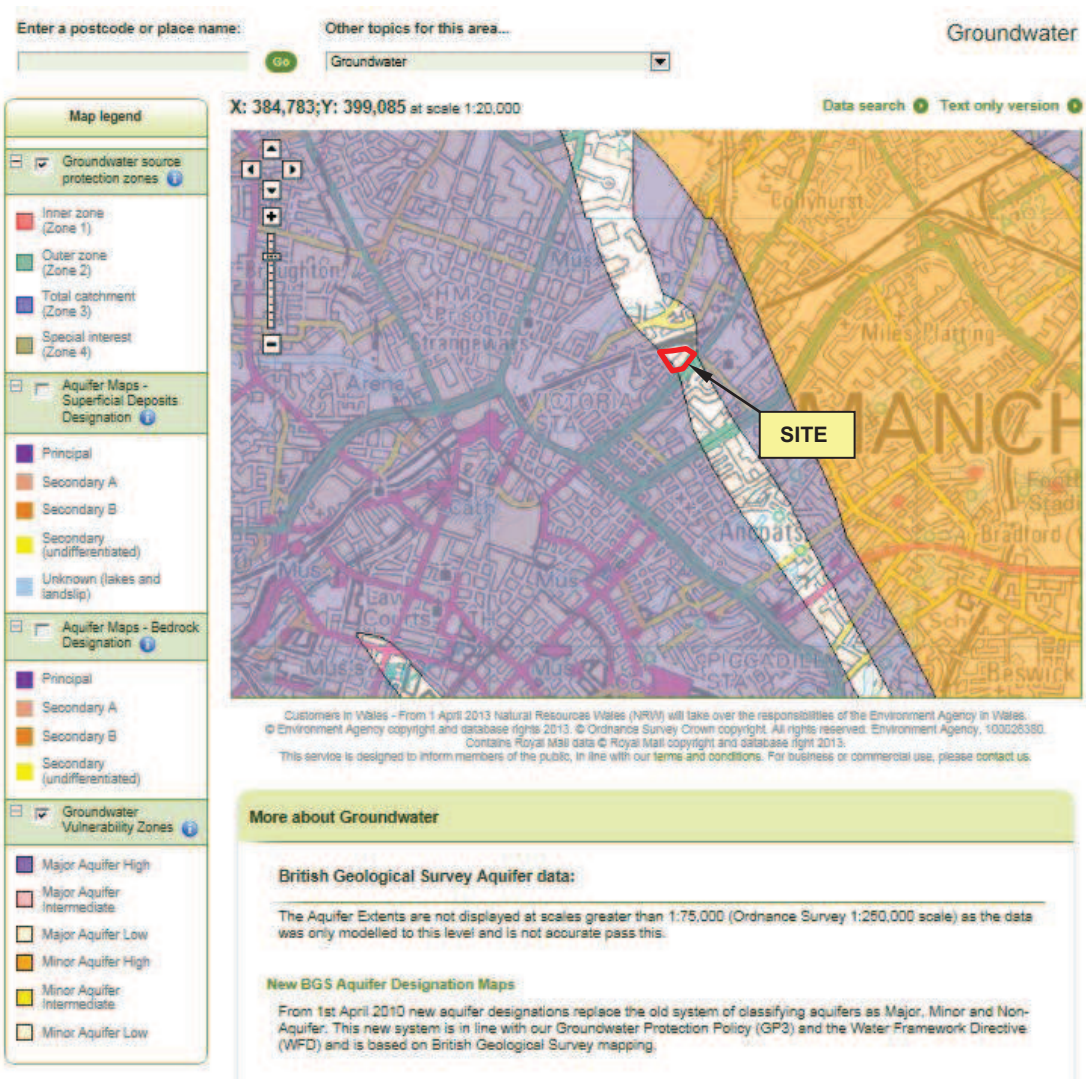


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Client:	Drawing Title:		
RCP Parking	**Site Location Plan**		
Job Title:	Date:	Job No:	Dwg No:
Land at Rochdale Road	**04/10/13**	**45270**	**Fig 1.**

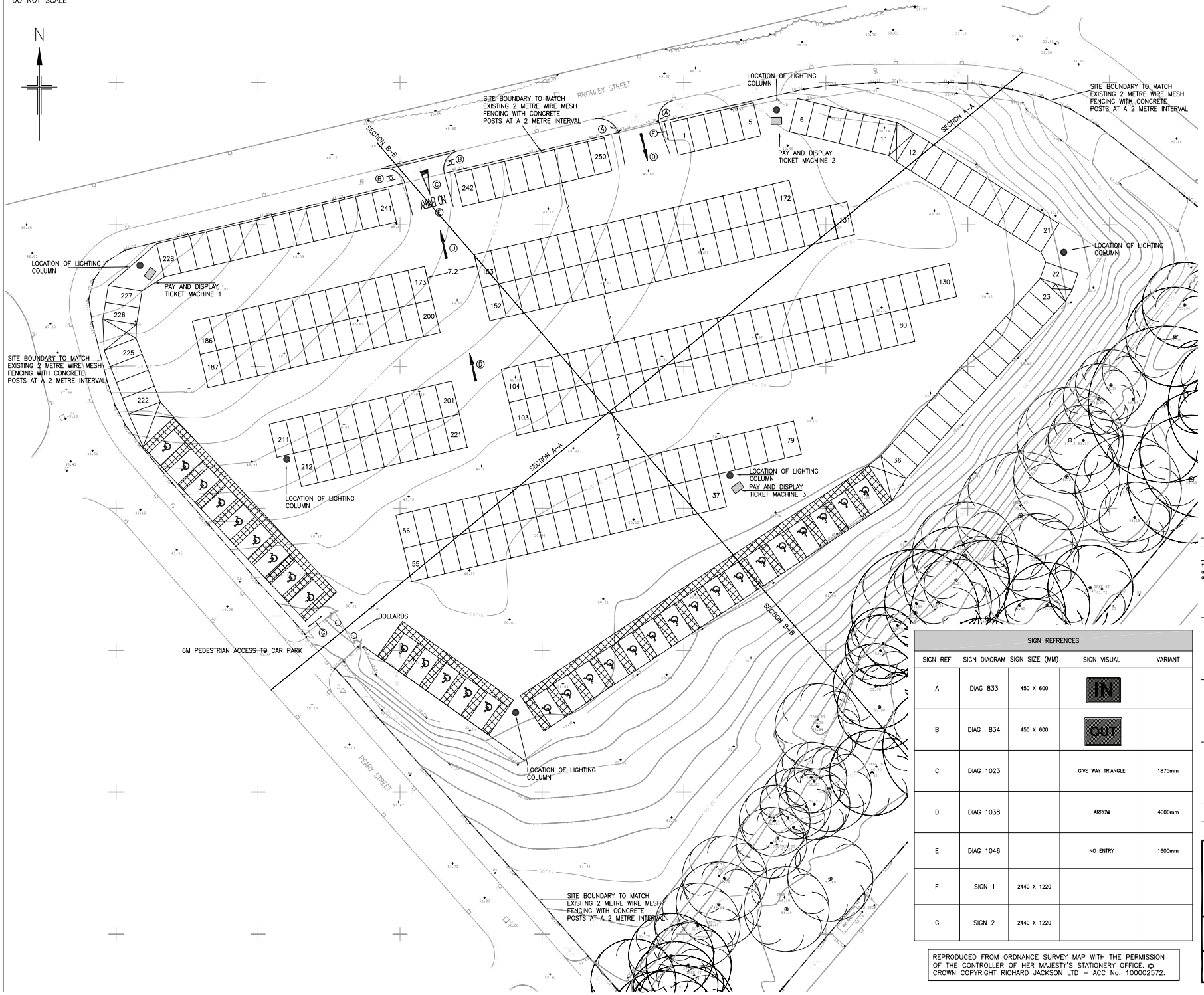
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Client:	Drawing Title:			richardjackson intelligent engineering
RCP Ltd	**Environment Agency Flooding and Groundwater Plans**			6 The Old Church, St Matthews Road, Norwich, NR1 1SP Tel. 01603 230240 www.richardjackson.uk.com
Job Title:	Date:	Job No:	Dwg No:	
Land off Rochdale Road, Manchester	**21.11.13**	**45270**	**Fig. 2 (NTS)**	

DO NOT SCALE



NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED
2. ALL LEVELS ARE IN METRES AND RELATE TO ORDANCE SURVEY DATUM.
3. ACCESS TO BE TAKEN FROM BROMLEY STREET.
4. SURFACE TO BE SPECIFIED AT THE DETAIL DESIGN STAGE.
5. THE CAR PARK IS TO PROVIDE 250 SPACES AND 30 DISABLED SPACES.
6. FOR SECTIONS THROUGH CAR PARK SEE DRAWING 45270-C-SK03

KEY

(A) SIGN REF – SEE TABLE FOR DETAILS

SIGN REFRENCES

SIGN REF	SIGN DIAGRAM	SIGN SIZE (MM)	SIGN VISUAL	VARIANT
A	DIAG 833	450 X 600	IN	
B	DIAG 834	450 X 600	OUT	
C	DIAG 1023		GIVE WAY TRIANGLE	1875mm
D	DIAG 1038		ARROW	4000mm
E	DIAG 1046		NO ENTRY	1600mm
F	SIGN 1	2440 X 1220		
G	SIGN 2	2440 X 1220		

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PRELIMINARY DRAWING

REV	DATE	DESCRIPTION	DRAWN	CHKD
C	31/10/13	REVISED TO SUIT ARCHITECTS COMMENTS	SAC	MJD
B	30/10/13	REVISED TO SUIT ARCHITECTS COMMENTS	SAC	MJD
A	15/10/13	SIGNS F AND G ADDED	SAC	MJD

REVISIONS

This drawing is to be read in conjunction with all other Engineer's drawings and all other project information. Any discrepancy between the Engineer's drawings and other project information is to be reported to the Engineer immediately.

Project
ROCHDALE ROAD, MANCHESTER

Title
CAR PARK LAYOUT

Client
RCP CAR PARKS

Scale	Drawn	Date
1:250 @ A1	S CAIN	08/10/13
Job Manager	Checked	Approved
M DOUGHTY	M DOUGHTY	

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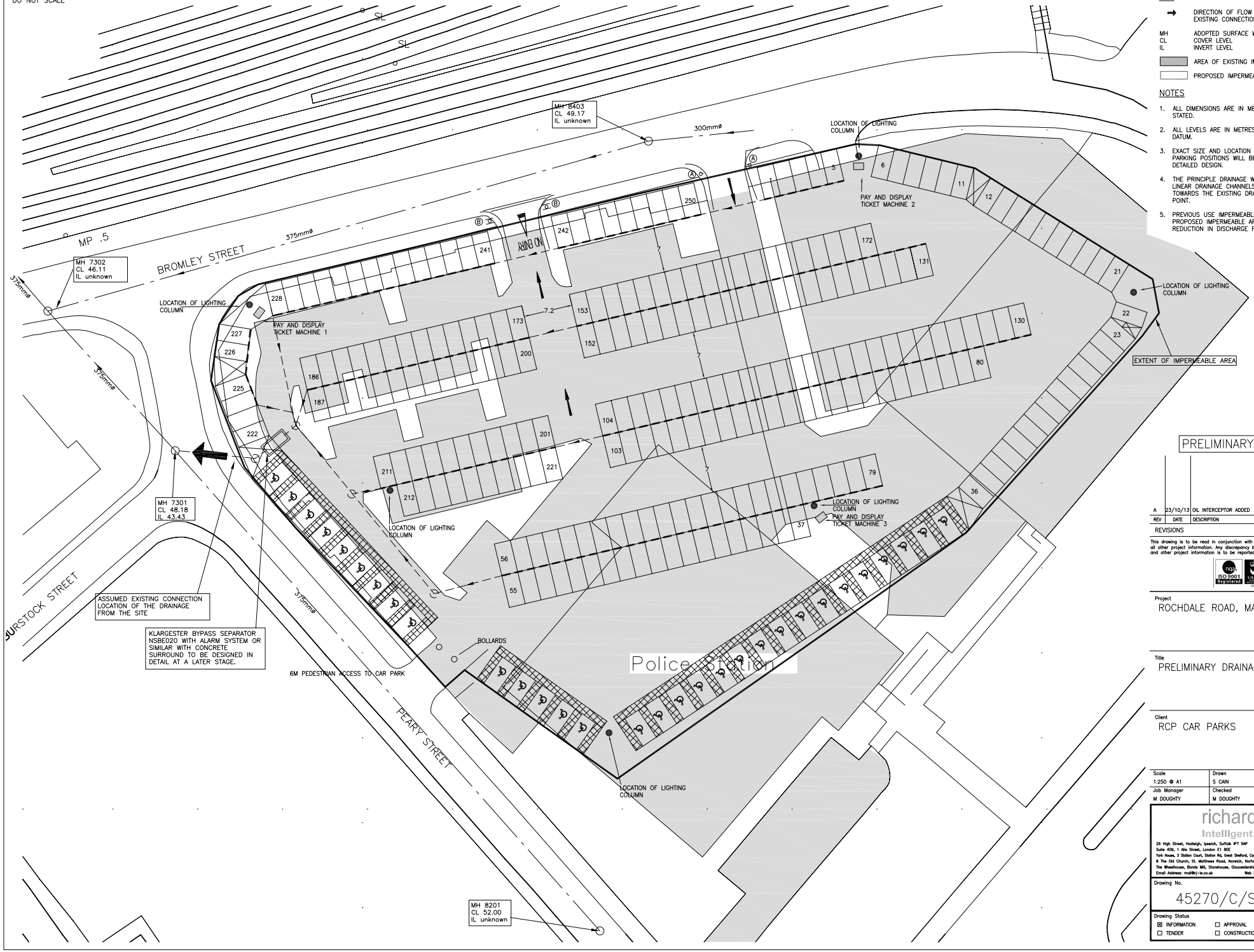
Drawing No.	Revision
45270/C/SK01	C

Drawing Status
☒ INFORMATION ☐ APPROVAL ☐ COSTING
☐ TENDER ☐ CONSTRUCTION ☐ AS CONSTRUCTED

A1

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KEY

→ DIRECTION OF FLOW FROM CAR PARK TO EXISTING CONNECTION IN PEARY ROAD

MH ADOPTED SURFACE WATER MANHOLE
CL COVER LEVEL
IL INVERT LEVEL

AREA OF EXISTING IMPERMEABLE AREA

PROPOSED IMPERMEABLE AREA

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METRES AND RELATE TO OS DATUM.
3. EXACT SIZE AND LOCATION OF BUILDINGS, CAR PARKING POSITIONS WILL BE DEPENDANT ON FUTURE DETAILED DESIGN.
4. THE PRINCIPLE DRAINAGE WILL BE A SERIES OF LINEAR DRAINAGE CHANNELS WHICH WILL FLOW TOWARDS THE EXISTING DRAINAGE CONNECTION POINT.
5. PREVIOUS USE IMPERMEABLE AREA=8289m2. PROPOSED IMPERMEABLE AREA=7849m2 WHICH IS A REDUCTION IN DISCHARGE FROM THE SITE.

PRELIMINARY DRAWING

REV	DATE	DESCRIPTION	DRAWN	CHKD
A	23/10/13	OIL INTERCEPTOR ADDED	SAC	MJD

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Project
ROCHDALE ROAD, MANCHESTER

Title
PRELIMINARY DRAINAGE STRATEGY

Client
RCP CAR PARKS

Scale	Drawn	Date
1:250 @ A1	S CAIN	11/10/13
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Drawing No.	Revision
45270/C/SK02	A

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