



**Land at former Volkswagen
Commercial Vehicles Dealership,
Comet Way, Hatfield**

Flood Risk Assessment

On behalf of **Comet Way Hatfield Ltd.**

Project Ref: 47179/4001/FRA | Rev: - | Date: November 2020

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Revision	Date	Description	Prepared	Reviewed	Approved

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Executive Summary

This Flood Risk Assessment (FRA) has been prepared by Stantec UK Limited to support a full planning application for the redevelopment of the Advantage Cars site, Comet Way, Hatfield, AL10 9TF.

In accordance with the fundamental objectives of the National Planning Policy Framework (NPPF), the FRA demonstrates that:

- (i) The development is safe;
- (ii) The development does not increase flood risk; and,
- (iii) The development does not detrimentally affect third parties.

The Environment Agency (EA) Flood Zone map shows the site lies within Flood Zone 1 (as defined in Planning Practice Guidance (PPG) 'Flood Risk and Coastal Change' Table 1) as follows:

Flood Zone 1 'Low Probability' (less than 1 in 1000 (0.1%) annual probability of river or sea flooding)

The proposals for residential development constitute More Vulnerable land use, which is considered appropriate within Flood Zone 1 (reference NPPF PPG Tables 2 and 3). The sequential test is considered to be passed based on the site being located in Flood Zone 1 and at low risk from other sources of flooding.

The flood risk mitigation strategy for the development consists of the following elements:

- A minimum 150mm 'freeboard' is incorporated in ground floor levels for buildings and appropriate profiling of exterior ground levels away from building entrances;
- Provision of appropriate surface water drainage systems, including consideration of projected impacts of climate change and exceedance events;
- Plans in place for future management and maintenance of drainage systems.

Sustainable Drainage Systems (SuDS) are to be utilised throughout the development and include green roofs, lined permeable pavements and underground cellular attenuation. The runoff rate from the site to the public surface water sewer beneath Goldsmith Way is restricted to 1 l/s through a flow control device. Surface water attenuation is provided up to the 1 in 100 (1.0%) annual probability event including allowance for climate change rainfall event, resulting in a reduction in peak runoff rates.

The surface water management strategy takes into consideration the current constraints of the site, long term storage mitigation requirements, landscaping proposals and water quality treatment stages in accordance with the CIRIA SuDS Design Manual (C753).

In summary, the FRA demonstrates that the proposed development is safe and in accordance with the requirements of national and local planning policy.

1 Introduction

1.1 Scope of Report

1.1.1 Stantec UK Limited (referred to as Stantec hereafter) has been appointed on behalf of Comet Way Hatfield Limited ('the Client') to prepare a Flood Risk Assessment (FRA) to support the Full Planning Application for the redevelopment of the Advantage Cars site, Comet Way, Hatfield (herein the 'Proposed Development').

1.1.2 This FRA is based on the available flood risk information for the site as detailed in **Section 1.2** and prepared in accordance with the planning policy requirements set out in **Section 1.3**. The scope of this document is consistent with the 'Site-specific Flood Risk Assessment Checklist' from the National Planning Policy Framework (NPPF) Planning Practice Guidance:

<https://www.gov.uk/guidance/flood-risk-and-coastal-change#Site-Specific-Flood-Risk-Assessment-checklist-section>

1.1.3 The required content of the checklist is detailed below along with specific cross-reference to the content in the report as follows:

- 1) **Development site and location** – see **Section Error! Reference source not found.**;
- 2) **Development proposals** – see **Section 5**;
- 3) **Sequential Test** – see **Section 5**;
- 4) **Climate change** – see **Section 4**;
- 5) **Site-specific flood risk** – see **Section Error! Reference source not found.**;
- 6) **Proposed Drainage** – see **Section 7**;
- 7) **Occupants and users of the development** – see **Section 5**;
- 8) **Residual Risk** – see **Section 8**;
- 9) **Flood risk assessment credentials** – Stantec has many years of experience in, amongst other areas, the assessment of flood risk, hydrology, flood defence and river engineering. The authors and reviewers of the document are all experienced engineers and members of chartered institutions such as the Chartered Institution of Water and Environmental Management (CIWEM) or the Institution of Civil Engineers (ICE).

1.2 Sources of Information

1.2.1 The FRA has been prepared based on the following sources of information:

- Environment Agency (EA) published '**Open Data**' datasets available online, reproduced with OS mapping under licence to Stantec (contains Ordnance Survey data © Crown copyright and database right [2019], contains Environment Agency information © Environment Agency and database right);
- **EA Product 4 data** (Reference: HNL_181199NR, dated 14th August 2020);

- Welwyn Hatfield Council **Level 1 and Level 2 Strategic Flood Risk Assessment**: Final Report carried out by JBA Consulting dated May 2016;
- Proposed Development at Advantage Cars, Comet Way, Hatfield **Phase 2 Ground Investigation Report** (Report Ref: 47179/3502/r1) carried out by Stantec dated August 2020;
- **Preliminary Flood Risk Assessment** (PFRA) for Hertfordshire County Council (June 2011) and addendum update (2017);
- **Drainage Statement** (report reference 47179/4001/DS) (Stantec, November 2020). The report should be read in conjunction with this FRA.

1.3 Policy Context

1.3.1 This FRA has been prepared in accordance with the relevant national, regional and local planning policy and statutory authority guidance as follows:

- National policy contained within the revised **National Planning Policy Framework (NPPF)** updated March 2020, issued by Ministry of Housing, Communities and Local Government, with reference to Section 14 '*Meeting the challenge of climate change, flooding and coastal change*';
- The **NPPF Planning Practice Guidance (PPG)** released in March 2014 ('Flood Risk and Coastal Change' section) and updated to incorporate the EA '**Flood Risk Assessments: Climate Change Allowances**' guidance (most recently updated July 2020);
- Local planning policy contained within the **Welwyn Hatfield District Plan** adopted in 2005. Relevant policies include: *Policy SD1: Sustainable Development, Policy R7 - Protection of Ground and Surface Water, Policy R9 - Water Supply and Disposal, and R10 - Water Conservation Measures*;
- The **Welwyn Hatfield Council Draft Local Plan Proposed Submission** document 2016 contains *Policy SADM 14 Flood Risk and Surface Water Management*. The Draft Local Plan is currently undergoing examination and Policy SADM 14 has already been examined by the Planning Inspector with no modifications requested. The policy is therefore considered as a material consideration in the determination of applications for planning permission. The site is not included within the Draft Local Plan Policies Map; and
- The **Flood and Water Management Act** (2010) gives the Environment Agency (EA) a strategic overview role for flood risk and gives local authorities responsibility for preparing and putting in place strategies for managing flood risk from groundwater, surface water and ordinary watercourses in their areas as Lead Local Flood Authorities (LLFA).

1.4 Caveats and Exclusions

1.4.1 This FRA has been prepared in accordance with the NPPF and Local Planning Policy. The proposed flood management (including ground floor level recommendations) and surface water management strategies are based on the relevant British Standards (BS8533), the standing advice provided by the EA or based on common practice.

1.4.2 The revised Construction (Design and Management) Regulations 2015 (CDM Regulations) came into force on April 2015 to update certain duties on all parties involved in a construction project, including those promoting the development. One of the designer's responsibilities is to ensure that the client organisation, in this instance Comet Way Hatfield Ltd, is made aware of their duties under the CDM Regulations. For further information on the CDM Regulations is provided in the client guide is available at <http://www.hse.gov.uk/pubns/indg411.pdf>

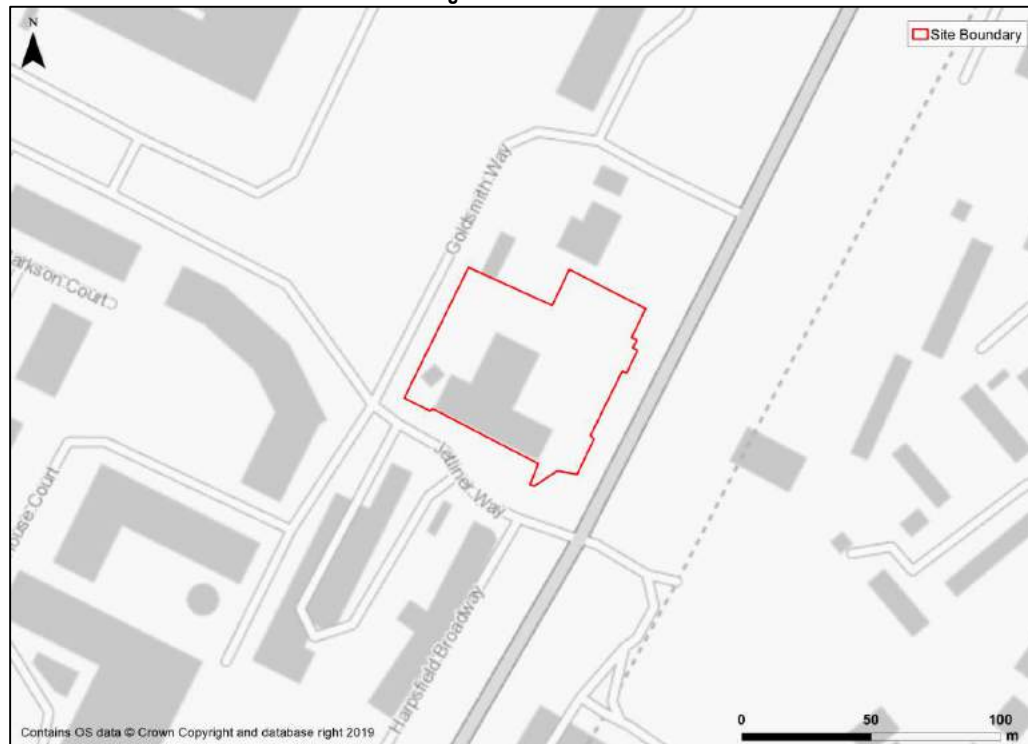
- 1.4.3 The approach for the FRA and proposals for the surface water management strategy are based on the requirements of the EA and Hertfordshire County Council (HCC) in its role as Lead Local Flood Authority (LLFA).
- 1.4.4 The findings of this FRA are based on data available at the time of the study and on the subsequent assessment that has been undertaken in relation to the development proposals as outlined in **Section Error! Reference source not found.** The EA Product 4 flood data on which the FRA is based is valid under a 12 month licence. As such, the FRA is accurate at time of issue but we would recommend the end user reviews the validity of the flood data on an annual basis with the EA.
- 1.4.5 It should be noted that the insurance market applies its own tests to properties in terms of determining premiums and the insurability of properties for flood risk. Those undertaking development in areas which may be at risk of flooding are advised to contact their insurers or the Association of British Insurers (ABI) to seek further guidance prior to commencing development. Stantec do not warrant that the advice in this report will guarantee the availability of flood insurance either now or in the future.

2 Site Setting

2.1 Site Description

- 2.1.1 The 0.50 hectare (ha) site is located west of the A1001 (Comet Way) in the town of Hatfield in Hertfordshire County (postcode AL10 9TF, site centre OS grid reference 521648m E, 208772m N – see **Figure 2.1**). A Site Location Plan with Aerial Photography, reference Figure 002, is contained in **Appendix A**.
- 2.1.2 The town of Hatfield lies within the administrative boundary of Welwyn Hatfield Borough Council (WHBC).

Figure 2.1: Site Location



- 2.1.3 The site comprises a van dealership and an asphalt surfaced forecourt/parking area.
- 2.1.4 The Site is bound to the south by a pedestrian underpass and Jetliner Way, to the west by Goldsmith Way and to the north by an electricity substation and the car park of an adjacent restaurant. The A1(M) is present at depth within a tunnel approximately 30m east of the site.
- 2.1.5 Access to the site is via Comet Way immediately to the east.

2.2 Topography

A topographic survey has been carried out by Survey Solutions Ltd in November 2019 and is enclosed in **Appendix B**. The site has levels ranging between 76.30-76.00m AOD. An extract of **Stantec Figure 47179/4001/GIS002** in **Figure 2.2** and shows that the general topography of the site and surrounding area. It shows the site and immediate surrounding area is flat with higher ground to the east.

Figure 2.2: Area LiDAR Topography



2.3 Hydrological Setting & Flood Defences

- 2.3.1 The nearest watercourse, named the Cut Field Wood Ditch is located approximately 900m west of the site. The watercourse drains southwards relative to the site.
- 2.3.2 The nearest EA Main River, named the Ellen Brook is located approximately 1.1km south west of the site.
- 2.3.3 There is a small-scale lake near the junction between Comet Way and St Albans Road West (A1057) approximately 500m south west of the site.
- 2.3.4 The site is situated within a low-lying part of a catchment (estimated area 0.54km²) which generally falls to the north west.
- 2.3.5 There are no existing flood defences within close proximity to the site.

2.4 Existing Drainage Arrangements

On Site Drainage

- 2.4.1 A survey of existing services within the site was completed by Survey Solutions in November 2019. A copy of the survey plan is included in **Appendix B**.
- 2.4.2 The CCTV survey shows the site (existing building and hardstanding) discharges surface water drainage towards the southern boundary of the site. This is assumed to be to a 300mm diameter private surface water sewer shown in the Thames Water sewer asset plan enclosed in **Appendix C** that runs westwards along the southern boundary of the site before connecting to a Thames Water public sewer at MH Ref:571C near the south-west corner of the site.

Public Sewers

2.4.3 Record drawings from Thames Water indicates infrastructure plans for the site and surrounding area. A copy of the sewer asset plan is provided in **Appendix C**. No public sewers cross the site. Plans provided show:

- There is a 1350mm diameter surface water sewer (run between MH Ref: 681A and 571C) to the east of the site within the public highway (Goldsmith Way). This network drains to the west.
- There is a foul water sewer which runs around the perimeter of the site (runs between Manhole Ref: 681D to 7701) within the public highway (Goldsmith Way, Jetliner Way and Comet Way). This network drains to the east. The head of the run is recorded to be a 150mm diameter pipe where it increases to a maximum of 300mm diameter downstream of the run.

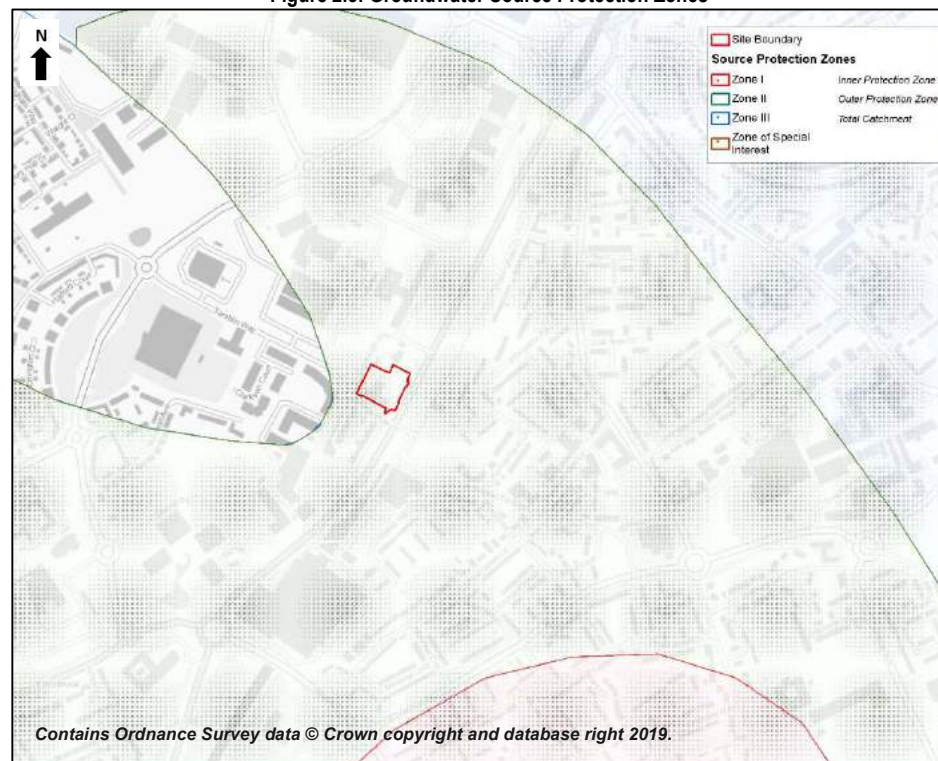
2.5 Geology and Hydrogeology

2.5.1 The British Geological Survey (BGS) mapping show the site is underlain by the Lowestoft Formation comprising Diamicton. The Lewes Nodular Chalk and Seaford Chalk Formation underlies the superficial deposits. Geological information is shown in **Stantec Figures 47179/4001/GIS014-016** in **Appendix A**.

2.5.2 The site is underlain by a principal bedrock aquifer and a secondary (undifferentiated) superficial drift Aquifer.

2.5.3 The site is located in Groundwater Source Protection Zone (SPZ) II see **Figure 2.3**. This zone is 400 day travel time of pollutant to source and has a 250 or 500 metres minimum radius around the source depending on the amount of water taken. Without appropriate mitigation, the site is a potential risk to groundwater quality, associated with abstraction, if discharging untreated development generated surface water flow direct into the ground.

Figure 2.3: Groundwater Source Protection Zones



3 Overview of Flood Risk

3.1 Online Flood Maps

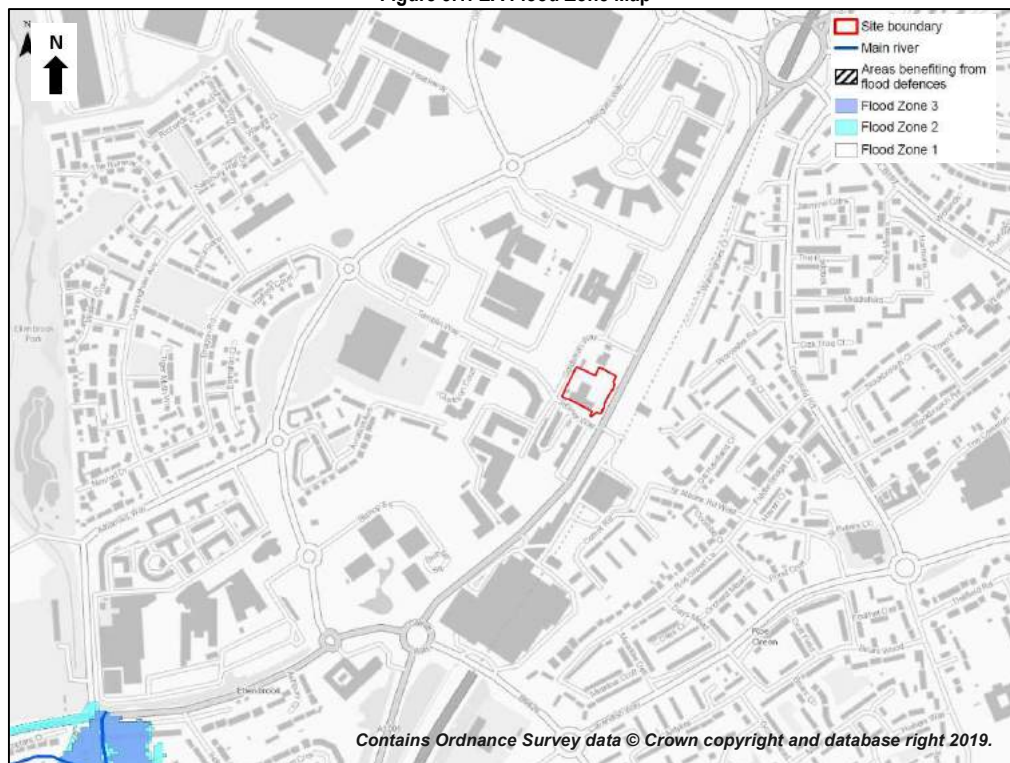
3.1.1 The following maps have been taken from the Stantec GIS flood maps report in **Appendix A** based on the EA Open data datasets available online and reproduced with OS mapping under licence to Stantec.

Flood Zone Map

3.1.2 The first phase in identifying whether a site is potentially at risk of flooding is to consult the Flood Map for planning, available on the Government website. This provides an initial indication of the extent of the Flood Zones, before a more detailed analysis of comparing a site-specific level survey and modelled flood levels is made. The Flood Zones are defined in Table 1 of the NPPF Planning Practice Guidance (PPG) ('Flood Risk and Coastal Change' section) as follows:

- **Flood Zone 1 'Low Probability'** – Land at less than 1 in 1000 (0.1%) annual probability of river or sea flooding;
- **Flood Zone 2 'Medium Probability'** – Land between 1 in 100 (1.0%) and 1 in 1000 (0.1%) annual probability of river flooding, or between 1 in 200 (0.5%) and 1 in 1000 (0.1%) annual probability of sea flooding;
- **Flood Zone 3 'High Probability'** – Land at 1 in 100 (1.0%) or greater annual probability of river flooding, or 1 in 200 (0.5%) or greater annual probability of sea flooding.

Figure 3.1: EA Flood Zone Map



3.1.3 The Flood Zone Map for Planning, refer to **Figure 3.1** shows the site is located within Flood Zone 1 'Low Probability'.

3.1.4 The EA have confirmed the site is located in Flood Zone 1 (see correspondence in **Appendix D**).

Flood Risk from Reservoirs Map

3.1.5 The EA provide maps showing the risk of flooding in the event of a breach from reservoirs, based only on large reservoirs (over 25,000 cubic metres of water). **Figure 3.2** shows no flooding is expected to occur at the site or surrounding area in the event of a reservoir breach.

Figure 3.2: EA Flood Risk from Reservoirs Map



3.1.6 The SFRA (JBA Consulting, 2016) states there are no recorded instances of flooding from reservoirs in the Welwyn Hatfield area.

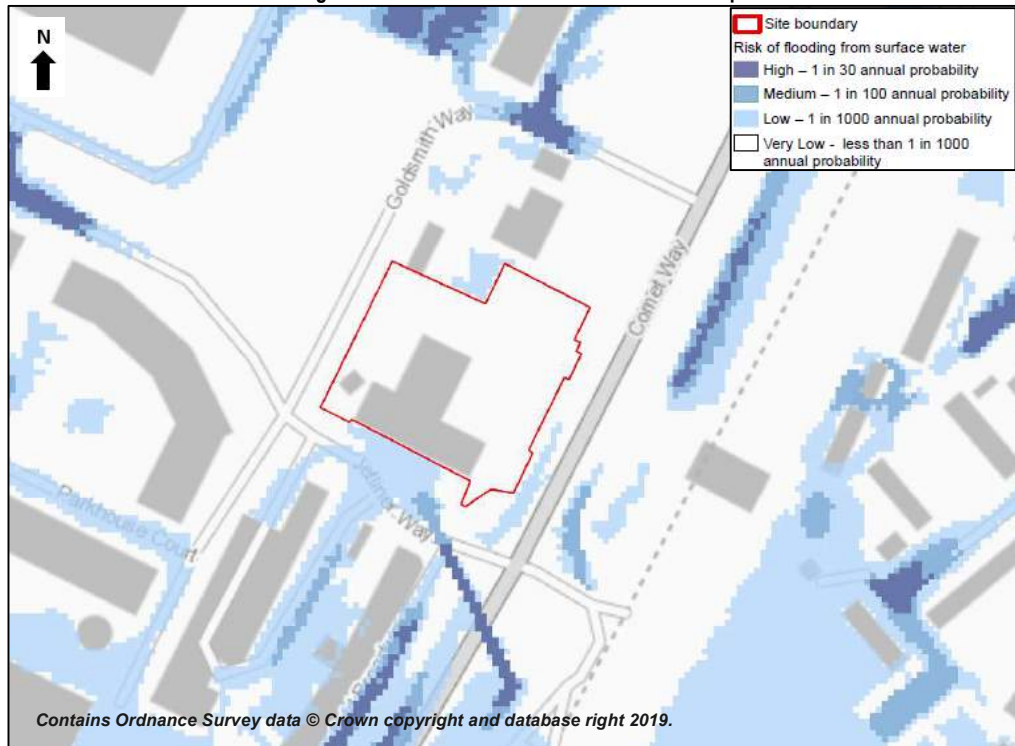
Flood Risk from Surface Water

3.1.7 The Surface Water Flood Map shows where areas could be potentially susceptible to surface water flooding in an extreme rainfall event (see Stantec Figures 47179/4001/GIS004 - GIS010 in **Appendix A**). The latest mapping assesses flooding resulting from severe rainfall events based on the following three scenarios:

- 1 in 30 (3.3%) annual probability rainfall event ('High' risk);
- 1 in 100 (1.0%) annual probability rainfall event ('Medium' risk);
- 1 in 1000 (0.1%) annual probability rainfall event ('Low' risk).

3.1.8 **Figure 3.3** shows the whole Site is at 'Very Low' risk of surface water flooding. Land adjacent to the southern boundary of the site is shown to be at 'Low' risk of surface water flooding, likely to be associated with a localised topographical low spot.

Figure 3.3: EA Flood Risk from Surface Water Map



- 3.1.9 It should be noted that these maps are generated using a relatively coarse methodology whereby rainfall is routed over a ground surface model (LiDAR). The analysis does not take account of any specific local information on below-ground drainage infrastructure and infiltration, although an adjustment is included in urban areas to account for the impact of sewerage and a standard infiltration allowance based on soil type. Consequently, the mapping provides a guide to potentially vulnerable areas based on the general topography of an area.
- 3.1.10 Given the relatively low risk identified it is not deemed necessary to undertake detailed hydraulic modelling to quantify these risks further within this FRA.

3.2 Groundwater Flooding

- 3.2.1 Review of surrounding borehole logs suggest the groundwater level is more than 5m below ground level (bgl). A selection of nearby borehole logs is presented in [Table 3.1](#).
- 3.2.2 A ground investigation was undertaken at site (see Stantec report ref: 47179/3502/R1). Groundwater was encountered at depth in the Kesgrave Catchment Subgroup. On 20th April 2020 groundwater was recorded at 13.59m bgl and 15.23m bgl in two boreholes. These findings support results shown in [Table 3.1](#).
- 3.2.3 The SFRA (JBA Consulting, 2016) shows the site is not within the area susceptible to groundwater flooding (see SFRA extracts in [Appendix E](#)).
- 3.2.4 The site is therefore considered to at low risk of groundwater flooding.

Table 3.1: BGS Borehole Logs in the vicinity of the Site

Borehole Reference	Location	Depth (m)	Level water struck at (m below ground level)	Geological classification of groundwater
TL20NW175 – A1 (M) Roestock to Stanborough F29	North-west of the site in Goldsmith Way	10.5	Not encountered	N/A
TL20NW94 — A1 Roestock to Stanborough A64	East of site adjacent to Galleria Car park	15	Not encountered	N/A
TL20NW114 — A1 Roestock to Stanborough A67	North east of site adjacent to Galleria Car park	13.7m	Seepage at 6m	Clayey Sand Layer (Lowestoft Foramation)

3.3 Sewer Flooding

- 3.3.1 There are no public sewers which cross the site although there is a private surface water sewer in the south-east corner of the site. Thames Water confirmed they have no records of flooding in the vicinity that can be attributed to capacity limitations in the public sewerage system (see response in [Appendix C](#)). The site is at low risk from sewer flooding.

Historic Flood Records

- 3.3.2 The SFRA indicates there are no flood records for the site. TW, EA, HCC and WHBC hold no records of flooding for the site (see responses in [Appendices C- F](#) respectively).

3.4 Summary of Flood Risk

- 3.4.1 In summary, the site is considered to be at low risk of flooding from all sources and that there are no records of flooding from any source at the site.

4 Impact of Climate Change

- 4.1.1 In considering flood risk to the site, it is necessary to fully consider the potential impacts of climate change for the lifetime of the development within the mitigation measures.
- 4.1.2 In February 2016 (last updated July 2020) the EA released new guidance on the application of climate change allowances in flood risk assessments:
- <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>.
- 4.1.3 This guidance provides contingency allowances for potential increases in peak river flow in Table 1, and for potential increases in rainfall intensity in Table 2. The latter requires consideration in any surface water drainage strategy for new development and is discussed in Section 7.
- 4.1.4 The peak river flow allowances table provides a range of allowances based on percentile (i.e. the degree of certainty of an event occurring, based on the range of climate change scenarios assessed through scientific investigations). The provided allowances are also subject to the vulnerability classification of the proposed use and the river basin district of the site.
- 4.1.5 As the site is located entirely in Flood Zone 1 and at a significant distance from any watercourses, as illustrated on the online Flood Map for Planning, it is considered reasonable to assume that the site is not impacted by fluvial flooding when climate change is taken into consideration.
- 4.1.6 The impact of climate change, for a residential development should be considered for the lifetime of the development and hence should be considered for a minimum of 100 years, therefore the change in rainfall intensity anticipated for the '2080s' (2070 to 2115) is applicable.
- 4.1.7 HCC require a 20% increase in rainfall intensities to be used for design purposes to assess the impact on the surface water drainage network. A 40% increase in rainfall intensities should be used to assess the potential flood risk implications including whether there is any increased flood risk to third parties as a result of the development. The climate change impact on rainfall intensity over time to be considered as part of the FRA is as detailed in **Table 4.1**.

Table 4.1: Climate Change – Rainfall Intensities

Applies across all of England	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Upper end	10%	20%	40%
Central	5%	10%	20%

5 Proposed Development and Sequential Test

5.1 Proposed Development

5.1.1 This FRA accompanies a full planning application for:

“The demolition of existing buildings and the construction of a building comprising 122 residential units. The remainder of the site will include car parking, landscaping and supporting infrastructure.”

5.1.2 A copy of the proposals is enclosed in **Appendix G** and **Figure 5.1** illustrates a snapshot of the Proposed Development at Ground Floor level (taken from Bryant and Moore Drawing No: 19_386_PL03B).

Figure 5.1: Extract of Development Proposals



5.2 Flood Risk Vulnerability

5.2.1 NPPF and PPG ‘Flood Risk and Coastal Change’ Table 2 confirms the ‘Flood risk vulnerability classification’ of a site, depending upon the proposed usage. This classification is subsequently applied to PPG Table 3 to determine whether:

- The proposed development is suitable for the flood zone in which it is located; and
- Whether an Exception Test is required for the proposed development.

5.2.2 The proposed residential development is classed as ‘more vulnerable’ development.

5.2.3 The location of the proposed development is in Flood Zone 1.

5.3 NPPF Sequential Test & Exception Test

5.3.1 The NPPF follows a sequential risk-based approach in determining the suitability of land for development in flood risk areas, with the intention of steering all new development to the lowest flood risk areas. The Sequential Test is considered to be passed on the basis that the site is wholly located in Flood Zone 1 and at low risk from other sources of flooding. The Exception Test is not required.

6 Flood Mitigation Strategy

6.1 Sequential Approach

- 6.1.1 The NPPF encourages the application of the 'sequential approach' in the master-planning process for new development, i.e. locating the more sensitive/vulnerable elements of new development in the areas which lie at lowest probability of flooding and, conversely, reserve the areas of the site at greatest risk of flooding for the least vulnerable elements of the development (or, preferably, leave such areas undeveloped or as soft landscaping).
- 6.1.2 The whole of the development is located in Flood Zone 1, the lowest probability of flooding. In addition, the site is assessed to be at low risk of surface water flooding. The sequential approach is therefore not required with respect to fluvial or surface water flood risk.

6.2 Building Design

Ground Floor Levels

- 6.2.1 Standard requirements for ground floor levels of new development are set out in BS8533:2017 '*Assessing and Managing Flood Risk in New Development – Code of Practice*'. This recommends floor levels are set a minimum of 300mm above the modelled 1 in 100 annual probability plus allowance for climate change flood level.
- 6.2.2 The above standard requirement is not applicable as the site is located in Flood Zone 1.
- 6.2.3 Nevertheless, it is recommended that ground floor levels are set a suitable freeboard above surrounding ground (minimum 150mm) to mitigate the residual flood risk associated with excess surface water runoff in an extreme rainfall event. Similarly, exterior ground levels across the site should also be appropriately contoured to direct surface water away from dwellings in such a scenario.

6.3 Designing for Exceedance

- 6.3.1 The proposed surface water drainage system has been designed to accommodate runoff during storm events up to the 1 in 100 (1.0%) annual probability plus allowance for climate change event. In excess of this it is possible that the design standard for the system will be exceeded.
- 6.3.2 To ensure that in an exceedance event any flooding does not affect properties or discharge from the development, flows will be managed on site. This may be achieved by ensuring that site levels are designed to direct flows away from the buildings and towards areas such as car parking or formal landscaping where temporarily shallow flooding can occur.

7 Proposed Drainage

7.1 Introduction and Design Approach

- 7.1.1 A separate '*Drainage Statement*' report (by Stantec ref. 47179/4001/DS) including drainage calculations has been prepared. The report details how surface water runoff from the development is managed in accordance with the national and local policy requirements, and best practice guidance. The design aims to mitigate the risk of surface water flooding on site and to avoid increasing flood risk elsewhere. The Drainage Statement also details how foul drainage is managed. The below section summarises the details in the drainage strategy report.
- 7.1.2 Consultation has been undertaken with the approving authorities on the emerging drainage design, this included TW and HCC.

7.2 Surface Water Drainage

- 7.2.1 The proposed surface water drainage strategy is set out in the Stantec '*Drainage Statement*' (report ref. 47179/4001/DS) and consists of areas of green roof, permeable pavement across the car park and an underground cellular attenuation tank with a controlled discharge at 1 l/s to the public surface water sewer beneath Goldsmith Way.
- 7.2.2 The proposed surface water drainage system has been designed to accommodate surface water runoff up to and including the 1 in 100 annual probability +40% allowance for climate change rainfall event.

7.3 Foul Water Drainage

- 7.3.1 It is proposed to connect the foul drainage from the proposed development to the public foul sewer beneath Goldsmith Way. Further detail is provided in the Stantec '*Drainage Statement*' report.

8 Residual Risk

- 8.1.1 It is difficult to completely guard against flooding since extreme events greater than the design standard event are always possible, however, it is practicable to minimise the risk by allowing a freeboard (safety margin) and by using suitable construction and management techniques.
- 8.1.2 The below points set out how residual risk has been considered:
- Recommended incorporation of minimum 150mm 'freeboard' in ground floor levels for buildings and appropriate profiling of exterior ground levels away from building entrances;
 - Provision of appropriate surface water drainage systems, including consideration of projected impacts of climate change and exceedance events;
 - Plans in place for future management and maintenance of drainage systems, refer to Sustainable Drainage Management and Maintenance Plan within the Stantec '*Drainage Statement*' report;
- 8.1.3 As such, the residual risk is considered to be acceptable for the lifetime of the development.

9 Conclusions

9.1.1 This Flood Risk Assessment (FRA) has been prepared by Stantec to support a full planning application for the redevelopment of the Advantage Cars site, Comet Way, Hatfield.

9.1.2 This FRA concludes that:

- The site is located within Flood Zone 1, having a less than 1 in 1000 (0.1%) annual probability of river flooding.
- The proposals for residential development are classified as 'More Vulnerable' uses, as defined in PPG Table 2. According to PPG Table 3, the land use is appropriate for Flood Zone 1 without the need to apply the Sequential and Exceptions Test.
- The site is considered to be at low risk from other forms of flooding such as from surface water and artificial sources.
- The proposed mitigation strategy demonstrates the development is safe through a number of measures as follows:
 - Recommended incorporation of minimum 150mm 'freeboard' in ground floor levels for buildings and appropriate profiling of exterior ground levels away from building entrances;
 - Provision of appropriate surface water drainage systems, including consideration of projected impacts of climate change and exceedance events;
 - Plans in place for future management and maintenance of drainage systems.

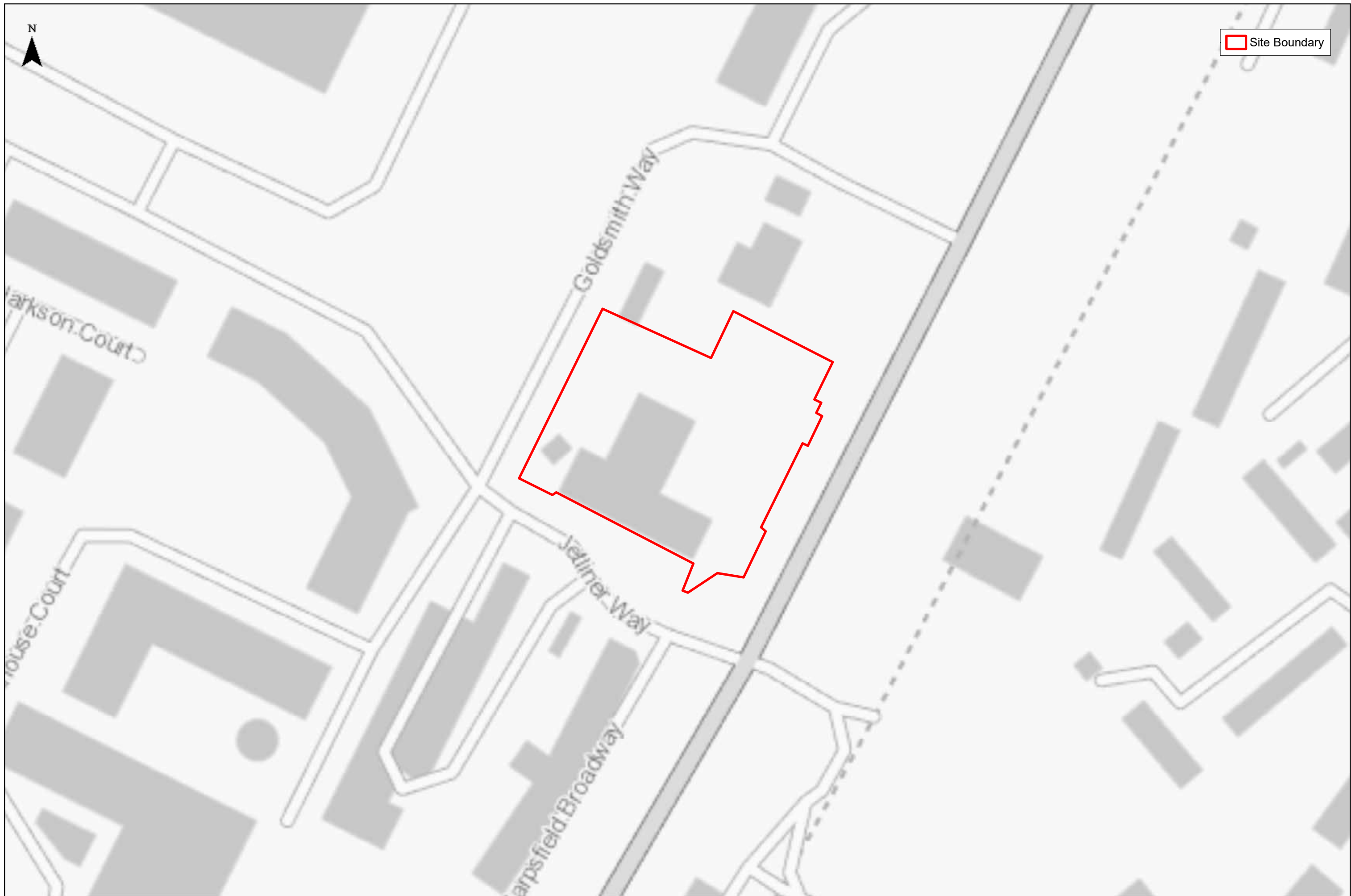
9.1.3 The proposed surface water drainage strategy for the development consists of areas of green roof, permeable pavement across the car park and an underground cellular attenuation tank with a controlled discharge to the public surface water sewer beneath Goldsmith Way.

9.1.4 The sequential test is considered to be passed on the basis that the site is in Flood Zone 1 and at low risk from other sources of flooding.

9.1.5 In conclusion, the future occupants and users of the proposed development will be safe from flooding and there will be no detrimental impact on third parties. The proposal complies with the National Planning Policy Framework (NPPF) and local planning policy with respect to flood risk and is an appropriate development at this location.

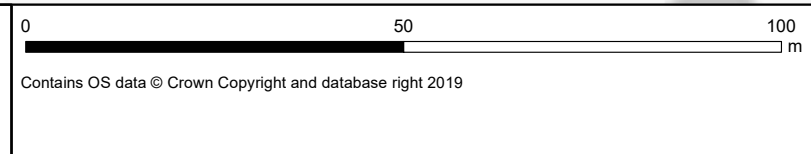
Appendix A Site Plans

- Site Location Plan
- Site Location (Aerial Photography)
- Area Topography (LiDAR)
- EA Flood Zone Map
- EA Surface Water Flood Risk
- Reservoir Flood Map
- EA Historic Flood Map
- EA Groundwater Source Protection Zones
- Geology bedrock map
- Geology Superficial Deposits Map



Client
Comet Way
Hatfield Ltd

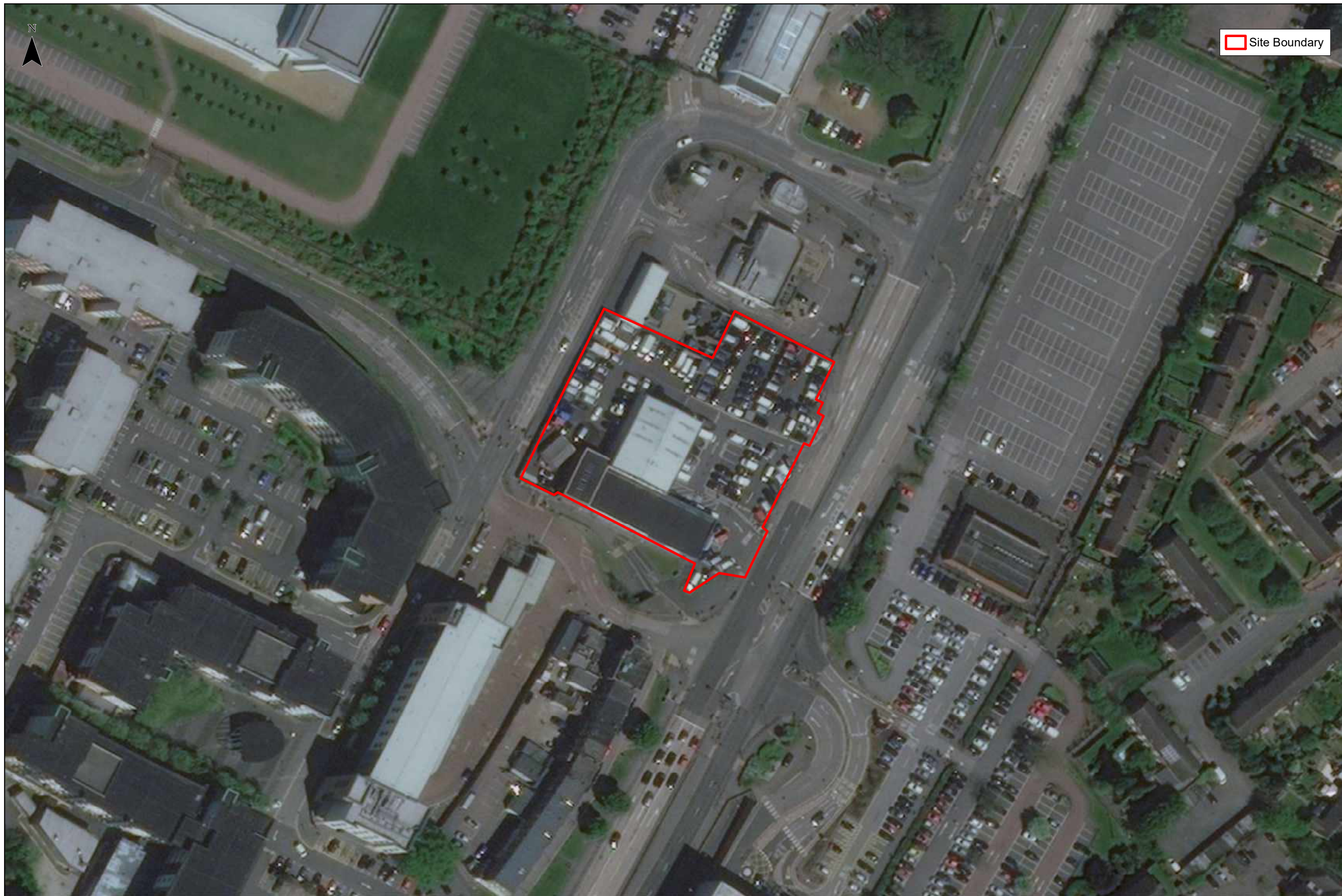
COMET WAY, HATFIELD
Site Location



1:1,000 @ A3	Date: 31/07/2020
Drawn: MD	Checked: MH
Figure 47179/4001/GIS001a	Rev B



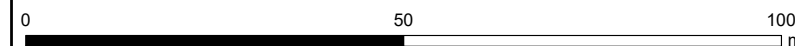
Site Boundary



Client

Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Site Location (Aerial)



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

1:1,000 @ A3

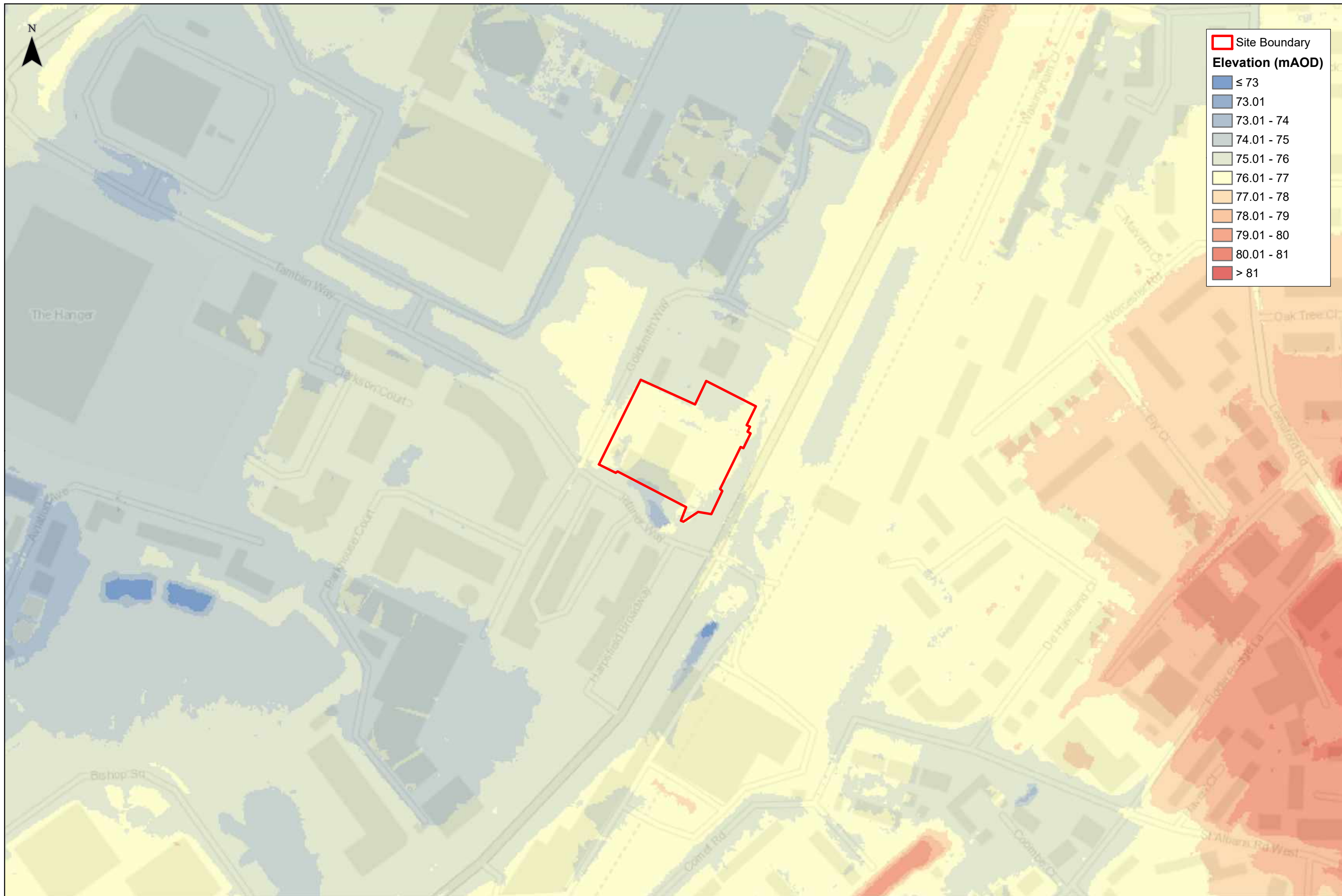
Date: 31/07/2020

Drawn: MD

Checked: MH

Figure 47179/4001/GIS001b

Rev B



Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Site Topography (1m LiDAR)



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1:2,000 @ A3 Date: 31/07/2020

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Figure 47179/4001/GIS002 Rev B



- Site Boundary
- Main Rivers
- Flood Zone 1
- Flood Zone 2
- Flood Zone 3



Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Environment Agency Flood Zones for Planning

0 250 500
m

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Figure 47179/4001/GIS003	Rev B



Site Boundary
 Main Rivers
Flood Risk
 High
 Medium
 Low
 Very Low



Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Flood Risk from Surface Water
(Flood Extents)

0 50 100
m

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Figure 47179/4001/GIS004	Rev B



Site Boundary
 Main Rivers
Depth
 Below 150mm
 150 - 300mm
 300 - 600mm
 600 - 900mm
 900 - 1200mm
 Over 1200mm



Client
 Comet Way
 Hatfield Ltd

COMET WAY, HATFIELD
 Flood Risk from Surface Water
 (High Risk Depth)

0 50 100 m
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Figure 47179/4001/GIS005	Rev B



Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Flood Risk from Surface Water
(High Risk Velocity)



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1:1,000 @ A3 Date: 31/07/2020

Drawn: MD Checked: MH

Figure 47179/4001/GIS006 Rev B



Site Boundary
 Main Rivers
Depth
 Below 150mm
 150 - 300mm
 300 - 600mm
 600 - 900mm
 900 - 1200mm
 Over 1200mm



Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Flood Risk from Surface Water
(Medium Risk Depth)

0 50 100
m

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Drawn: MD	Checked: MH
Figure 47179/4001/GIS007	Rev B



Site Boundary
 Main Rivers
Velocity
 Less than 0.25 m/s
 0.25 - 0.50 m/s
 0.50 - 1.00 m/s
 1.00 - 2.00 m/s
 Over 2.00 m/s



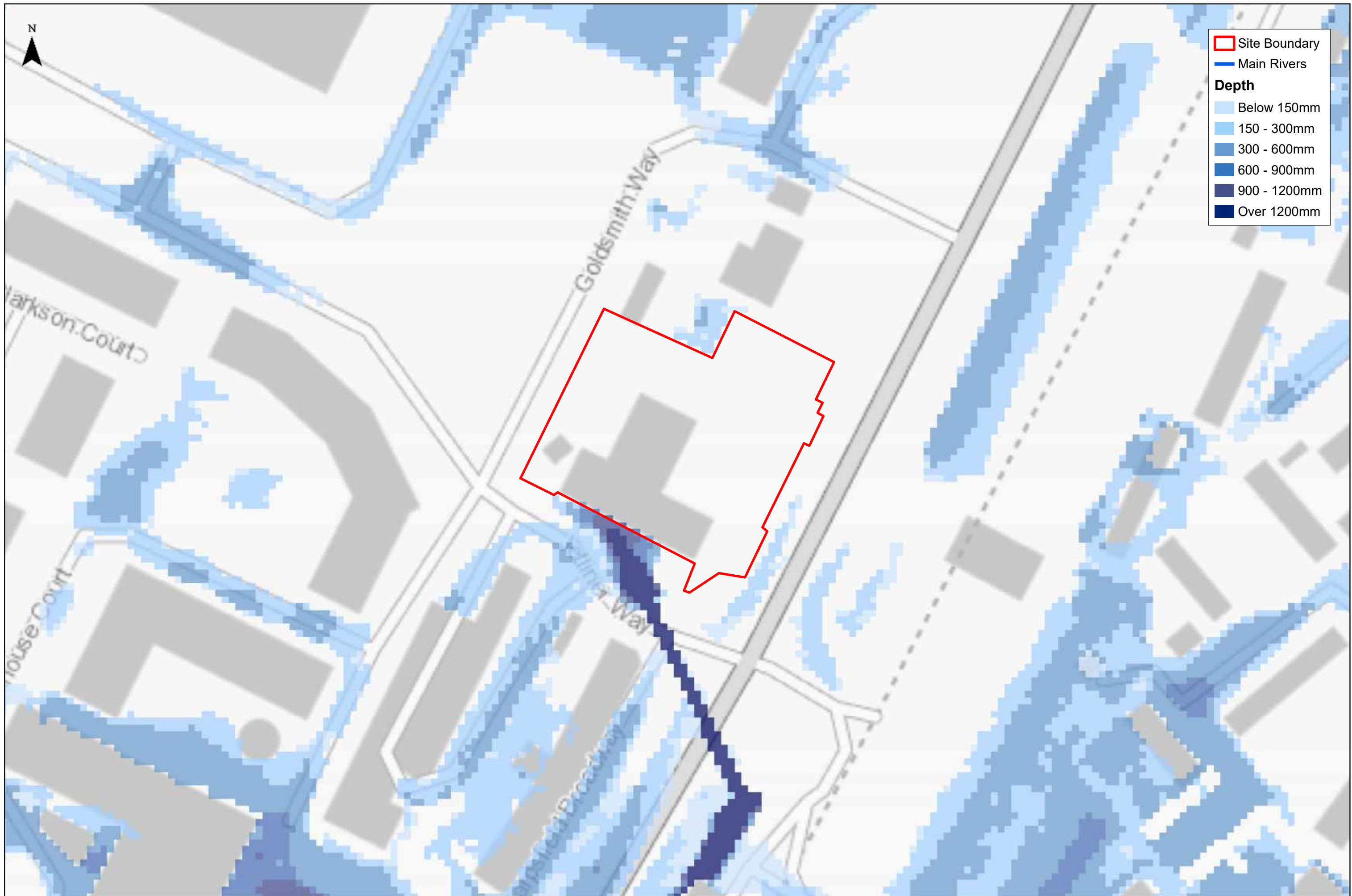
Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Flood Risk from Surface Water
(Medium Risk Velocity)

0 50 100
m

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1:1,000 @ A3	Date: 31/07/2020
Drawn: MD	Checked: MH
Figure 47179/4001/GIS008	Rev B



- Site Boundary
- Main Rivers
- Depth**
- Below 150mm
- 150 - 300mm
- 300 - 600mm
- 600 - 900mm
- 900 - 1200mm
- Over 1200mm



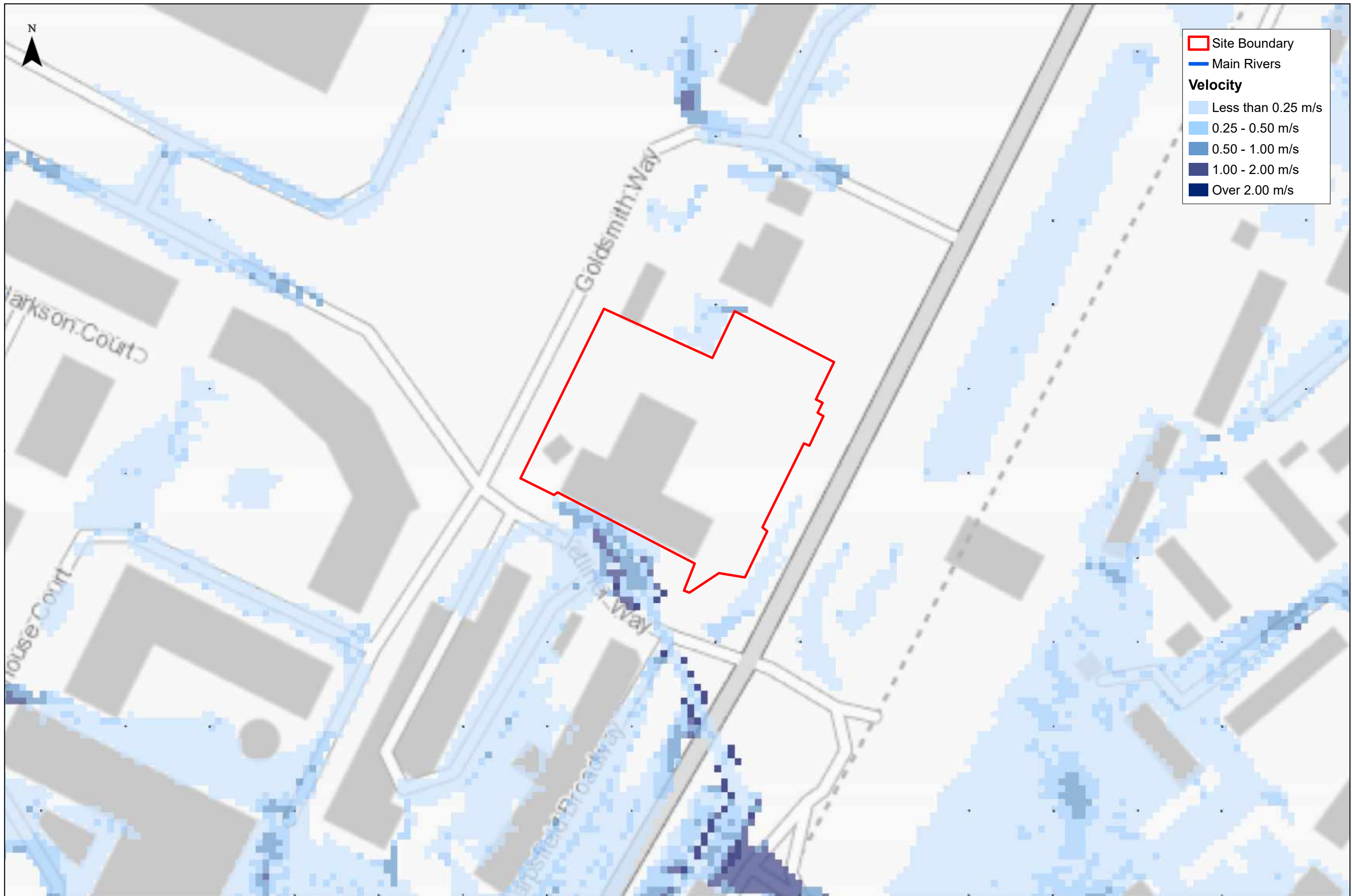
Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Flood Risk from Surface Water
(Low Risk Depth)

0 50 100
m

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1:1,000 @ A3	Date: 31/07/2020
Drawn: MD	Checked: MH
Figure 47179/4001/GIS009	Rev B



Site Boundary
 Main Rivers
Velocity
 Less than 0.25 m/s
 0.25 - 0.50 m/s
 0.50 - 1.00 m/s
 1.00 - 2.00 m/s
 Over 2.00 m/s



Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Flood Risk from Surface Water
(Low Risk Velocity)

0 50 100
m

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1:1,000 @ A3	Date: 31/07/2020
Drawn: MD	Checked: MH
Figure 47179/4001/GIS010	Rev B



□ Site Boundary
— Main Rivers
Depth
 Below 0.3m
 Between 0.3m and 2m
 Over 2m



Client
 Comet Way
 Hatfield Ltd

COMET WAY, HATFIELD
 Flood Risk from Reservoirs

0 250 500
 m
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Figure 47179/4001/GIS011	Rev B



- Site Boundary
- Main Rivers
- Flood Storage Areas
- Areas Benefiting from Flood Defences
- High Ground



Client
Comet Way
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COMET WAY, HATFIELD
Flood Defences, Areas Benefiting from Flood Defences, and Flood Storage Areas

0 250 500
m

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1:5,000 @ A3	Date: 31/07/2020
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Figure 47179/4001/GIS012	Rev B



- Site Boundary
- Main Rivers
- Recorded Flood Outlines



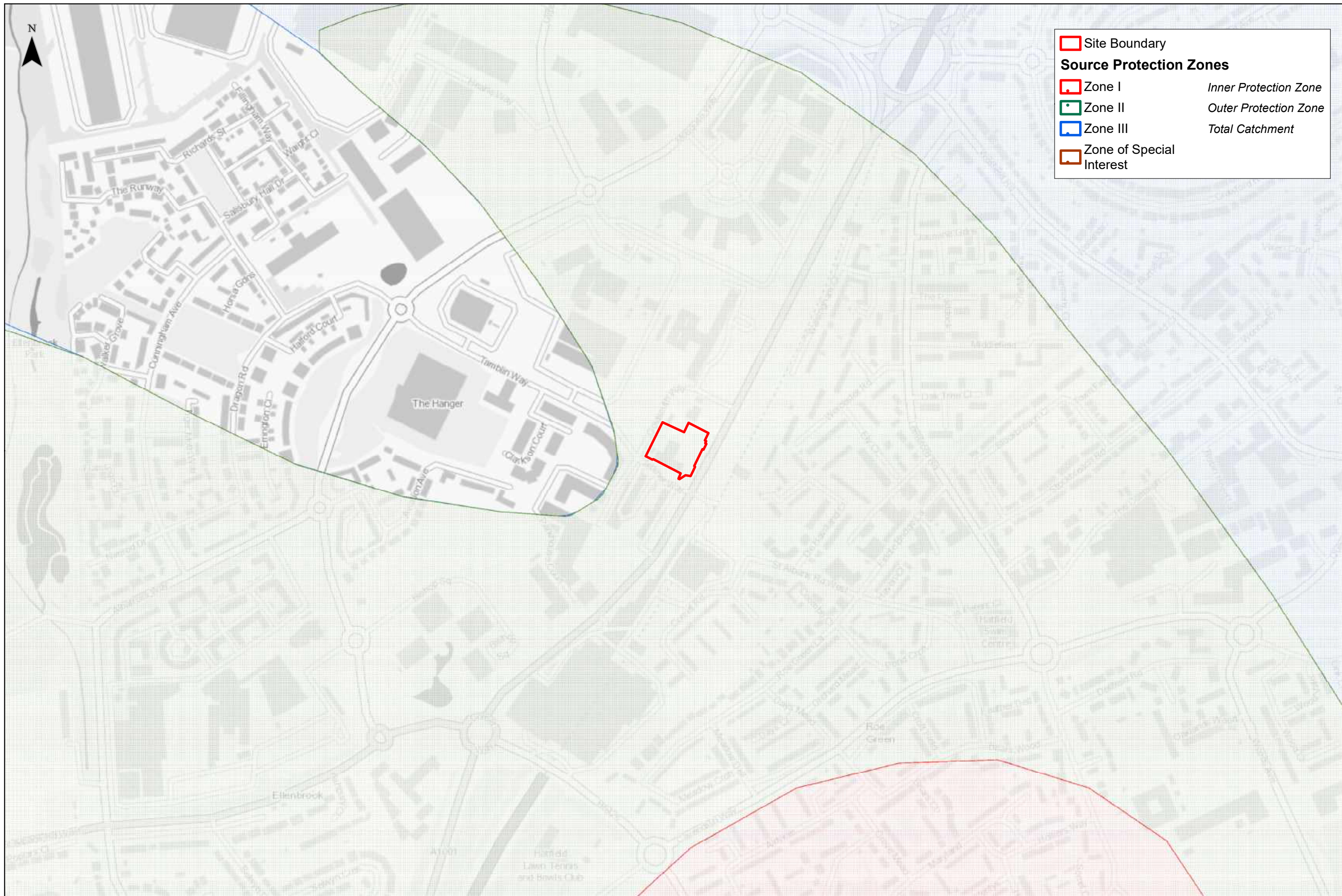
Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Recorded Flood Outlines

0 250 500
m

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1:5,000 @ A3	Date: 31/07/2020
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Figure 47179/4001/GIS013	Rev B



Site Boundary

Source Protection Zones

- Zone I *Inner Protection Zone*
- Zone II *Outer Protection Zone*
- Zone III *Total Catchment*
- Zone of Special Interest



Client
Comet Way
Hatfield Ltd



COMET WAY, HATFIELD
Source Protection Zones

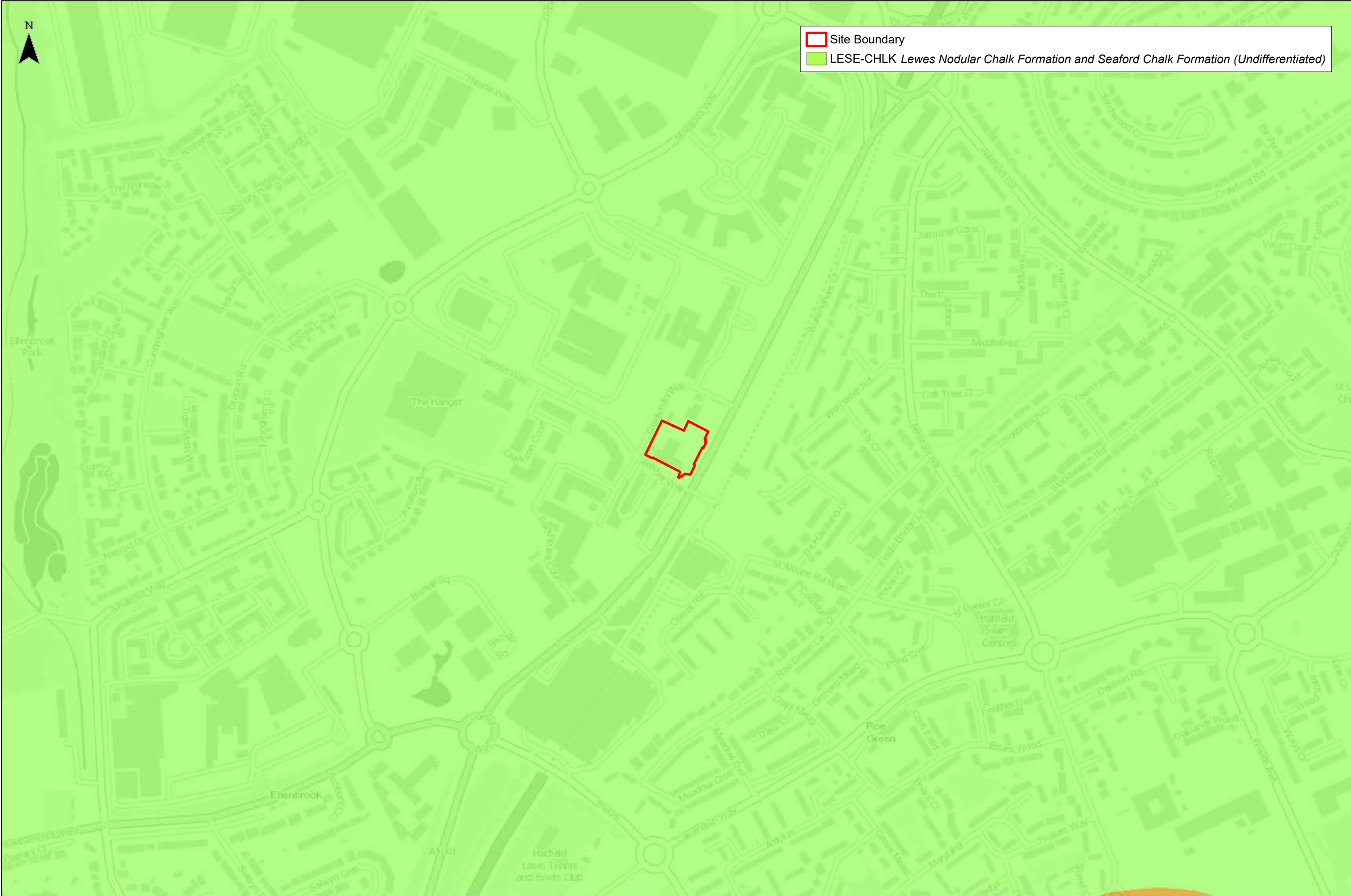
0 250 500
m

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Drawn: MD	Checked: MH
Figure 47179/4001/GIS014	Rev B



	Site Boundary
	LESE-CHLK Lewes Nodular Chalk Formation and Seaford Chalk Formation (Undifferentiated)



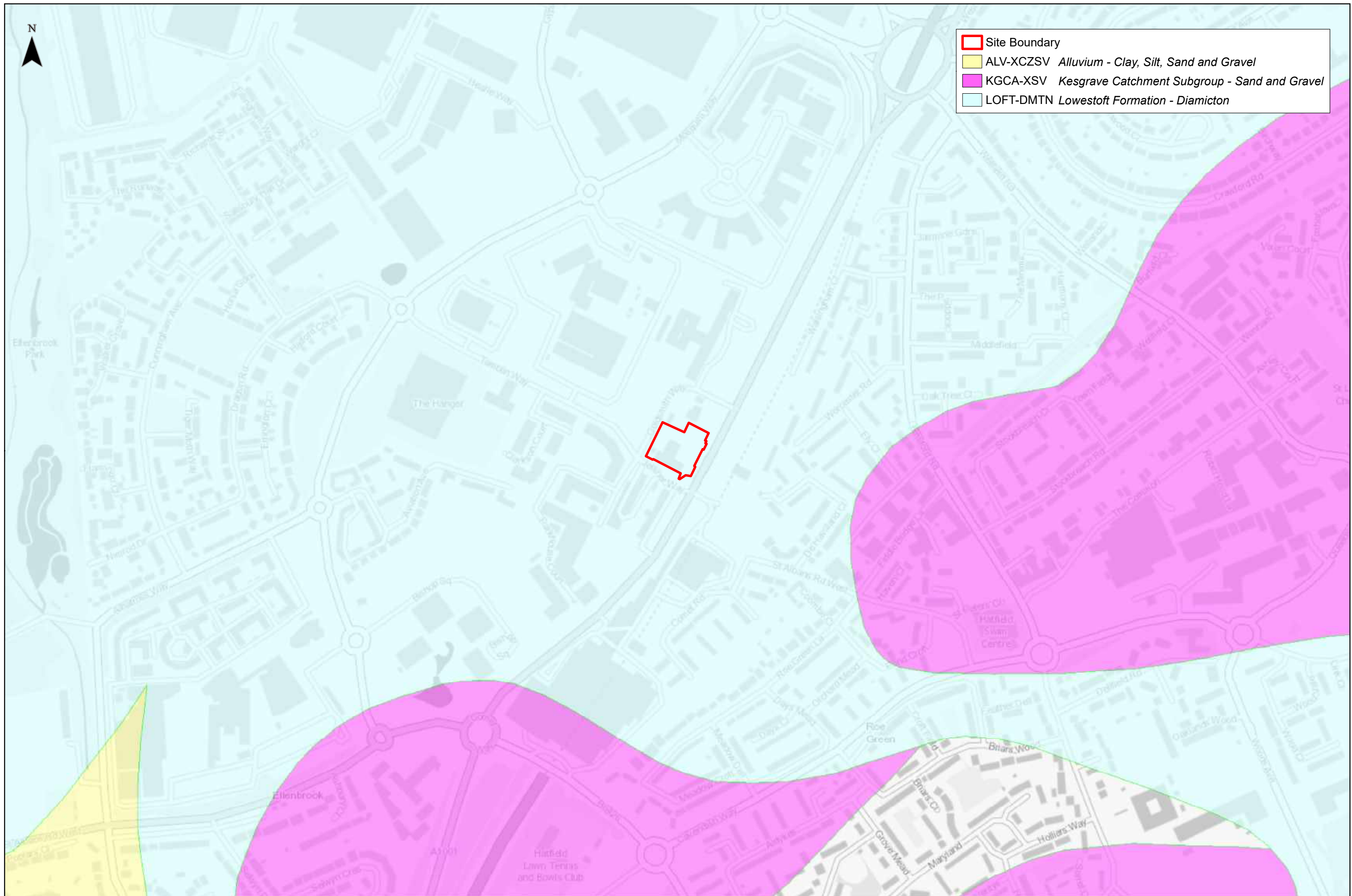
Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Bedrock Geology

0 250 500
m

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1:5,000 @ A3	Date: 31/07/2020
Drawn: MD	Checked: MH
Figure 47179/4001/GIS015	Rev B



- Site Boundary
- ALV-XCZSV Alluvium - Clay, Silt, Sand and Gravel
- KGCA-XSV Kesgrave Catchment Subgroup - Sand and Gravel
- LOFT-DMTN Lowestoft Formation - Diamicton



Client
Comet Way
Hatfield Ltd

COMET WAY, HATFIELD
Superficial Deposits Geology

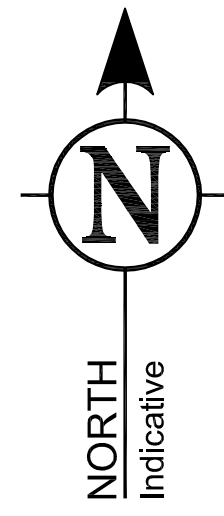
0 250 500
m

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Drawn: MD	Checked: MH
Figure 47179/4001/GIS016	Rev B

Appendix B Topographic and CCTV Surveys

Drawing 25372UG-01 dated November 2019 by Survey Solutions



UTILITIES & UNDERGROUND INVESTIGATIONS

ABBREVIATIONS & SYMBOLS

10 SC 1 Dual 5 Cables	CPC Circ Plastic Chamber	EOT End Of Trace
Ø Diameter	CL Cover Level	IBD Internal Backdrop
AR Assumed Route	DCR Depth To Crown	IL Invert Level
BL Base Level	DI Depth To Invert	RB Rest Bend
CB Concrete Batching	DS Depth To SB	RBC Rectangular Brick Chamber
CBC Circular Brick Chamber	DTB Depth To Base	RCC Rectangular Concrete Chamber
CCC Circular Conc Chamber	DWT Depth To Water	SA Survey Abandoned
CL Cover Level	DTS Depth To Surcharge	SL Silt Level
BT CABLE(S)	DUK Depth To Surcharge	SUL Surcharge Level
OVERHEAD BT CABLE(S)	UT Unusable Trace	UTC Unusable To CCTV
COMMUNICATIONS CABLE(S)	UTT Unusable To Trace	UTL Unusable To LR
CABLE TV CABLE(S)	UTL Unusable To LR	UTL Unusable To Trace
ELECTRIC CABLE(S)	TFR Taken From Records	TFR Taken From Records
OVERHEAD ELECTRIC CABLE(S)	PDR Poor Depth Response	PDR Poor Depth Response
FIBREOPTIC CABLE(S)	EBO External Backdrop	EBO External Backdrop
GAS MAIN		
GAS SERVICE		
GROUND PENETRATING RADAR (GPR) TRACE		
HOT WATER PIPE		
LIGHTING CIRCUIT		
SECURITY CABLE(S)		
UNIDENTIFIED TRACE		
WATER MAIN		
WATER SERVICE		
COMBINED SEWER		
FOUL SEWER		
RIBBED MAN		
SURFACE WATER SEWER		
INVESTIGATION EXTENTS		

DRAWING NOTES

All below ground details shown have been identified from above ground without excavation. Survey Solutions use electro-magnetic and/or ground penetrating radar (GPR) methods to investigate for underground utilities, services and features. Results using these methods are not infallible and we recommend trial excavations are carried out to confirm any identifications, positions and depths.

Any areas on the drawing where services or features have not been shown are not necessarily clear of services or features but are an indication that no items have been identified during our investigations. All reasonable care and normal good practice should still be employed during design and construction processes.

Certain types of services such as plastic or concrete pipes, some conduit and ducting where direct access cannot be achieved for tracing may not be shown and alternative locating methods should be used.

Survey Solutions has used all reasonable care to research available service records but the completeness or use of the service records supplied to or by Survey Solutions cannot be guaranteed. Therefore Survey Solutions cannot be held responsible for any features annotated as 'taken from records' (TFR).

Depths obtained using electro-magnetic or GPR are affected by ground conditions and should be treated as indicative only. Electro-magnetic depths to utilities and services are generally taken to the centre of a feature, GPR depths to the top of a feature and drainage depth shown to inverts, unless otherwise indicated.

Drainage pipe sizes will be obtained without entering the chamber and therefore should be treated as approximate. Pipe dimensions which have not been obtained visually will be taken from records when available.

All services, drainage and utilities routes are assumed straight between access points, unless otherwise stated. The numbers of cables in runs will not be shown unless specifically requested. All services are below ground unless indicated.

Services, utilities and features may not have been surveyed if obstructed or not reasonably visible or accessible at the time of survey.

Survey Solutions accept no responsibility for the completeness or accuracy of either the topographical survey or base mapping on this project.

All critical dimensions and measurements should be checked and verified with any errors or discrepancies notified to Survey Solutions immediately. The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work.

© Land Survey Solutions Limited hold the copyright to all the information contained within this document and their written consent must be obtained before copying or using the data other than for the purpose it was originally supplied.

Do not scale from this drawing.

AVAILABILITY OF UTILITY RECORD DRAWINGS

UTILITY	AVAILABILITY	UTILITY	AVAILABILITY	UTILITY	AVAILABILITY
SEWER	PUBLIC	BT	PUBLIC	OIL PIPES	NO
WATER MAIN	PUBLIC	CABLE TV	PUBLIC	OTHERS	NO
GAS MAIN	PUBLIC	ELECTRICITY	PUBLIC		

SURVEY SOLUTIONS

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www.survey-solutions.co.uk enquiries@survey-solutions.co.uk

LAND SURVEYING BUILDING SURVEYING UNDERGROUND SURVEYING

PROJECT TITLE
BEADLES VOLKSWAGON,
COMET WAY, HATFIELD.

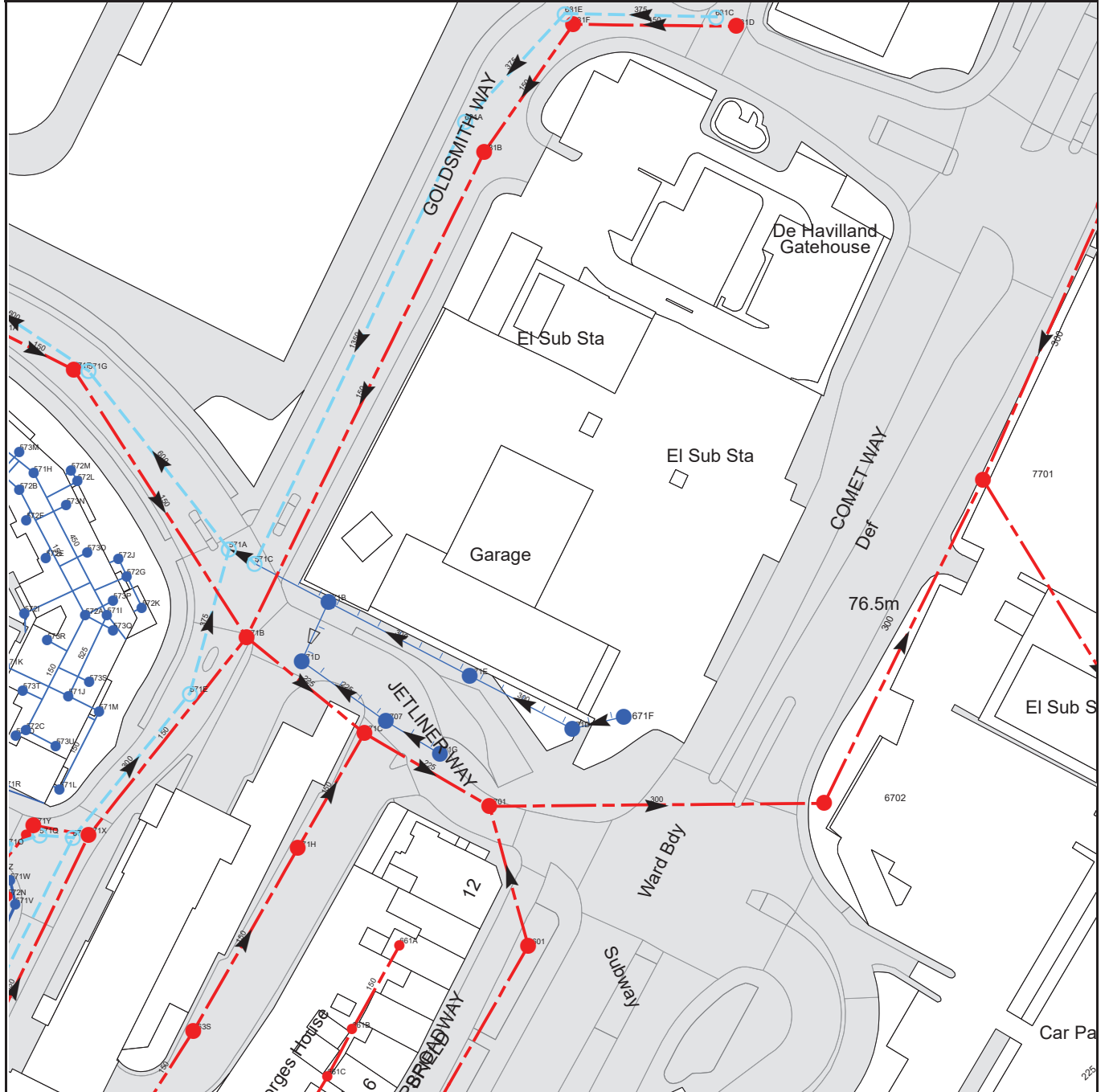
DRAWING DETAIL
UTILITIES AND CCTV DRAINAGE SURVEY.
Sheet 1 of 1

CLIENT	COMET WAY HATFIELD LTD	SCALE	1:200
SURVEYOR	SJH/DWP	CHECKED BY	GSB
SURVEY DATE	08/11/2019	APPROVED BY	GSB
DRAWING NUMBER	2537ZUG-01	DWG STATUS	FINAL
		REVISION	
		ISSUE DATE	18/11/2019

Appendix C **Thames Water Records & Correspondence**

Sewer asset records ref. 2019_4069569

Sewer flood history dated July 2020



The width of the displayed area is 200m

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no survey information is available.

Manhole Reference	Manhole Cover Level	Manhole Invert Level
7701	76.19	n/a
7801	76.57	70.44
681B	75.57	72.16
681A	75.51	72.11
681D	74.97	72.555
681F	75.26	72.34
681C	74.97	72.315
681E	75.25	72.225
563S	n/a	n/a
671H	n/a	n/a
661C	n/a	n/a
661B	n/a	n/a
661A	n/a	n/a
6701	75.86	71.01
6601	75.69	71.09
6702	n/a	n/a
572N	75.5	74.5
571W	75.5	74.5
571V	75.5	74.5
571Y	75.35	71.9
571Q	75.4	72.56
571L	75.7	74.95
571N	75.52	72.35
571X	75.55	71.84
671G	75.695	74.205
573U	n/a	n/a
572D	n/a	n/a
671C	75.48	71.275
572C	75.65	74.65
671D	76.13	73.88
6707	75.49	74.08
671F	75.99	74.23
571M	75.7	74.4
571J	75.5	73.62
571E	75.87	72.11
573T	n/a	n/a
573S	n/a	n/a
671E	74.38	72.86
571D	75.7	73.825
573R	n/a	n/a
571B	75.95	71.44
573Q	n/a	n/a
572A	75.75	74.49
571I	75.7	73.46
572I	n/a	n/a
572K	n/a	n/a
671B	75.58	72.65
573P	n/a	n/a
572G	n/a	n/a
573M	n/a	n/a
572B	75.7	74.33
572F	n/a	n/a
571H	75.65	73.28
572E	n/a	n/a
573N	n/a	n/a
572M	n/a	n/a
571F	75.38	71.91
572L	n/a	n/a
573O	n/a	n/a
571G	75.367	71.775
572J	n/a	n/a
571A	75.998	71.9
571C	76.1	71.995

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.



Sewer Key - Commercial Drainage and Water Enquiry

Public Sewer Types (Operated & Maintained by Thames Water)

	Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Trunk Surface Water
	Trunk Foul
	Storm Relief
	Trunk Combined
	Bio-solids (Sludge)
	Vent Pipe
	Proposed Thames Surface Water Sewer
	Gallery
	Surface Water Rising Main
	Sludge Rising Main
	Vacuum
	Proposed Thames Water Foul Sewer
	Proposed Thames Water Combined Rising Main
	Proposed Thames Water Sludge Rising Main

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

	Air Valve
	Dam Chase
	Fitting
	Meter
	Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

	Control Valve
	Drop Pipe
	Ancillary
	Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

	Outfall
	Undefined End
	Inlet

Notes:

- All levels associated with the plans are to Ordnance Datum Newlyn.
- All measurements on the plans are metric.
- Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 'na' or '0' on a manhole level indicates that data is unavailable.
- The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Searches on 0118 925 1504.

Other Symbols

Symbols used on maps which do not fall under other general categories

	Public/Private Pumping Station
	Change of characteristic indicator (C.O.C.I.)
	Invert Level
	Summit
Areas	Lines denoting areas of underground surveys, etc.
	Agreement
	Operational Site
	Chamber
	Tunnel
	Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

	Foul Sewer		Surface Water Sewer
	Combined Sewer		Gully
	Culverted Watercourse		Proposed
	Abandoned Sewer		

Sewer Flooding

History Enquiry



Property Searches

Peter Brett Associates LLP

Cow Lane

Search address supplied Advantage Cars
Comet Way
Comet Square, Hatfield Business Park
Hatfield
AL10 1JD

Your reference 47179

Our reference SFH/SFH Standard/2020_4221962

Received date **27 July 2020**

Search date **31 July 2020**



Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0845 070 9148

Sewer Flooding

History Enquiry



Property Searches

Search address supplied: Advantage Cars, Comet Way, Comet Square,
Hatfield Business Park, Hatfield, AL10 1JD

This search is recommended to check for any sewer flooding in a specific address or area

TWUL, trading as Property Searches, are responsible in respect of the following:-

- (i) any negligent or incorrect entry in the records searched;
- (ii) any negligent or incorrect interpretation of the records searched;
- (iii) and any negligent or incorrect recording of that interpretation in the search report
- (iv) compensation payments



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DX 151280 Slough 13



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0845 070 9148

History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- A sewer is “overloaded” when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- “Internal flooding” from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- “At Risk” properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company’s reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0800 316 9800 or website www.thameswater.co.uk



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Property Searches, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0845 070 9148

Appendix D EA Records and Correspondence

Product 4 request response ref. HNL181199NR dated August 2020

Hartley, Michael

From: NET Enquiries <HNLenquiries@environment-agency.gov.uk>
Sent: 14 August 2020 16:41
To: Hartley, Michael
Subject: RE: HNL181199NR - Comet Way, Hatfield

Dear Michael

Enquiry regarding Flood Risk Assessment for Comet Way, Hatfield (National Grid Ref: TL 21654, 08776)

Thank you for your enquiry which was received on 27 July 2020.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

All of the data you have requested is already available online for you to access yourself. Please see the links below.

The property is in an area located within Flood Zone 1 shown on our Flood Map for Planning (Rivers and Sea).

Note - This information relates to the area that the above named site is in and is not specific to the property/proposed development itself.

Because this site does not fall within an area at risk of flooding from rivers or the sea, we do not hold any detailed flood modelling data that would impact your site. As such we are unable to provide a flood risk product.

We do not hold records of historic flood events from rivers and/or the sea affecting the area local to this site. However, please be aware that this does not necessarily mean that flooding has not occurred here in the past, as our records are not comprehensive.

This address is in 20m of an area at low risk and within 20m at a medium risk of surface water flooding. Following the Flood and Water Management Act 2010, Lead Local Flood Authorities are responsible for the management of groundwater and surface water flooding. They also maintain a register of property flooding incidents. You may want to seek further advice from the Hertfordshire County Council who may have further information.

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of Environment Agency Information for Flood Risk Assessments

<https://www.gov.uk/planning-applications-assessing-flood-risk>
<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

You can also view and print surface water flood maps online at: <http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?topic=ufmfs#w=x=357683&y=355134&scale=2>

This information is provided subject to the [Open Government Licence](#), which you should read.

We respond to requests for recorded information that we hold under the Freedom of Information Act 2000 (FOIA) and the associated Environmental Information Regulations 2004 (EIR).

Data Available Online

Many of our flood datasets are available online:

- **You can view and download flood risk maps from our website at:**
<http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?topic=floodmap#x=357683&y=355134&scale=2>
- **Flood Map For Planning** ([Flood Zone 2](#), [Flood Zone 3](#), [Flood Storage Areas](#), [Flood Defences, Areas Benefiting from Defences](#))
- [Risk of Flooding from Rivers and Sea](#)
- [Historic Flood Map](#)
- [Current Flood Warnings](#)
- [Open data](#)

Please use the following link for details of reports for known problems regarding groundwater flooding issues <https://www.gov.uk/government/collections/groundwater-current-status-and-flood-risk> if there is not one for your site this means that we don't know about any problems in our records.

A groundwater contour map is available from the British Geological Survey website:
https://www.bgs.ac.uk/research/groundwater/datainfo/levels/levels_data.html

Groundwater level data can be found as open data here: <https://data.gov.uk/search?q=groundwater+levels>

Guidance on groundwater flooding is available - <https://www.gov.uk/government/publications/flooding-from-groundwater>

Our water quality data is available online via open data website. <https://data.gov.uk/dataset/a0e6f23e-d631-4584-9ea2-7053620e4af2/water-quality-archive>

Additionally, you can view the catchment data explorer for Water Framework Directive status and details of the area. - <http://environment.data.gov.uk/catchment-planning/>

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Kind regards,

Naomh Richardson
Customers and Engagement Officer

☎ 0203 0257507 📧 HNLenquiries@environment-agency.gov.uk
✉ **Environment Agency, Hertfordshire and North London**
Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Pronouns: she/her ([why is this here?](#))

Working days: Monday to Friday 7am – 3pm



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for people and wildlife



Water pollution incidents

Sign up to email alerts of
incidents affecting your
local watercourse

bit.ly/HNLwaterincidents



From: NET Enquiries

Sent: 11 August 2020 12:30

To: Hartley, Michael <michael.hartley@stantec.com>

Cc: NET Enquiries <HNLenquiries@environment-agency.gov.uk>

Subject: RE: Comet Way, Hatfield

Dear Michael

I can confirm that we have received your enquiry.

We log jobs in date order and have a very large number of requests at the moment, currently standing at 213. We are logging jobs currently from the 21 July so we will get to your email as soon as we can.

We hope to get the enquiry completed within the 20 working days, if not before.

Kind regards,

Naoimh Richardson
Customers and Engagement Officer

☎ 0203 0257507 📧 HNLenquiries@environment-agency.gov.uk

✉ **Environment Agency, Hertfordshire and North London**
Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE

Working days: Monday to Friday 7am – 3pm

Pronouns: she/her ([why is this here?](#))



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for people and wildlife



FLOOD

FIND OUT MORE

PREPARE. ACT. SURVIVE.



From: Hartley, Michael [<mailto:michael.hartley@stantec.com>]
Sent: 11 August 2020 12:05
To: NET Enquiries <HNLenquiries@environment-agency.gov.uk>
Subject: RE: Comet Way, Hatfield

Dear Sir/Madam

We are just checking the EA have received our enquiry below ok? If you could update me on this that would be great.

Many thanks

Michael.

Kind regards

Michael Hartley

Direct: 01223 802952

michael.hartley@stantec.com

Address: 3rd Floor, 50-60 Station Road, Cambridge, CB1 2JH

Main Tel: 01223 882000



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From: Hartley, Michael
Sent: 27 July 2020 11:00
To: HNLenquiries@environment-agency.gov.uk
Subject: Comet Way, Hatfield

Dear Sir/Madam,

Stantec has been commissioned to undertake a Flood Risk Assessment for land at Comet Way, Hatfield (National Grid Ref: TL 21654, 08776). The area of interest is shown on attached location plan.

The site is in Flood Zone 1 according to the online government website.

We would be grateful if you could provide the following information:

- Any records of previous flooding of the site
- Confirmation the site is located in flood zone 1
- Regional groundwater level and flow direction data.
- Any EA apparatus within the site?
- Are there any Water Framework Directive related information the EA expects to be produced to support the planning application?

Kind regards

Michael Hartley

Direct: 01223 802952

michael.hartley@stantec.com

Address: 3rd Floor, 50-60 Station Road, Cambridge, CB1 2JH

Main Tel: 01223 882000



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Appendix E Welwyn Hatfield Council SFRA Extracts

Extract of 'Areas Susceptible to Groundwater Flooding' and 'Flooding from Artificial Sources' maps

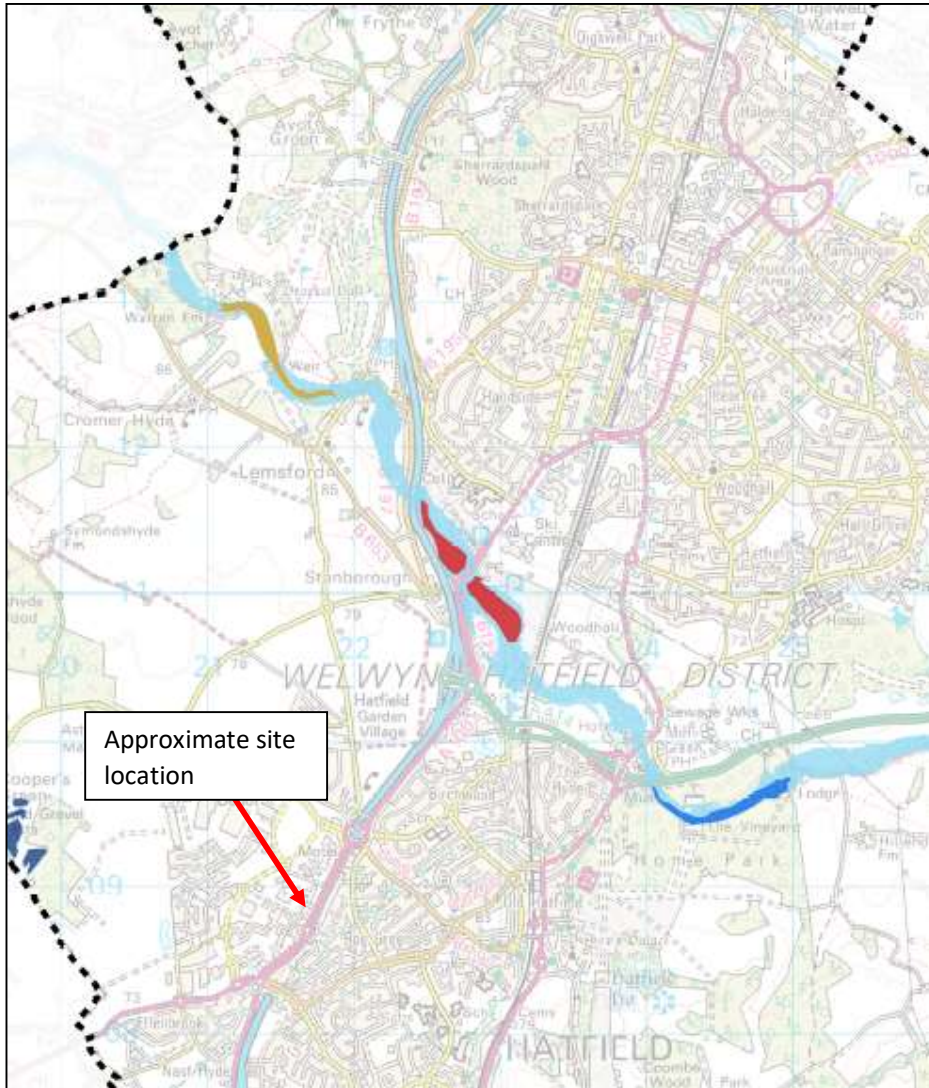
Strategic Flood Risk Assessment Extracts

Extracts from Welwyn Hatfield Council Level 1 and 2 Strategic Flood Risk Assessment Final Report dated May 2016, prepared by JBA Consulting.

Areas susceptible to Groundwater flooding Map



Flood from Artificial Sources



Approximate site location

Legend

-  Welwyn Hatfield Borough boundary
-  Bocket Hall Estate
-  The Broadwater
-  Stanborough Lake
-  Gravel & Sand Pits
-  Reservoir Inundation Extent

Appendix F Council Records & Correspondence

Welwyn Hatfield correspondence dated 3rd August 2020

Hertfordshire County Council correspondence dated 27th July 2020

Hartley, Michael

From: Andy Cremer <A.Cremer@welhat.gov.uk>
Sent: 03 August 2020 15:34
To: Hartley, Michael
Subject: RE: Comet Way, Hatfield Flood Risk Assessment Enquiry

Hi Michael

I can confirm I'm not aware of any further information to that supplied previously.

Kind regards

Andy

From: Hartley, Michael [mailto:michael.hartley@stantec.com]
Sent: 27 July 2020 10:49
To: Andy Cremer <A.Cremer@welhat.gov.uk>
Subject: Comet Way, Hatfield Flood Risk Assessment Enquiry

**** WARNING: This email originated outside the WHBC Network. Please be extra vigilant when opening attachments or clicking links ****

Dear Andy,

Stantec are carrying out a Flood Risk Assessment to support a planning application for land at Comet Way, Hatfield. Location Plan attached.

My work colleague Max consulted you back in February about whether Welwyn Hatfield Council holds any flood records for the site, of which you confirmed there are none you are aware of (see email below). Could you please confirm your response is unchanged from February and that the council holds no other flood risk related information for the site?

Many thanks

Kind regards

Michael Hartley
Direct: 01223 802952
michael.hartley@stantec.com

Address: 3rd Floor, 50-60 Station Road, Cambridge, CB1 2JH
Main Tel: 01223 882000



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From: Andy Cremer <A.Cremer@welhat.gov.uk>
Sent: 19 February 2020 09:25

To: Davison, Max <Max.Davison@stantec.com>
Subject: Hatfield Flood Risk Assessment Enquiry

Classification: Unrestricted

Dear Max

Thank you for your enquiry. This has also been passed to our Planning Policy Team. I am the council's lead on emergency planning and I have no records of being called regarding any flooding to Comet Way. Please note that I only maintain records for flood events of which I am notified, so my answer cannot state that there has never been flooding in this area.

Kind regards

Andy

Andy Cremer MSc PG(Cert) MEPS
Risk and Resilience Manager
Welwyn Hatfield Borough Council
☎01707 357169 (office)
☎07776 464797 (mobile)

Working better, together

Email: a.cremer@welhat.gov.uk
www.welhat.gov.uk
[@WelHatCouncil](#)
[@WHpublichealth](#)
[Welwyn Hatfield Borough Council](#)

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Hartley, Michael

From: James Lester <James.Lester@hertfordshire.gov.uk> on behalf of Flood and Water Management <FloodandWaterManagement@hertfordshire.gov.uk>
Sent: 27 July 2020 11:29
To: Hartley, Michael
Subject: RE: Comet Way, Hatfield

Hi Michael

We do not have any flood records for this site. However, please note that just because we do not have a record of any flooding does not mean that there have not been any incidents. The LLFA was established in 2010 and we have only been collecting records since then. Even so, we largely rely on residents and other authorities to provide us with information.

Kind regards,
James



James Lester MCIWEM
Project Officer | Flood Risk Management | Environment & Infrastructure
Hertfordshire County Council
County Hall, Pegs Lane, Hertford, SG13 8DE, Postal Point: CH215
T: 01992 555532 (**Internal:** 25532)
E: James.Lester@hertfordshire.gov.uk



From: Hartley, Michael <michael.hartley@stantec.com>
Sent: 27 July 2020 11:02
To: Flood and Water Management <FloodandWaterManagement@hertfordshire.gov.uk>
Subject: Comet Way, Hatfield

Dear Sir/Madam,

Stantec has been commissioned to undertake a Flood Risk Assessment for land at Comet Way, Hatfield (see location plan). A plan showing the site boundary is attached. The site is centered at NGR: 521651E, 208776N.

Could you please provide us with any information in your possession regarding flood risk including flood records for the site? We are also speaking to Thames Water, Welwyn Hatfield Borough Council, and the Environment Agency.

Thank you for your assistance. If you require any further information please contact myself on this contact email address.

Please let us know as soon as possible if there is a charge for this information so that we can raise the necessary payment.

Kind regards

Michael Hartley
Direct: 01223 802952
michael.hartley@stantec.com

Address: 3rd Floor, 50-60 Station Road, Cambridge, CB1 2JH
Main Tel: 01223 882000



Appendix G Development Proposals

Drawing 19_386_PL07

Proposed Site Plan

Drawing 19_386_PL08

Proposed Ground Floor Plan



Travel Lodge

JETLINER WAY

GOLDSMITH WAY

New Electrical Sub Station

Electrical Sub Station

PV Panels

Parking

KFC Restaurant

Gatehouse

12

Pedestrian tunnel

HARPSFIELD BROADWAY

Flat Roof

Roof Gardens

COMET WAY

BUS LANE

