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**PROPOSED PETROL FILLING STATION, DRIVE-THROUGH
COFFEE SHOP AND DRIVE-THROUGH RESTAURANT**

SIR ISAAC NEWTON WAY, KINGSWAY, ROCHDALE

FLOOD RISK ASSESSMENT

December 2023



Commissioned by: Euro Garages Ltd.

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Project Reference: NS_0124_80

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1.0 INTRODUCTION AND DEVELOPMENT DESCRIPTION

1.1 Project Introduction and Objectives

Euro Garages Ltd. has commissioned NSugg Ltd. to undertake a Flood Risk Assessment (FRA) to support a planning application for the proposed development of a petrol filling station, drive-through coffee shop and drive-through restaurant on land adjacent to Sir Isaac Newton Way, Kingsway Business Park, Rochdale. This document represents a site-specific FRA for the proposed development.

1.2 Planning Policy and Guidance

This FRA has been undertaken in accordance with the relevant planning policy and guidance outlined below.

1.2.1 National Planning Policy

The National Planning Policy Framework (NPPF)¹ and associated Planning Practice Guidance for Flood Risk² aim to steer new development to areas with the lowest risk of flooding.

New development must also ensure that flood risk is not increased elsewhere, and where appropriate, planning applications should be supported by a site-specific Flood Risk Assessment.

The NPPF recommends that development should only be allowed in areas at risk of flooding where the FRA (and the sequential and exception tests, as applicable) can demonstrate that:

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
- b) the development is appropriately flood resistant and resilient;
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;
- d) any residual risk can be safely managed; and
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

The guidance confirms that major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate.

1.2.2 Environment Agency Policy and Guidance

The Environment Agency's guidance for FRAs³ confirms that planning applications for the following development proposals must be supported by a FRA:

¹ Ministry of Housing, Communities & Local Government, March 2012 (last updated: September 2023), National Planning Policy Framework.

² Ministry of Housing, Communities & Local Government, March 2014 (last updated: August 2022), Planning Practice Guidance, Flood Risk and Coastal Change.

- Development in Flood Zone 2 or 3 including minor development and change of use
- Development sites of more than 1 hectare (ha) in Flood Zone 1
- Development sites less than 1 ha in Flood Zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (for example surface water drains, reservoirs)
- Development in an area within Flood Zone 1 which has critical drainage problems as notified by the Environment Agency

The Agency's guidance supports the NPPF and specifies the requirements for FRAs based on the level of flood risk and the vulnerability of the proposed development to flooding.

In addition, Environment Agency consent is required for any proposed works or structures, in, under, over or within eight metres of the top of the bank of the watercourse, designated a 'main river', (or sixteen metres in the case of a tidal watercourse).

1.2.3 Local Policy and Guidance

The following documents provide local flood risk policy and guidance for development within Rochdale:

- Bury, Rochdale and Oldham's 2009 Strategic Flood Risk Assessment (SFRA)⁴ presents a regional overview of potential sources of flood risk and recommendations for development.
- Greater Manchester Combined Authority's 2019 SFRA update⁵ provides details of historic flood events from local sources and a regional review of local flood risk sources.
- Rochdale Borough's Strategy for Flood Risk Management⁶ provides information on flood risk within the borough and an overview of local policy relevant to surface water management and flood risk.
- Strategic Objective 4 of Rochdale's Core Strategy⁷ aims to promote a greener environment and includes:

Policy G8 – Managing Water Resources and Flood Risk:

We will ensure that new development (including flood risk mitigation measures) does not lead to any form of increased flooding locally or further downstream, does not impede natural water and flood risk management, is not detrimental to existing or potential flood storage areas, contributes where possible to alleviating existing flood risk, is itself well protected from flood risk and ensures prudent use of water resources. We will require:

³ Environment Agency, March 2014 (last updated: February 2017), Guidance – Flood Risk Assessments if you're applying for planning permission.

⁴ JBA Consulting, December 2009, Bury, Rochdale and Oldham Strategic Flood Risk Assessment, Final Report.

⁵ JBA Consulting, March 2019, Level 1 Strategic Flood Risk Assessment for Greater Manchester – update. Final Report.

⁶ Rochdale Borough Council, March 2014, Rochdale Borough's Strategy for Flood Risk Management 2014-2024.

⁷ Rochdale Borough Council, October 2016, Rochdale Adopted Core Strategy.

- a. Compliance with a 'sequential' approach to new development and flood risk, directing development away from areas of high risk, in accordance with the National Planning Policy Framework;*
- b. Full regard to and compliance with the advice of the Environment Agency (or equivalent agency) and the objectives and priorities for flood risk management set out in the Local Flood Risk Management Strategy, including any mitigation measures recommended for particular sites;*
- c. Full regard to the published evidence of local flood risk and its significance as included in Strategic Flood Risk Assessments, Surface Water Management Plans and other recognised sources of flood risk data and the production of additional Flood Risk Assessments (FRAs) as appropriate;*
- d. Incorporation of appropriate measures for the management of surface and flood water, including flood storage areas, Sustainable Urban Drainage Systems (SUDS) and the protection of 'overland flow paths';*
- e. Compliance with any Surface Water Management Plan or drainage strategies produced, such as for the identified critical drainage areas of Littleborough and Heywood;*
- f. The avoidance of culverting, and support the opening up of existing culverts wherever possible;*
- g. The incorporation of measures for the conservation of water to minimise potable water consumption, including rainwater collection measures, which should be integral to the design of buildings and spaces;*
- h. Development that does not directly or indirectly lead to pollution of existing water resources such as watercourses and groundwater or the derogation of the quantity of groundwater;*
- i. The incorporation of measures to improve water quality; and*
- j. The taking of opportunities to improve the habitat value of watercourses and water bodies.*

In addition, we will identify additional flood storage areas which will be protected from development.

1.3 Site Location

The application site is located at the junction of Sir Isaac Newton Way (A6193) and Michael Faraday Avenue, Rochdale, OL16 4PS, as shown on the Site Location Plan within Appendix 1. The site is located approximately 2km south-east of Rochdale town centre, within an area of mixed residential and commercial development, on the western edge of Kingsway Business Park.

The total area of the application site, as indicated on the Site Location Plan, is 1.39 hectares. The Environment Agency's on-line flood map for planning indicates that the entire application site lies within Flood Zone 1 (low probability of flooding).

The National Planning Policy Framework (NPPF) and associated technical guidance confirms that all applications for proposed new development within Flood Zone 2 or 3 and development proposals exceeding one hectare within Flood Zone 1 must be accompanied by a site-specific Flood Risk Assessment.

1.4 Topography and Existing Land Use

Review of Ordnance Survey mapping indicates that the local topography has a slight topographic fall to the north-east, towards Stanney Brook, with ground levels within the application site of approximately 146mAOD.

An existing site layout plan and topographic survey of the application site is included as Appendix 2. The survey confirms that the application site is currently undeveloped and relatively flat-lying with gently undulating site levels ranging from 146.0mAOD to 147.1mAOD. The site comprises rough grassland, with a strip of tarmac aligned through the site from the western boundary towards the north-eastern site corner.

The application site is bound to the north and accessed off Wallis Avenue; the site is bound to the south by Sir Isaac Newton Way (A6193), to the east by Michael Faraday Avenue and to the west by a public house and associated parking.

1.5 Geology

British Geological Survey mapping indicates that the local geology beneath the application site comprises interbedded mudstone, siltstone and sandstone of the Pennine Lower Coal Measures Formation overlain by superficial glacial deposits and peat⁸.

Review of Cranfield University's soil maps⁹ indicates that the soils beneath the northern part of the application site are defined as Soilscape 10: freely draining, slightly acid, sandy soils.

The topographic site survey (Appendix 2) confirms that virtually the entire application site comprises undeveloped grassland; a high proportion of incident rainfall is likely to infiltrate to ground due to the underlying free-draining soils.

1.6 Hydrological Features

The application site lies within the surface water catchment of Stanney Brook, which is classified as a main river and flows in a north-westerly direction, passing approximately 0.5km north-east of the site. Stanney Brook discharges into the River Roch approximately 1.5km north-west of the site.

Rochdale Canal passes approximately 150m north-west of the application site and artificial drainage ditches are indicated to the east of the site, parallel to Michael Faraday Avenue, associated with development in this area.

The local hydrological setting is presented as Figure 1.

⁸ British Geological Survey, Geology of Britain Viewer, accessed 11th December 2023.

⁹ Cranfield University's Soilscape Map, accessed 11th December 2023.

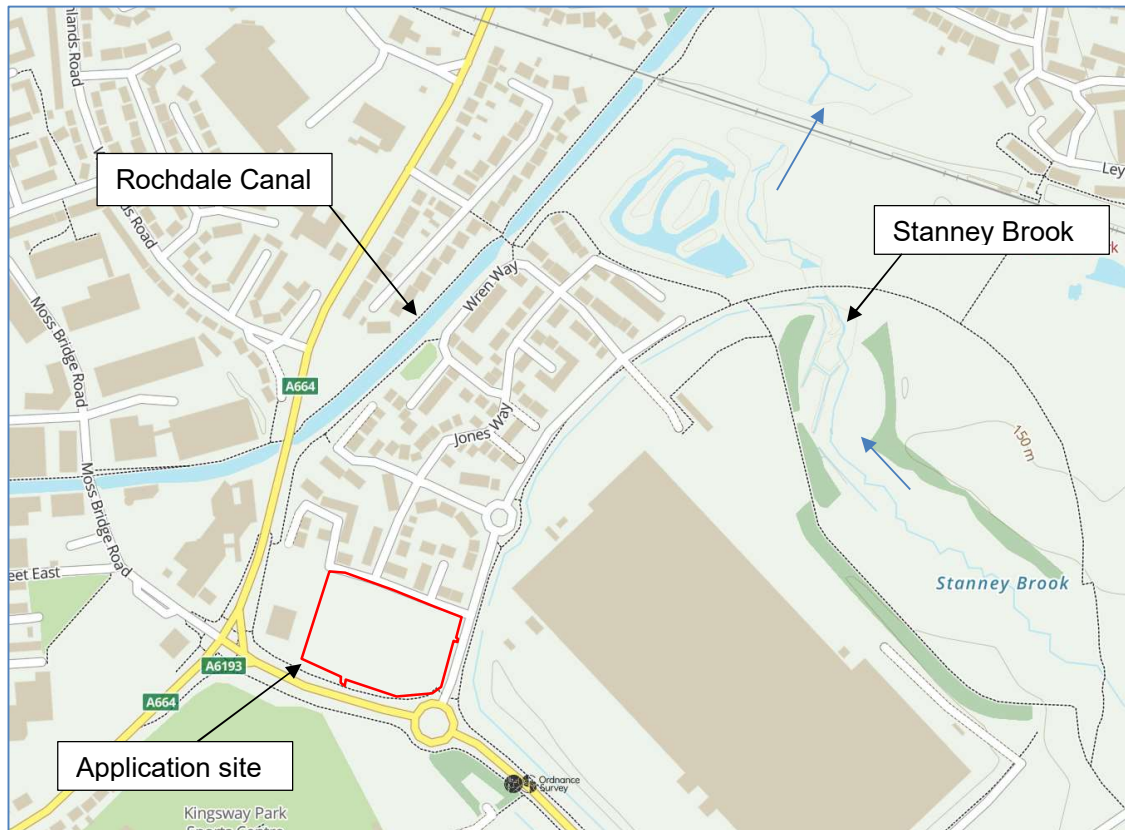


Figure 1. Local Hydrological Setting

1.7 Proposed Development and Flood Risk Vulnerability Classification

The proposed development comprises a petrol filling station, drive-through restaurant and drive-through coffee shop with associated access, car parking and landscaping; the proposed site layout plan is included within Appendix 3.

In terms of flood risk vulnerability classification, Annex 3 of the NPPF confirms that shops, general industry, restaurants, cafes and take-aways are classified as 'less vulnerable'. This is discussed further in Section 2.3.

2.0 FLOOD RISK ASSESSMENT

2.1 Sources of Information

In addition to the flood risk planning policy and guidance outlined in Section 1.2, the following sources of information have been consulted during the preparation of this FRA:

- Environment Agency website – for information regarding surface water, reservoir and fluvial/tidal flood risk and outline flood zone maps.
- Greater Manchester's Surface Water Management Plan¹⁰ - for information regarding the risk of flooding from surface water and sewers.

2.2 Flood Hazard

All potential sources of flooding to the application site are considered within this section of the report.

2.2.1 Environment Agency Flood Zone Map and Fluvial/Tidal Flood Risk

The Environment Agency flood zone map presents information regarding the fluvial and tidal flood risk to the application site and is included as Figure 2 below. The application site is not coastal or in the vicinity of a tidal watercourse and is not therefore at risk of tidal flooding.

The flood zone map indicates that the entire application site lies within Flood Zone 1, defined as less than 1 in 1000 (<0.1%) annual probability of river or sea flooding.

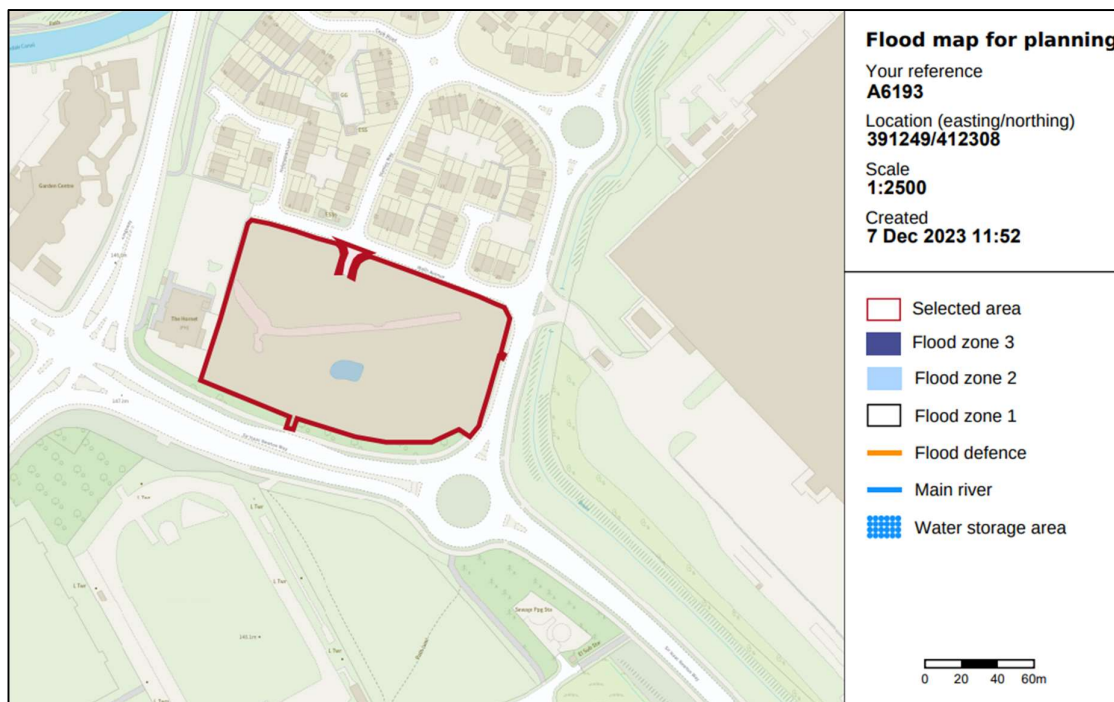


Figure 2. Environment Agency Flood Zone Map for the Application Site¹¹

¹⁰ JBA Consulting, January 2012, Greater Manchester Surface Water Management Plan. Stage 1 – A Strategic Assessment of Surface Water Flood Risk. Final Report.

The flood zone map (Figure 2) indicates the presence of a small surface waterbody within the application site; there is no evidence of standing water within the site topographic survey (Appendix 2) although this area corresponds with a slight topographic depression. The risk of surface water flooding is discussed further below.

2.2.2 Other Potential Sources of Flooding

The local SFRA, Rochdale's Strategy for Flood Risk Management and online flood maps have been reviewed to identify any other potential sources of flood risk to the application site and evidence of historic flood events in the local area. This information is presented in Table 1 below.

¹¹ www.flood-map-for-planning.service.gov.uk accessed 7th December 2023.

Table 1: Sir Isaac Newton Way, Rochdale - Potential Sources of Flooding

Potential Source	Potential Risk at Application Site?	Reasoning
Fluvial Flooding	No	The application site is located within low probability Flood Zone 1, defined as having <0.1% annual probability of river or sea flooding.
Tidal Flooding	No	
Flooding from High Groundwater	No	Figure 6 of Rochdale's Strategy for Flood Risk Management^{Error! Bookmark not defined.} indicates that the application site is within an area with moderate susceptibility to groundwater flooding. The SFRA states: <i>there are relatively few reported incidents of groundwater flooding. The Environment Agency water resources team were consulted in the Greater Manchester sub-regional SFRA and stated that 'the risk posed by groundwater flooding is likely to remain remote within the sub-region.</i> The potential for relatively shallow, perched groundwater within the permeable superficial deposits is acknowledged, with groundwater likely to be in hydraulic connectivity with the local watercourses. However, no below-ground (basement) development is proposed; therefore, the risk of flooding from groundwater is considered low and acceptable.
Surface Water Flooding	Yes	The Environment Agency's online mapping confirms that the majority of the application site is within an area of very low surface water flood risk (<0.1% annual probability). Isolated areas of the site are shown to be at low risk of surface water flooding (between 0.1% and 1.0% annual probability); this is discussed further below.
Flooding from Artificial Drainage Systems	No	Figure 5-12 of the Greater Manchester Surface Water Management Plan¹⁰ confirms there are no recorded DG5 sewer flooding incidents in the vicinity of the site. The application site is currently undeveloped and is surrounded by relatively modern development, which is assumed to benefit from appropriately designed drainage systems. The site survey (Appendix 2) confirms that the site is slightly elevated above the surrounding roads which may act as preferential overland flow routes in the event of localised drainage exceedance. Therefore, the risk of flooding to the site from artificial drainage systems is considered low and acceptable.
Flooding due to Infrastructure Failure	No	The Environment Agency's online mapping confirms the application site is not within the predicted maximum extent of flooding of local reservoir(s). Rochdale's Strategy for Flood Risk Management^{Error! Bookmark not defined.} states that flood risk from Rochdale Canal is largely from potential breaches in the canal walls or blockages. The stretch of canal in the vicinity of the application site is not elevated with embankments. The closest locks are approximately 700m from the site and at a lower topographic elevation. Therefore, the risk of flooding to the site from Rochdale Canal is considered very low.

Table 1 confirms that the only potential significant source of flood risk identified within the application site is surface water flooding.

Figure 3 presents the Environment Agency's surface water flood map for the application site; this indicates that the risk of surface water flooding across the majority of the site is very low (defined as <0.1% annual probability of flooding). Several isolated areas of the site are shown to have a low risk of surface water flooding (defined as between 0.1% and 1.0% annual probability of flooding).

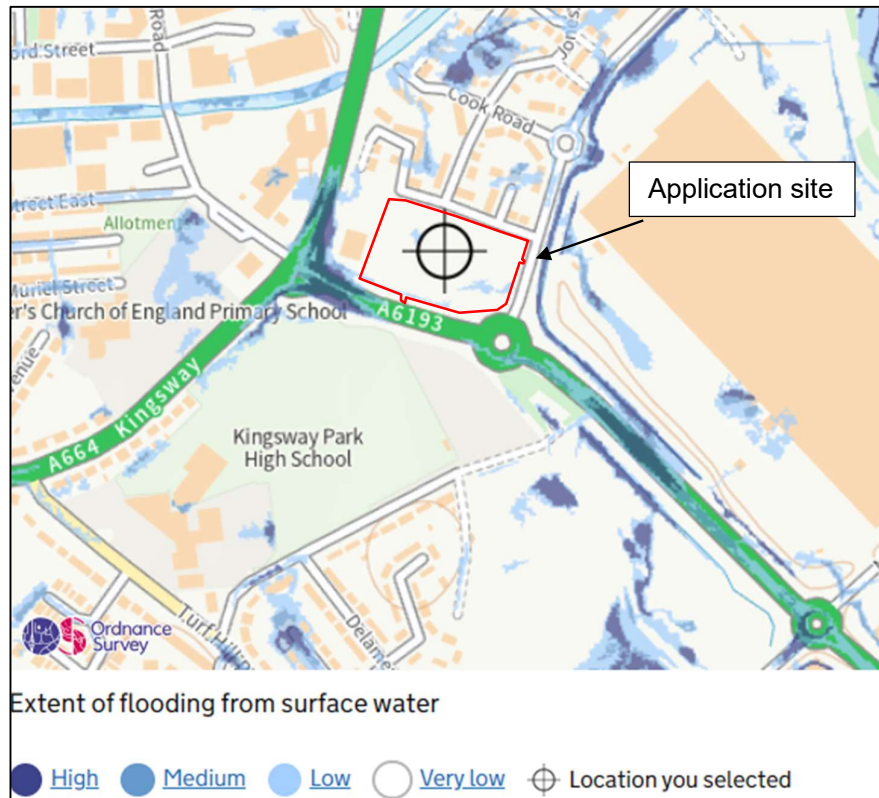


Figure 3. Environment Agency Surface Water Flood Map

Figure 4 presents the predicted surface water flood depths for the worse-case, low-risk scenario (0.1% to 1.0% annual probability). This suggests flood water depths of less than 300mm within the site.

The areas of potential surface water flood risk identified within Figure 3 are isolated areas, where surface water may pond during extreme rainfall events. No overland surface water flood flow routes are identified within the site and therefore the site is not considered to be at risk of flooding from off-site sources. The proposed development will benefit from a surface water drainage strategy to ensure the appropriate management of surface water runoff, with details provided in Section 3. Therefore, with the proposed drainage strategy, the risk of surface water flooding to the development is considered to be very low and acceptable.

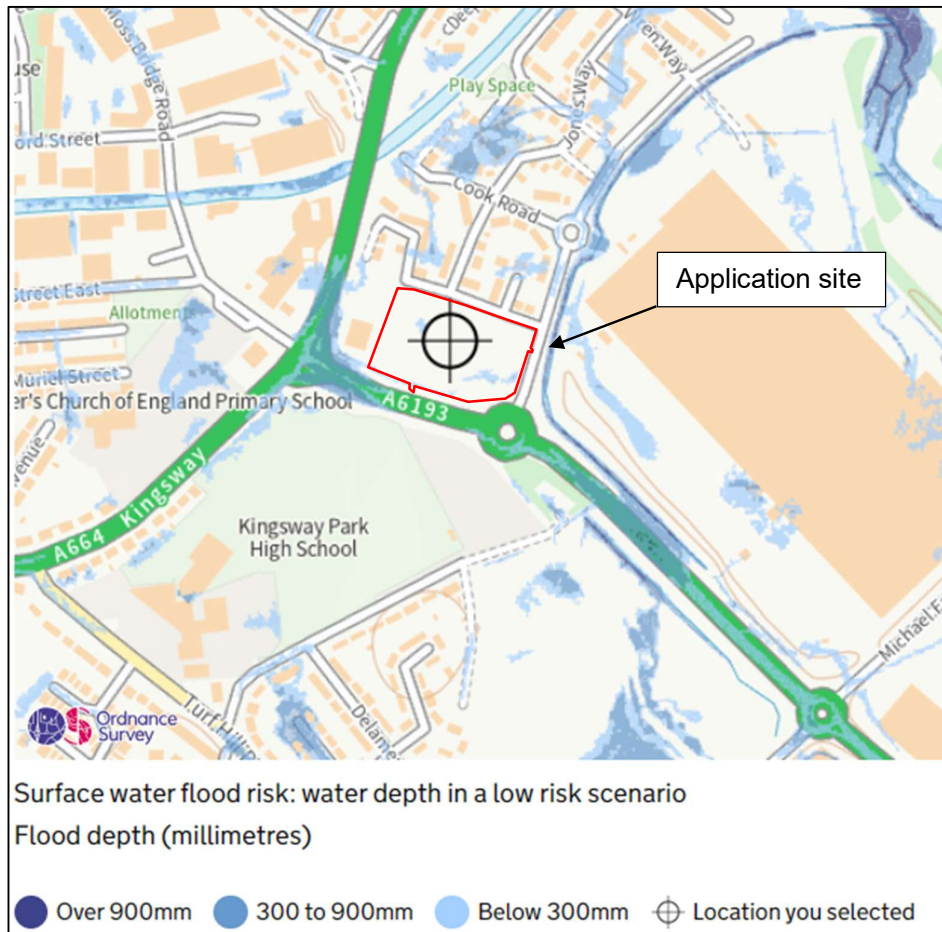


Figure 4 Environment Agency Surface Water Flood Risk: Predicted Flood Water Depth (Low Risk Scenario)

2.2.3 Historic Flooding

Review of the Environment Agency's online historic flood map confirms that the application site is not within an area, or in the vicinity of an area, that has recorded flooding in the past¹².

Figure 6-7 of the SFRA confirms there are no LLFA historic flood incidents from local sources within the vicinity of the application site.

2.2.4 Climate Change

The Environment Agency's climate change allowances guidance¹³ confirms that rainfall is predicted to increase as a result of climate change, which must be considered throughout the lifetime of the proposed development.

¹² <https://environment.data.gov.uk/DefraDataDownload/?mapService=EA/HistoricFloodMap&Mode=spatial> accessed 11th December 2023.

¹³ Environment Agency, February 2016 (last updated: May 2022), Guidance: Flood Risk Assessments: Climate Change Allowances.

The application site lies within the Irwell Management Catchment where the peak rainfall intensity for the 1% annual probability rainfall event is predicted to increase by between 30% (central allowance) and 45% (upper end allowance) by the 2070's (2061 to 2125).

The Environment Agency's guidance confirms that for development with a lifetime between 2061 and 2100 (75-year development life is appropriate for commercial development), drainage systems should be designed to ensure there is no increase in the rate of runoff discharged from the site for the central climate change allowance for the 2070's epoch (2061 to 2125).

A surface water drainage strategy has been prepared for the development with appropriate allowance for long-term climate change; further details are provided in Section 3.

2.3 The Sequential Test

As set out in the NPPF, the aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. The application site is entirely within Flood Zone 1 defined as having a low probability of fluvial or tidal flooding. Table 2 of the NPPF Technical Guidance for flood risk² confirms that all development types are appropriate within Flood Zone 1.

It is noted that the application site is located within Kingsway Business Park which is identified as an employment site for development (AL/EMP/1) within Rochdale Borough Council's Draft Allocations Plan.

3.0 SURFACE WATER MANAGEMENT

Policy G8 (Managing Water Resources and Flood Risk), relates to Strategic Objective 4 of Rochdale's Core Strategy and states: *we will require - incorporation of appropriate measures for the management of surface and flood water, including flood storage areas, Sustainable Urban Drainage Systems (SUDS) and the protection of 'overland flow paths'.*

The NPPF confirms that major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate.

A surface water drainage strategy has been prepared for the development by iSTRUCT Consultants Ltd and is reported separately¹⁴; a copy of the proposed drainage layout plan is included as Appendix 4 of this FRA. Surface water runoff from the development shall be attenuated to a peak discharge rate of 2.0l/s, in line with the minimum recommended flow rate to avoid blockage at the point of discharge. Surface water attenuation shall be provided on site, via below-ground storage, prior to controlled discharge to public sewer. The drainage strategy has been designed to ensure no on-site flooding for rainfall events up to and including the 100-year event, with 40% allowance for long-term climate change.

¹⁴ iSTRUCT Consultants Ltd., December 2023, Drainage Strategy Report & Flood Risk Assessment, Kingsway, Rochdale, OL16 4PS.

4.0 SUMMARY AND CONCLUSIONS

This report represents a site-specific Flood Risk Assessment to support the proposed development of a petrol filling station, drive-through coffee shop and drive-through restaurant and associated parking and infrastructure off Sir Isaac Newton Way. The application site currently comprises undeveloped grassland adjacent to the A6193, within the employment area of Kingsway Business Park.

The Environment Agency flood zone map for planning indicates that the application site is entirely within Flood Zone 1 (low probability of flooding), however the site area extends to over one hectare; therefore, a detailed site-specific FRA is required.

A review of all potential sources of flooding to the application site has been undertaken and the only potential significant source of flood risk to the site is surface water flooding. This is limited to isolated areas of potential surface water ponding; no overland flood flow routes are identified and therefore the site is not considered to be at risk of flooding from off-site sources.

The proposed development will benefit from a surface water drainage strategy which has been designed to attenuate surface water runoff to a peak discharge rate of 2.0l/s, via below-ground attenuation storage, for rainfall events up to and including the 100-year event, with 40% allowance for long-term climate change. The drainage strategy will ensure the appropriate management of surface water runoff and flood risk to the development and should ensure no increase in surface water flood risk to others.

This FRA concludes that the proposed development off Sir Isaac Newton Way of a petrol filling station, drive-through coffee shop and drive-through restaurant classified as 'less vulnerable' in flood risk terms, is appropriate and sustainable with regards to flood risk.

5.0 CLOSURE

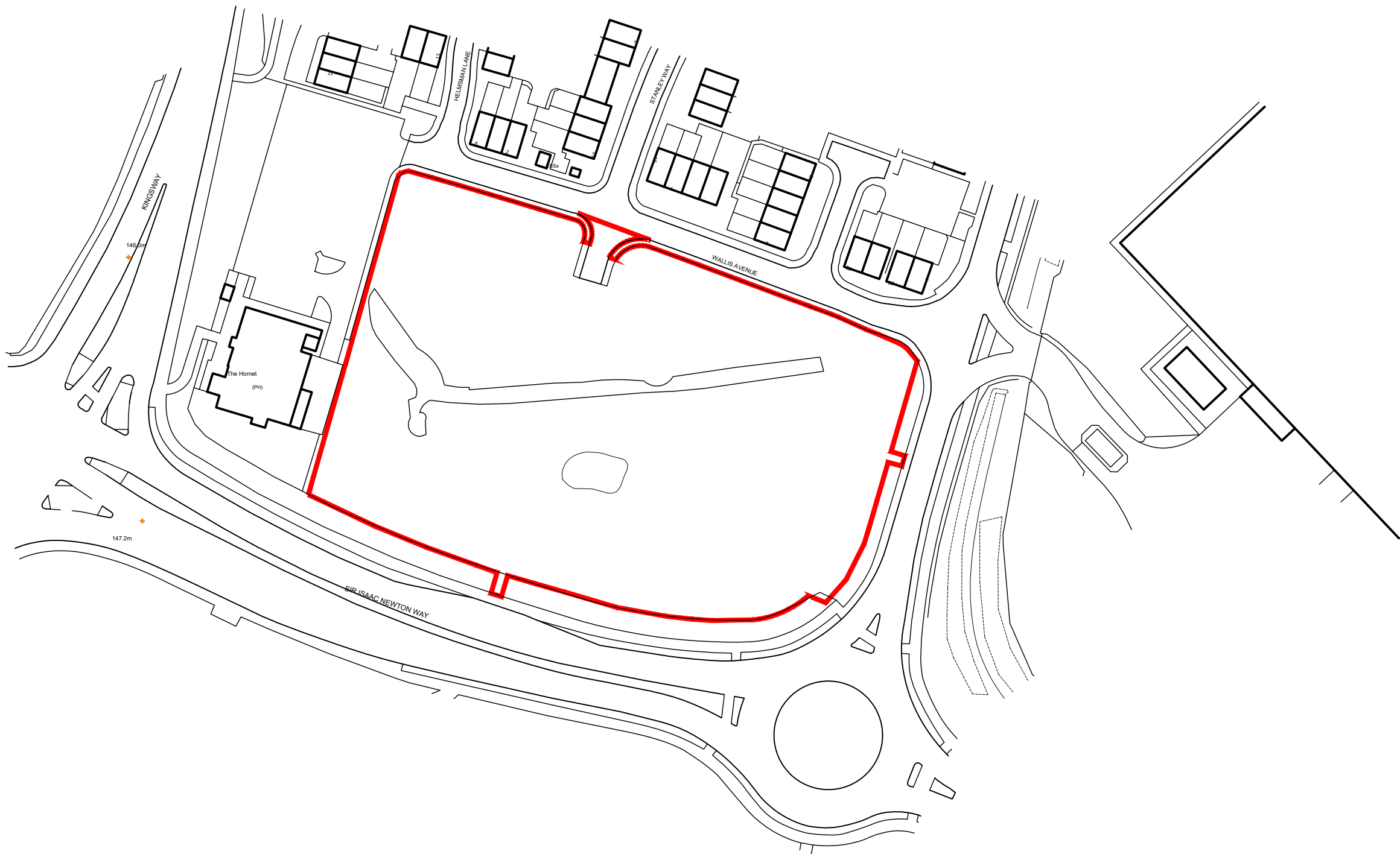
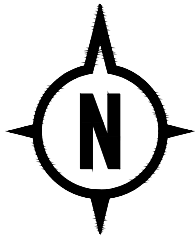
This report has been prepared by Nicola Sugg (trading style of NSugg Limited) with all reasonable skill and care, and in accordance with the services agreed with Euro Garages Ltd. Relevant information provided by Euro Garages Ltd. has been accepted in good faith as being accurate and valid. This report is based on the relevant guidance and legislation in force at the date of the report and should be reviewed if such guidance and legislation are amended or superseded.

NSugg Ltd do not warrant that the advice in this report will guarantee the availability of flood insurance either now or in the future.

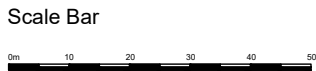
It will be the owner's /occupier's responsibility to ensure the recommended flood risk mitigation measures outlined within this FRA are implemented and to maintain the site drainage system throughout the lifetime of the development.

This report is for the exclusive use of Euro Garages Ltd.; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from Nicola Sugg.

APPENDIX 1



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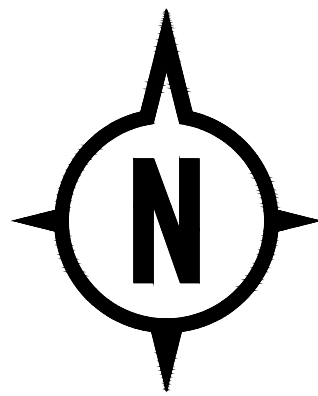


REVISIONS

CLIENT	EURO GARAGES LTD
PROJECT	SIR ISAAC NEWTON WAY, ROCHDALE OL16 4PS
TITLE	SITE LOCATION PLAN
DATE	21.09.2023
SCALE	1:1250 @ A3
JOB ID	1826
DWG	1

APPENDIX 2

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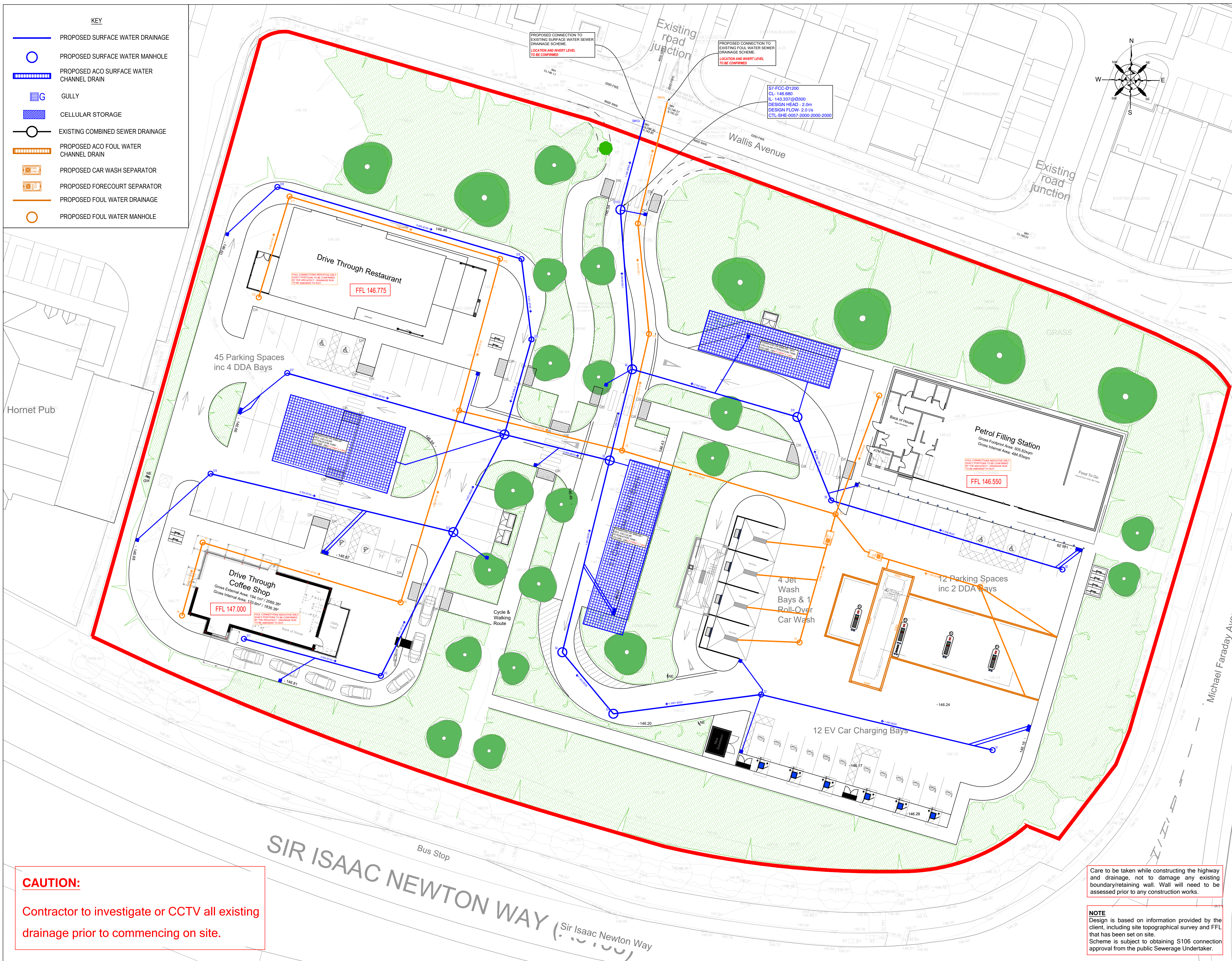
REVISIONS	
CLIENT	EURO GARAGES LTD
PROJECT	SIR ISAAC NEWTON WAY, ROCHDALE OL16 4PS
TITLE	EXISTING SITE LAYOUT
DATE	22.09.23
SCALE	1:250 @ A1
JOB ID	1826
DWG	7

APPENDIX 3



REVISIONS	▲
CLIENT	EURO GARAGES LTD
PROJECT	SIR ISAAC NEWTON WAY, ROCHDALE OL16 4PS
TITLE	PROPOSED SITE LAYOUT
DATE	22.09.23
SCALE	1:250 @ A1
JOB ID	1826
DWG	8e

APPENDIX 4



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 3. THE EXACT POSITION, LEVEL, SIZE AND USE OF EXISTING SEWERS TO BE CONFIRMED ON SITE. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORKS.
 4. ALL UNCOVERED AND SHALLOW PIPEWORK TO BE PROTECTED AGAINST CONSTRUCTION TRAFFIC AS PART OF THE CONTRACTORS TEMPORARY WORKS REQUIREMENTS.
 5. COVER LEVELS SHOWN ARE APPROXIMATE ONLY. SUBJECT TO THE ARCHITECT'S EXTERNAL WORKS AND LANDSCAPING SCHEME.
 6. ALL CONNECTIONS TO ROAD GULLIES AND CHANNELS SHALL BE 150MM NOMINAL BORE PIPEWORK. CONNECTIONS TO RWPS TO BE 100MM NOMINAL BORE PIPEWORK SUBJECT TO CONFIRMATION OF RWP SIZES AND/OR DESIGN FLOW. NO PIPE WORK TO BE DOWNSIZED IN THE DIRECTION OF FLOW.
 7. CONNECTIONS TO FOUL TERMINAL FITTINGS TO BE 100MM NOMINAL BORE PIPEWORK SUBJECT TO CONFIRMATION OF ABOVE GROUND PIPE DIAMETERS AND/OR DESIGN FLOW. NO PIPE WORK TO BE DOWNSIZED IN THE DIRECTION OF FLOW.
 8. ALL PIPEWORK TO BE VITRIFIED CLAY UNLESS OTHERWISE NOTED.
 9. ALL PIPES CONNECTING TO ADOPTED MANHOLES UP TO AND INCLUDING 300MM DIA. TO BE VITRIFIED CLAY.
 10. ALL PIPES CONNECTING TO ADOPTED MANHOLES GREATER THAN 300MM DIA. TO BE CONCRETE.
 11. ALL PIPEWORK ENTERING AND EXITING MANHOLES TO BE CONNECTED WITH PIPE SOFFITS LEVEL.
 12. PRE-FORMED CHANNELS TO BE USED AT ALL MANHOLES.
 13. HIGH STRENGTH CONCRETE BENCHING TO BE STEEL TROWELLED TO A DENSE SMOOTH FACE NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS AND LAID IN ACCORDANCE WITH THE SPECIFICATION.
 14. PIPE BENDS TO BE PROVIDED TO SUIT DIRECTION OF FLOW.
 15. ALL MANHOLE COVERS AND FRAMES TO BE DUCTILE IRON HEAVY DUTY GRADE D400 DOUBLE TRIANGULAR TO BS EN 124 UNLESS OTHERWISE NOTED. COVERS TO BE LABELLED 'FW' AND 'SW' AS APPROPRIATE.
 16. GULLY TOPS AND MANHOLE COVERS TO BE PROVIDED IN ACCORDANCE WITH BS EN 124.
 17. ALL MANHOLE COVERS LOCATED INTERNALLY, TO BE RECESSED, DOUBLE SEAL, AIRTIGHT TYPE, ALUMINIUM OR STEEL, RECESS DEPTH TO ARCHITECT'S REQUIREMENTS TO SUIT FINISHES ETC.
 18. ALL NEW DRAINAGE TO BE CONSTRUCTED ADJACENT NEW AND PROPOSED TREE PLANTING TO BE PROTECTED AGAINST ROOT ACTIVITY USING ROOT CONTROL / ROOT BARRIER MATERIAL BY GREEN-TECH. ALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 19. FIRST FLEXIBLE JOINT IN PIPES ADJACENT TO A MANHOLE SHALL BE 600MM MAX. FROM INSIDE FACE OF MANHOLE. CONNECTING TO ROCKER PIPE, FOR PIPE DIAMETERS 150MM - 450MM THE ROCKER PIPE LENGTH SHALL BE 500MM - 750MM AND FOR PIPE DIAMETERS 451MM - 675MM THE ROCKER PIPE LENGTH SHALL BE 750MM - 1000MM.
 20. MANHOLES WITH OUTGOING PIPES GREATER THAN 600MM DIA. SHALL BE FITTED WITH GUARD BARS, SAFETY CHAINS OR OTHER APPROVED SAFETY DEVICES.
 21. WHERE THE FORMATION OF A PIPE TRENCH IS ABOVE ORIGINAL GROUND LEVEL, LEVELS ARE TO BE MADE UP WITH COMPACTED DTP TYPE 2 MATERIAL OR BETTER.
 22. ALL PRIVATE DRIVES WHICH FALL TOWARDS A PUBLIC HIGHWAY AND EXCEED TWO PARKING BAYS IN AREA ARE TO BE PROVIDED WITH A SUITABLE GULLY OR DRAINAGE CHANNEL TO PREVENT WATER DISCHARGING ONTO THE HIGHWAY.
 23. ALL BURIED CONCRETE MUST CATER FOR CLASS 2 SULPHATES CONDITIONS IN ACCORDANCE WITH TABLE 1 OF BRE DIGEST 363.
 24. CONCRETE PROTECTION SHALL BE PROVIDED TO ALL PIPES WITH LESS THAN 300MM COVER IN PEDESTRIAN AREAS, TO ALL PIPES WITH LESS THAN 600MM COVER IN PRIVATE DRIVEWAYS NOT USED BY COMMERCIAL VEHICLES, AND TO ALL PIPES WITH LESS THAN 1200MM COVER IN ROADS OR PRIVATE DRIVEWAYS USED BY COMMERCIAL VEHICLES. WHERE CONCRETE SURROUND IS SPECIFIED FLEXIBILITY OF JOINTS IS TO BE MAINTAINED BY USING COMPRESSIBLE BITUMEN IMPREGNATED FIBREBOARD AT EACH POINT.

P02	REVISED SITE LAYOUT	20.10.23	RCTS
P01	INITIAL ISSUE	20.10.23	RCTS
Rev.	Amendments	Date	By

Revisions

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Client:

 **EG**
Euro Garages

Project:
KINGSWAY, SIR ISAAC NEWTON WAY
ROCHDALE, OL16 4PS

Title:
DRAINAGE STRATEGY PLAN

At original size A1

Status:	Drawn By:	Date:	Scale:
PRELIMINARY	RCTS	20.10.2023	1:250

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