



# Flood Risk Assessment and Drainage Strategy

## STC Extra Care Scheme

### Hebburn

Revision D

2022092

June 2025



**Revision Log**

| Revision | Description                                                                                  | By | Date          |
|----------|----------------------------------------------------------------------------------------------|----|---------------|
| Ø        | Initial issue                                                                                | KC | February 2023 |
| A        | Amended to suit new layout                                                                   | KC | March 2023    |
| B        | Basin size amended                                                                           | KC | April 2023    |
| C        | Section 5.07 added. Additional NWL correspondence added. Additional drainage drawings added. | KC | August 2023   |
| D        | Layout amended for NMA                                                                       | KC | June 2025     |

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## Introduction

Portland have been commissioned by Karbon Homes to undertake a flood risk assessment to cover the proposed extra care development at a former block of flats at Westmorland Court, Hebburn.

The site is situated in Hebburn town centre at grid reference E430693 N564361 with an overall site area of 1.61 hectares (planning site boundary)

The site is a brownfield site comprised of adopted highway, hardstanding, maintained grass and an area of land where the now demolished flats were present. The land is bounded by adopted highway and existing housing to the north and west. There is an existing sports centre to the east of the site and maintained grass areas to the south.

This Flood Risk Assessment has been produced in accordance with the National Planning Policy Framework (NPPF) for Development and Flood Risk.

All sources of flooding have been assessed in accordance with the requirements of NPPF.

## 2.00 Site Features and Topography

### 2.01 Watercourses.

There are no watercourses within close proximity of the site. The nearest watercourse is the River Tyne which is approx. 0.8km east of the development site.

### 2.02 Drainage.

The Northumbrian Water (NWL) sewer record plans indicate a 600mm diameter surface water sewer running from south to north along Rose Street on the east of the site. There is also a 225mm diameter foul water sewer which connects into a combined sewer on the north west of the site and a 150mm diameter foul water sewer at the east of the site which runs off-site.

(For sewer records refer to Appendix E)

### 2.03 Site Levels.

A topographical survey was produced by Landform Survey for the site in January 2023. The site falls from Southern boundary to the North Western boundary ranging between 39.40m and 38.00m.

(For survey refer to Appendix B)

### 2.04 Site Investigation.

A preliminary Intrusive Investigation Report was produced for the development site in 2023 by Arc Environmental Ltd. As part of the investigation 9 Trial Pits and 8 boreholes were excavated. The boreholes show the site is predominantly underlain by dark brown sandy clay.

(Refer to appendix G for extracts from the GI)

### 3.0 Sources of Flood Risk

Each potential source of flooding needs to be considered; rivers, sea, land, groundwater, sewers and artificial sources (such as reservoirs and canals). Consideration also needs to be given to the flood risk vulnerability classification for this type of development.

#### 3.01 Tidal and Fluvial Flooding

Environment Agency flood maps have been acquired to assist with the assessment.

The flood maps indicate the site to be located within a Flood Zone 1 with a less than 1:1000 annual probability of flooding from rivers or sea. As such, the risk of flooding to the site due to these sources can be deemed as **Low**, in accordance with Table 1 of NPPF.

(Refer to Appendix D for EA maps).

#### 3.02 Flooding from Overland Flows

The Environment Agency surface water flood maps show the site is not at risk of overland flooding.

Therefore, flooding due to overland run-off can be deemed as **Low** risk.

#### 3.03 Flooding due to Groundwater.

Flooding due to groundwater occurs when the levels of water below the ground rise and emanate above finished ground level.

The ground investigation report carried out by Ergo states that no groundwater was encountered during the site investigation works. Preliminary monitoring within the environmental installations indicated that standing water was present at depths between 2.39m and 3.65mbgl, however wells remained dry during the first monitoring visit.

As such, the risk of flooding due to groundwater can be deemed as **Low**.

(Refer to appendix G for extract from the Ground Investigation)

#### 3.04 Sewer Flooding.

NWL have been consulted regarding historical sewer flood problems.

Their plan (refer to Appendix E) indicates no flooding within the immediate locality of the site that would affect the proposed development.

The risk of flooding from existing sewers can therefore be deemed as **Low**.

The proposed sewers will be designed to achieve a self-cleansing velocity to prevent blockages which present the main risk of flooding to the systems. The risk of flooding as a result of failure to the drainage system can be deemed as **Low**.

#### 3.05 Artificial Sources.

From inspection of the EA reservoir flood maps (refer to Appendix D), aerial photographs and OS maps it can be seen that the potential risk for flooding from artificial sources is **Low**.  
(Refer to Appendix D for EA maps).

### 4.00 Management of Surface Water – Options

Part H of the Building Regulations provides a recommended hierarchy for surface water disposal:

- i) By infiltration;
- ii) To watercourse;
- iii) To sewer.

#### 4.01 Discharge via Infiltration.

As noted earlier the intrusive site investigation report shows that the site is underlain by sandy clay. Therefore, the ground conditions are unsuitable for the use of infiltration techniques.

Refer to the extracts from the SI in appendix G

#### 4.02 Discharge to Watercourse.

There are no watercourses within close proximity of the site, therefore for this reason this option has been discounted as a method of surface water disposal.

#### 4.03 Discharge to Public Sewers.

As infiltration and discharge to a water course has been discounted, the flows should be directed to the NWL combined sewer. In accordance with Northumbrian Water Limited's Pre-Planning Enquiry Response dated 19<sup>th</sup> December 2022, it is proposed to construct a new sewer in Glenn Street to connect into MH 6403.

(For sewer records refer to appendix E)

## 5.00 Proposed Drainage Solution

### 5.01 Greenfield Runoff Rate

Site Area (considered for calculation) = 1.700Ha

The greenfield runoff rate has been calculated using the 'HR Wallingford' greenfield runoff rate estimation tool.

| Return Period | Greenfield Runoff |
|---------------|-------------------|
| QBar          | 7.43              |
| 1 Year        | 6.36/sec          |
| 30 Year       | 13/sec            |
| 100 Year      | 15.46/sec         |

### 5.02 Proposed Maximum Flows from the Proposed Development.

The flow rates from the site are to be restricted to satisfy the following bodies; NWL and South Tyneside's Council (STC).

A pre development enquiry has been submitted to NWL to ascertain the maximum flow rates and available connection points. They have responded and given the following connection points and maximum discharge rate, see appendix E for correspondence.

- Manhole 6403 at 5.00l/s

However after discussions with NWL, they reviewed the discharge rate and allowed for an increase to 6l/s, see Appendix E for correspondence.

STC's requirements are such that surface water systems are designed to restrict discharge to greenfield runoff rates and must accommodate all storms up to and including the 1/100-year return period with a 45% allowance for climate change, allowing no surface water flooding to leave the site or affect any new properties. South Tyneside Council's Local Flood Risk Management Strategy now states that brownfield sites must also be restricted to Greenfield run off rates wherever possible. A Greenfield runoff rate of 7.43l/s has been calculated using the 'HR Wallingford' greenfield runoff rate estimation tool. Therefore, following preliminary drainage design using a flow control device with a 75mm orifice, a discharge rate of 6.0 l/s should be achieved on all storms up to and including the 100year + 45% cc event.

(see appendix G for drainage calculations)

### 5.03 Attenuation Options.

Given that infiltration has been discounted; the volumes over and above those associated with 7.43 l/sec must be stored on site.

1 in 30 year and 1 in 100 year with 45% climate change return period volumes – A detention basin storage structure has been designed to accommodate these volumes. These structures will be sited within the development and will remain under the ownership of Karbon Homes and be maintained by a maintenance company employed by them.

The basin shall be vegetated to provide biodiversity benefits to the scheme as a whole with grass being considered and appropriate planting of the basin slopes. Careful thought must be given to the proposals to keep maintenance requirements to a minimum.

### 5.04 Source Control SUDS.

Private drive areas are to be constructed as permeable paving with connection to the main surface water system.

The outlet from the subbase is to be set at a level above the formation level to allow for holding the first 5mm of rainfall.

Calculation to establish the depth below the outlet pipe required to retain the associated volumes:

Total Impermeable Areas = 17000m<sup>2</sup>

Volume created by first 5mm of rainfall = 17000 x 0.005 = 85m<sup>3</sup>

Number of permeable drives = 30 drives at 5.0x2.5m

Total surface area of drives = 375m<sup>2</sup>

Depth required below outlet = 85/375 = 0.225m

Subbase depth below outlet = 0.225m

As stated above in 4.01 STC have advised that the site is within a ground water risk zone therefore all features such as permeable paving and detention basins will need to be lined with an impermeable membrane.

Maintenance of the permeable paving will be the responsibility of Karbon Homes or a maintenance company employed by them.

## 5.05 Climate Change.

In accordance with NPPF a percentage increase in rainfall has been included in the drainage design at 45%

## 5.06 Maintenance Responsibilities

- Private Sewers – Karbon Homes
- Adoptable Sewers - NWL
- Detention Basin – Karbon Homes

*A copy of the relevant pages from the maintenance schedule must be given to the maintenance company employed by Thirteen Group*

- Permeable Paving – Karbon Homes

Refer to appendix L for maintenance schedules

## 5.07 Water Quality Management

The simple index approach will be applied to assess the effectiveness of the proposed SuDS in respect of water quality.

The proposed development is residential with areas of roofs and estate roads. Therefore, a **low** pollution hazard level is judged appropriate with the following indices; TSS 0.50, Metals 0.4, Hydrocarbons 0.4

| SUDS Component                     | Mitigation Indices     |             |              |
|------------------------------------|------------------------|-------------|--------------|
|                                    | Total Suspended Solids | Metals      | Hydrocarbons |
| Detention Basin                    | 0.50                   | 0.50        | 0.60         |
| <b>Total SUDS Mitigation Index</b> | <b>0.50</b>            | <b>0.50</b> | <b>0.60</b>  |

The SUDS Detention Basin is adequate to improve water quality from the roofs and estate roads.

The proposed development proposes that the private drives are to be permeable. Therefore, a **low** pollution hazard level is judged appropriate with the following indices; TSS 0.50, Metals 0.4, Hydrocarbons 0.4

| SUDS Component                     | Mitigation Indices     |             |              |
|------------------------------------|------------------------|-------------|--------------|
|                                    | Total Suspended Solids | Metals      | Hydrocarbons |
| Permeable paving to private drives | 0.70                   | 0.60        | 0.70         |
| <b>Total SUDS Mitigation Index</b> | <b>0.70</b>            | <b>0.60</b> | <b>0.70</b>  |

The SUDS permeable paving is adequate to improve water quality from the entering the system via the driveways.

## 6.00 Conclusions

### 6.01 Flood Risk.

- Tidal and Fluvial Flooding – **Low risk**
- Flooding from Overland Flows - **Low risk**
- Flooding due to Ground Water – **Low risk**
- Sewer Flooding – **Low risk**
- Artificial Sources - **Low risk**

*Overall site has **Low Risk***

### 6.02 Surface Water Solution.

- Infiltration has been discounted due to the poor infiltration characteristics of the underlying soils identified during the preliminary intrusive investigation.
- Discharge to watercourse is not a viable solution for this development.
- Discharge to existing NWL combined sewer downstream of 6403
- Flows to be restricted to 6.0 l/s to 6403 to satisfy SCC and NWL requirements.

### 6.03 Foul Water Solution.

- Discharge to existing NWL combined sewer downstream of 6310

## **Appendix A**    Location Plan

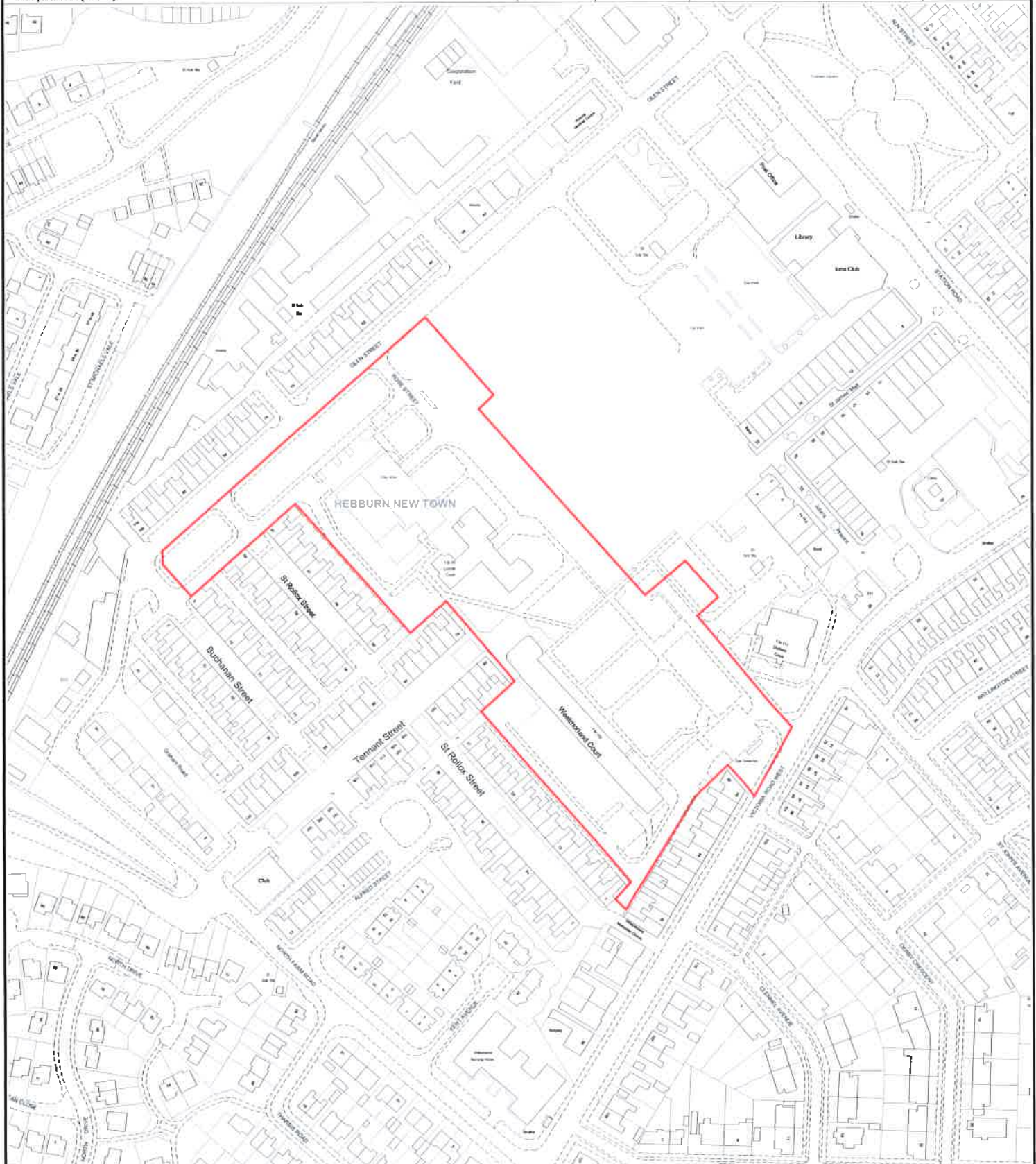


# South Tyneside Council

## Business and Resources

David Crammond - Corporate Director  
Town Hall & Civic Offices, Westoe Road, South Shields, NE33 2RL  
Telephone: (0191) 427 1717

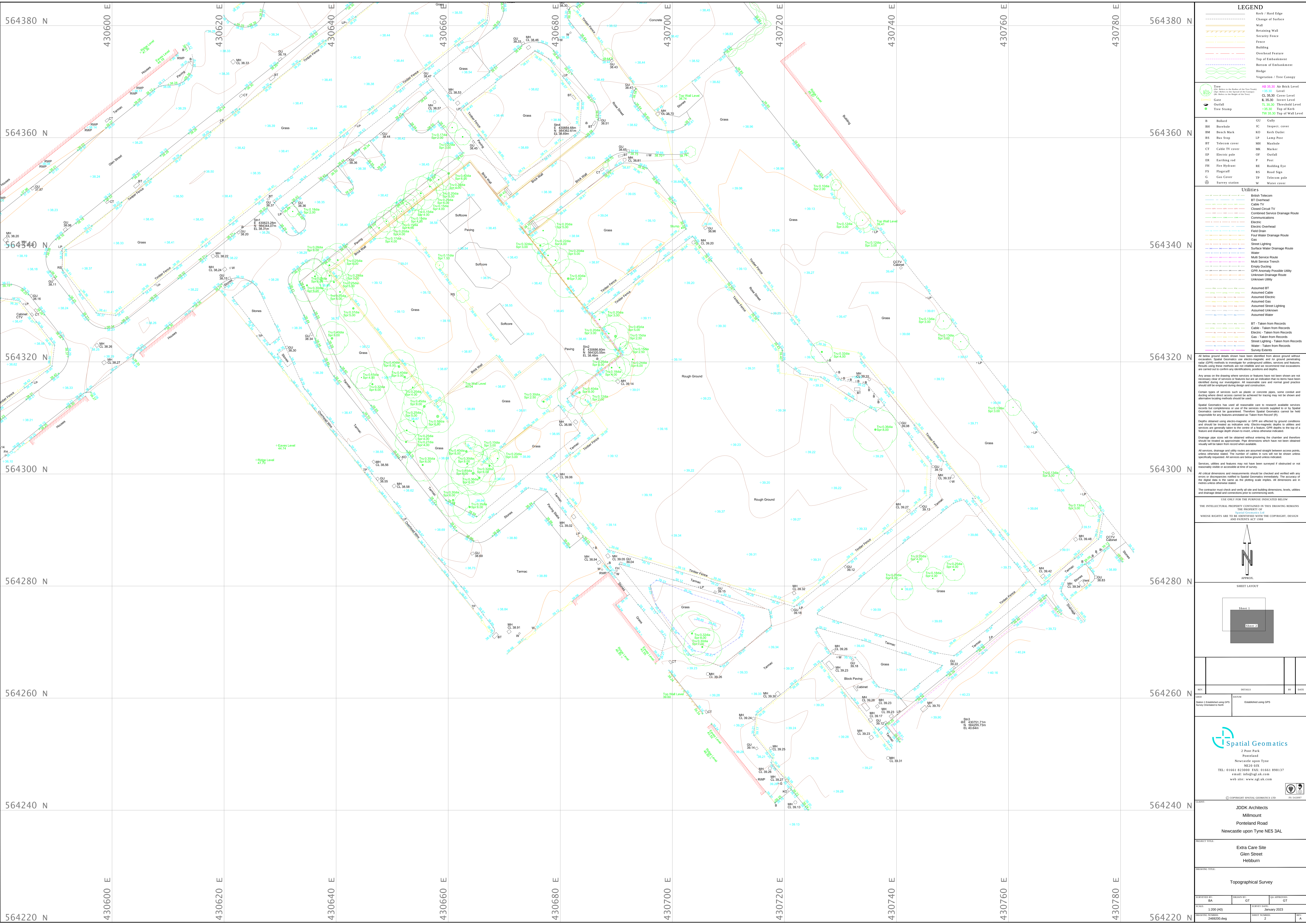
|                                                    |         |                                             |               |
|----------------------------------------------------|---------|---------------------------------------------|---------------|
| Project<br><b>Proposed Residential Development</b> |         | Drawing Title<br><b>Hebburn Town Centre</b> |               |
| Project Code<br><b>2.75 hectares</b>               | Dwg.No. | Drawn By DH                                 | Date 04/02/16 |
|                                                    |         | Checked By                                  | Date          |
|                                                    |         | Scale 1: 2500                               | Size A4       |
| Rev                                                | Date    | OS Ref                                      | Chkd          |



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## **Appendix B**    Topographical Survey





**LEGEND**

--- Kerb / Hard Edge  
--- Change of Surface  
--- Wall  
--- Retaining Wall  
--- Security Fence  
--- Fence  
--- Building  
--- Overhead Feature  
--- Top of Embankment  
--- Hedge  
--- Vegetation / Tree Canopy

**Tree**  
--- Tree (to the Right of the Tree Trunk)  
--- Tree (to the Left of the Tree Trunk)  
--- Tree (to the Right of the Tree Trunk)  
--- Tree (to the Left of the Tree Trunk)

**AB 35.30** Air Brick Level  
**CL 35.30** Cover Level  
**IL 35.30** Invert Level  
**TL 35.30** Threshold Level  
**TS 35.30** Top of Kerb  
**TW 35.30** Top of Wall Level

**B** Bollard  
**BM** Bench Mark  
**BS** Bus Stop  
**BT** Telecom cover  
**CT** Cable TV cover  
**EP** Electric pole  
**ER** Earthing rod  
**EH** Fire Hydrant  
**FS** Flagstaff  
**G** Gas Cover  
**W** Water cover

**GU** Gully  
**IC** Insect cover  
**KO** Kerb Outlet  
**LP** Lamp Post  
**MH** Manhole  
**MK** Marker  
**OP** Outfall  
**P** Post  
**RE** Rodding Eye  
**RS** Road Sign  
**TP** Telecom pole  
**WC** Water cover

**Utilities**  
--- British Telecom  
--- BT Overhead  
--- Cable TV  
--- Closed Circuit TV  
--- Combined Services Drainage Route  
--- Communications  
--- Electric  
--- Electric Overhead  
--- Field Drain  
--- Foul Water Drainage Route  
--- Gas  
--- Street Lighting  
--- Surface Water Drainage Route  
--- Water  
--- Multi Service Route  
--- Multi Service Trench  
--- Empty Ducting  
--- GPR Anomaly Possible Utility  
--- Unknown Drainage Route  
--- Unknown Utility

--- Assumed BT  
--- Assumed Cable  
--- Assumed Electric  
--- Assumed Gas  
--- Assumed Street Lighting  
--- Assumed Unknown  
--- Assumed Water

--- BT - Taken from Records  
--- Cable - Taken from Records  
--- Electric - Taken from Records  
--- Gas - Taken from Records  
--- Street Lighting - Taken from Records  
--- Water - Taken from Records  
--- Survey Extents

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

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

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 tracing methods should be used.

Spatial Geomatics has used all reasonable care to research available services records but completeness or use of the services records supplied to or by Spatial Geomatics cannot be guaranteed. Therefore Spatial Geomatics cannot be held responsible for any features associated as 'Taken from Record' (TR).

Depths obtained using electro-magnetic or GPR are effected for 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 invert, 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 record when available.

All services, drainage and utility routes are assumed straight between access points, unless otherwise stated. The number of cables or 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 time of survey.

All critical dimensions and measurements should be checked and verified with any errors or discrepancies notified to Spatial Geomatics 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 detail and connections prior to commencing work.

USE ONLY FOR THE PURPOSE INDICATED BELOW

THE INTELLECTUAL PROPERTY CONTAINED IN THIS DRAWING REMAINS THE PROPERTY OF WHOSE RIGHTS ARE TO BE IDENTIFIED WITH THE COPYRIGHT, DESIGN AND PATENTS ACT 1988

**N**

SHEET LAYOUT

Sheet 1  
Sheet 2

| REV. | DETAILS               | BY     | DATE                  |
|------|-----------------------|--------|-----------------------|
| 1    | Established using GPS | Survey | Established using GPS |

Station 1 Established using GPS  
Station 2 Established using GPS

**Spatial Geomatics**  
2 Post Park  
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NE20 0JX  
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email: info@sgl.uk.com  
web site: www.sgl.uk.com

CLIENT: JDDK Architects  
Millmount  
Portland Road  
Newcastle upon Tyne NE5 3AL

PROJECT TITLE: Extra Care Site  
Glen Street  
Hebburn

DRAWING TITLE: Topographical Survey

| DESIGNED BY | DESIGNED BY | ON APPROVED |
|-------------|-------------|-------------|
| BA          | GT          | GT          |

SCALE: 1:200 (A0)

SHEET NUMBER: 2

REV: A

## **Appendix C**    Proposed Site Plan



EV requirement calculation based on 30 available parking. Based on Building Regulation Part S - S6 - erection of new mixed-use buildings (S4 + S1)

**S6 : S4 Calculation**  
"live-in staff" = 0 staff = 0 bay  
Staff ~ 10 - 15 max at one time (parking standard - 1/3) = 5 bays  
Visitor bays ~ 95 units (parking standard - 1/5) = 19 bays  
Total S4 = 24 bays

Hence, (S4 = 1 EV plus 1/5 cabling route)(24/5 = 4.8) = 1 EV charge point and 5 cabling route bays

**S6 : S1 Calculation**  
Total 30 parking spaces available.  
30 - 24 bays (Total S4) = 6 residents  
S1 would require all residents parking be provided with access to a charging point until the £3600 cost cap is reached, at which point the infrastructure to allow points to be fitted in the future would be required.  
Hence, 6 EV charge point (maximum with potential reduction subject to £3600 cost cap)

**Building Regulation Part S - S6 : S4+S1**  
Total EV requirement is 7 EV charge point (where 1 is Accessible Parking Bay) and 5 bays with cabling route (with potential reduction of EV charge point subject to £3600 cost cap)

Total Proposed EV is 8 EV charge point and 4 bays with cabling route.

Proposed trees and landscaping shown indicatively - please refer to Proposed Landscape Site Plan for landscaping design and information.

NOTES:  
1. DO NOT SCALE from the drawing  
2. Further dimensions required to be requested from the project technical team  
3. Report discrepancies to JDDK project team immediately  
4. This model file contains the following consultants model files:  
a) Structural Engineer  
b) Mechanical Model  
c) Electrical Model  
d) Subcontractor Model

## Key

- Proposed EV Charging Point
- Proposed EV Charging Bay
- Proposed cabling routes for future EV points
- Existing tree to be removed
- Path to be adopted
- Proposed Lamppost to be adopted

## Note

Lamppost numbers and positions on site subject to lighting engineers' confirmation

Clinical waste to be stored internally.  
Karbon to confirm Commercial and Garden waste arrangement with private contractor.

|     |           |            |                                                                                                |
|-----|-----------|------------|------------------------------------------------------------------------------------------------|
| C8  | MF        | 2025.06.11 | Entrance updated: White line marking to entrance, raised pedestrian crossing location, EV bays |
| C7  | MF        | 2025.06.27 | North East Corner footpath updated                                                             |
| C6  | MF        | 2025.02.05 | ASPH plant slab and fence line updated                                                         |
| C5  | MH        | 2024.11.10 | Update site plan to match COBE tree layout                                                     |
| C4  | MH        | 2024.11.10 | Switch EV charging bays to west side of road to avoid services on road                         |
| C3  | MH        | 2024.11.04 | Parking 12-20 no. revised to 2.4m wide and moved to avoid hidden CCTV column base              |
| C2  | MH        | 2024.10.31 | Update plans with revision numbers                                                             |
| C1  | MH        | 2024.08.08 | Drawings issued for Construction                                                               |
| REV | ISSUED BY | DATE       | DESCRIPTION                                                                                    |

## REVISION LOG

|                          |                 |
|--------------------------|-----------------|
| <b>JDDK</b>              | JDDK Architects |
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| e. millmoor@jddk.co.uk   |                 |
| jddk.co.uk               |                 |
| DISCOVER DESIGN DELIVER  |                 |

## CLIENT

Karbon Homes

## PROJECT TITLE

Hebburn Extra Care

## PROJECT ADDRESS

Former Lincoln Court Site, Hebburn, Gateshead NE31 1JS

## TITLE

Proposed Site Plan

## MAIN CONTRACTOR

## QUANTITY SURVEYOR

M&E CONSULTANT

## STRUCTURAL CONSULTANT

OTHER CONSULTANT

## DRAWING No.

4266-JDDK-XX-XX-DR-A-1002

## REV

C8

## JDDK INTERNAL REF:

4266

## JDDK REF NO:

10.02

## SCALE:

1 : 250 @ A0

## INITIAL ISSUE:

09.02.23

## DRAWN BY:

KT

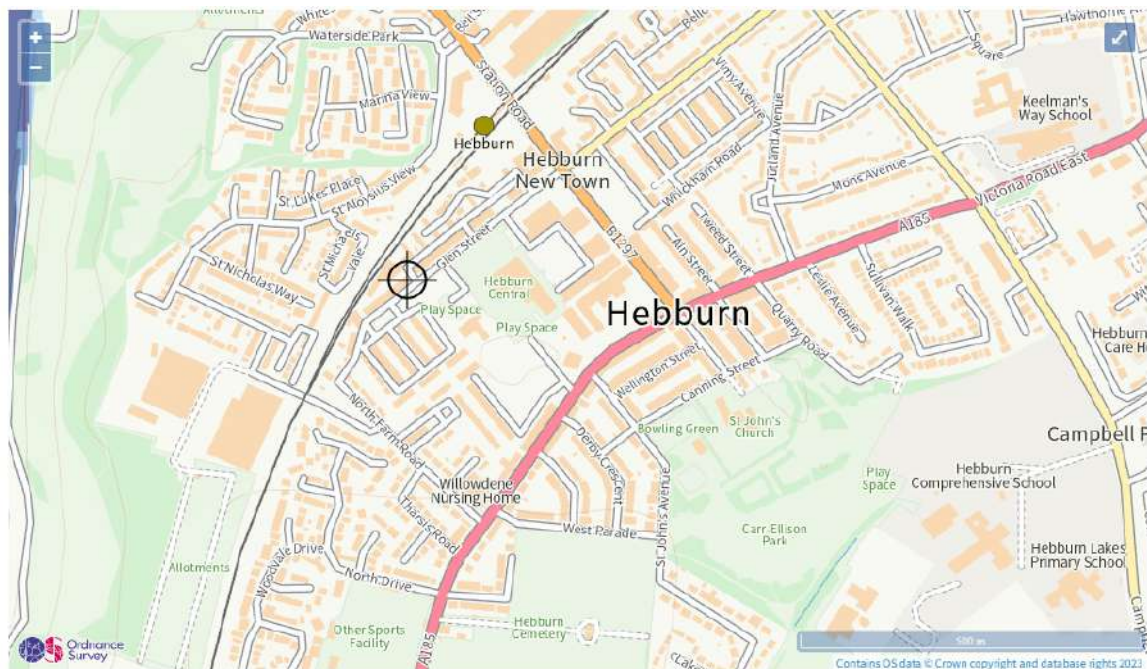
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CONSTRUCTION

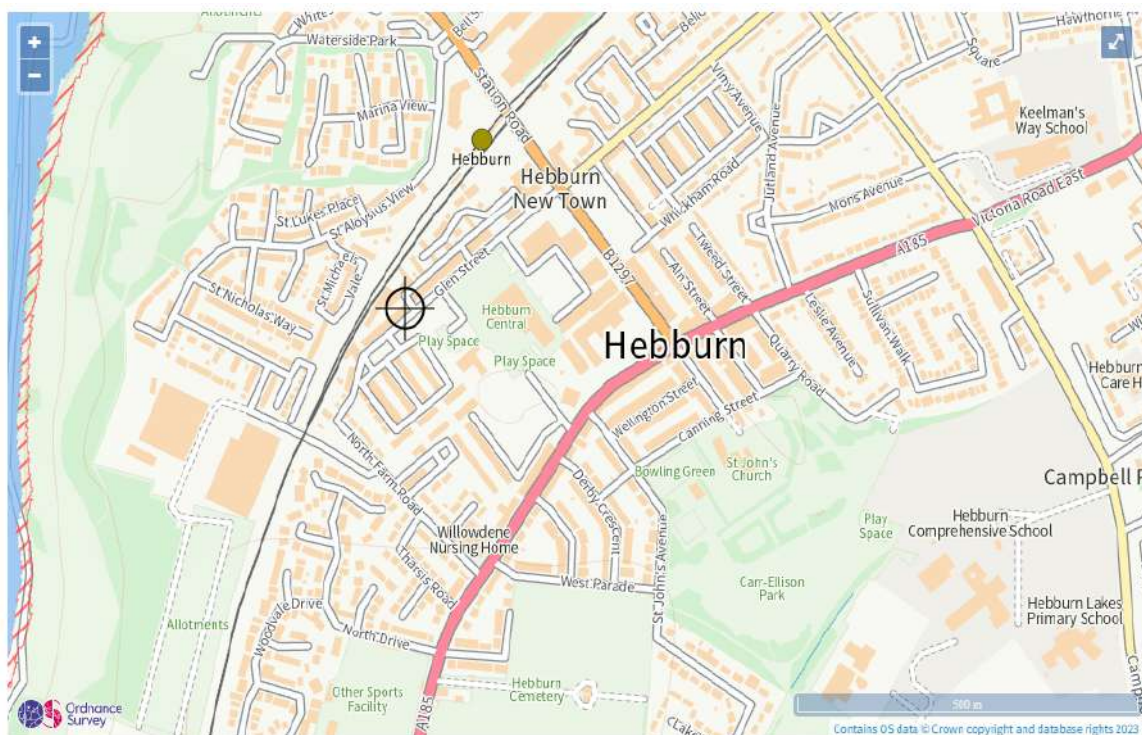
## PURPOSE OF ISSUE:

KT

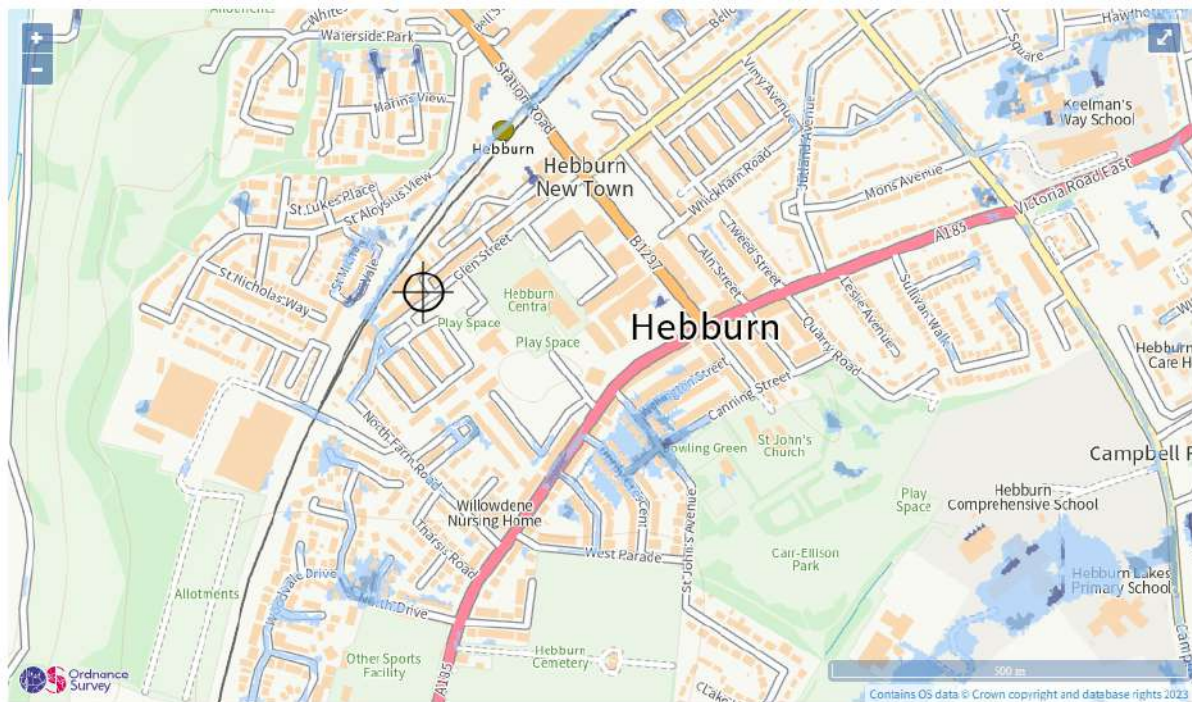
## **Appendix D**    Environment Agency Maps



### Flooding from River/Sea



### Flooding from Reservoir



Extent of flooding from surface water

● High
 ● Medium
 ● Low
   Very low
 ⊕ Location you selected

### Flooding from Surface Water

## **Appendix E**    NWL Correspondence

---

**From:** NWL Developer Services <developer.services@nwl.co.uk>  
**Sent:** 11 January 2023 10:00  
**To:** Kieran Costello  
**Subject:** RE: 304021 - Pre-Planning Enquiry response for Westmorland Court, Hebburn

Good morning Kieran,

My apologies our modelling indicated the site being 1.2ha. Based on the larger area I am happy to increase the SW discharge rate to 6 l/s and I have updated our records to reflect this. As the connection point feeds into a combined network further downstream I would not be able to approve anything higher. I recommend that you discuss this matter further with the LLFA, as they are the statutory consultee if they do agree to the full 7.4 l/s we will of course honour that.

Kind Regards  
Sophie

----- Original Message -----

**From:** Kieran Costello  
**Sent:** 10/01/2023, 16:26  
**To:** developer.services@nwl.co.uk  
**Subject:** RE: 304021 - Pre-Planning Enquiry response for Westmorland Court, Hebburn

**Caution:** This email originated outside of NWG. Please do not click links or open attachments unless you recognise the sender and know the content is safe. **NWG IS Department**

Hi Sophie,

I've attached the below image which is taken from the HR Wallingford Greenfield Runoff Estimation Tool.

The site area is 1.7ha which maybe where the discrepancies in figures arise from.

Total site area (ha): 1.7

### Methodology

$Q_{BAR}$  estimation method: Calculate from SPR and SAAR

SPR estimation method: Calculate from SOIL type

Soil characteristics

|  | Default | Edited |
|--|---------|--------|
|--|---------|--------|

|            |   |   |
|------------|---|---|
| SOIL type: | 4 | 4 |
|------------|---|---|

|             |     |     |
|-------------|-----|-----|
| HOST class: | N/A | N/A |
|-------------|-----|-----|

|              |      |      |
|--------------|------|------|
| SPR/SPRHOST: | 0.47 | 0.47 |
|--------------|------|------|

Hydrological characteristics

|  | Default | Edited |
|--|---------|--------|
|--|---------|--------|

|            |     |     |
|------------|-----|-----|
| SAAR (mm): | 643 | 643 |
|------------|-----|-----|

|                      |   |   |
|----------------------|---|---|
| Hydrological region: | 3 | 3 |
|----------------------|---|---|

|                             |      |      |
|-----------------------------|------|------|
| Growth curve factor 1 year: | 0.86 | 0.86 |
|-----------------------------|------|------|

|                               |      |      |
|-------------------------------|------|------|
| Growth curve factor 30 years: | 1.75 | 1.75 |
|-------------------------------|------|------|

|                                |      |      |
|--------------------------------|------|------|
| Growth curve factor 100 years: | 2.08 | 2.08 |
|--------------------------------|------|------|

|                                |      |      |
|--------------------------------|------|------|
| Growth curve factor 200 years: | 2.37 | 2.37 |
|--------------------------------|------|------|

### (1) Is $Q_{BAR} < 2.0$ l/s/ha?

When  $Q_{BAR}$  is  $< 2.0$  l/s/ha then limiting are set at 2.0 l/s/ha.

### (2) Are flow rates $< 5.0$ l/s?

Where flow rates are less than 5.0 l/s discharge is usually set at 5.0 l/s if bl vegetation and other materials is po: consent flow rates may be set where risk is addressed by using appropriat elements.

### (3) Is $SPR/SPRHOST \leq 0.3$ ?

Where groundwater levels are low en soakaways to avoid discharge offsite be preferred for disposal of surface

Greenfield runoff rates

|  | Default | Edited |
|--|---------|--------|
|--|---------|--------|

|                  |      |      |
|------------------|------|------|
| $Q_{BAR}$ (l/s): | 7.43 | 7.43 |
|------------------|------|------|

|                    |      |      |
|--------------------|------|------|
| 1 in 1 year (l/s): | 6.39 | 6.39 |
|--------------------|------|------|

|                      |    |    |
|----------------------|----|----|
| 1 in 30 years (l/s): | 13 | 13 |
|----------------------|----|----|

|                      |       |       |
|----------------------|-------|-------|
| 1 in 100 year (l/s): | 15.46 | 15.46 |
|----------------------|-------|-------|

|                       |      |      |
|-----------------------|------|------|
| 1 in 200 years (l/s): | 16.6 | 16.6 |
|-----------------------|------|------|

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Ok, I agree

By clicking the Accept button, you agree to us doing so.

Regards,

Kieran Costello



T: 0191 461 9770

DD: 0191 7316391

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**From:** NWL Developer Services <developer.services@nwl.co.uk>

**Sent:** 10 January 2023 16:16

**To:** Kieran Costello

**Subject:** RE: 304021 - Pre-Planning Enquiry response for Westmorland Court, Hebburn

Good afternoon Kieran,

Thank you for your email.

I know your email states you have sent an attachment however I have been unable to open any attachments.

We use the calculation of 3.5 l/s/ha, so based on a site of 1.2ha this should be an allowance of 4.2 l/s however I have rounded this up to 5 l/s. On that basis we wouldn't be looking to increase the SW discharge rate any further however you are welcome to discuss this further with the LLFA.

Kind Regards  
Sophie

----- Original Message -----

**From:** Kieran Costello

**Sent:** 10/01/2023, 09:39

**To:** developer.services@nwl.co.uk

**Cc:**

**Subject:** RE: 304021 - Pre-Planning Enquiry response for Westmorland Court, Hebburn

**Caution:** This email originated outside of NWG. Please do not click links or open attachments unless you recognise the sender and know the content is safe. **NWG IS Department**

Morning Sophie,

Thanks for the below.

We have calculated the greenfield runoff rate to be 7.4l/s as per the attached. However, have been given 5l/s on the pre-planning enquiry.

Could you please confirm if we can have the higher discharge rate?

Regards,

Kieran Costello



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**From:** NWL Developer Services <developer.services@nwl.co.uk>

**Sent:** 19 December 2022 09:02

**To:** Kieran Costello

**Subject:** 304021 - Pre-Planning Enquiry response for Westmorland Court, Hebburn [Filed 19 Dec 2022 09:14]

Good morning,

Please find attached our response to your Pre-Planning Enquiry and the accompanying documents.

If you have any queries regarding the response please do not hesitate to get in touch.

Kind Regards

**Sophie Clarke**

Technical Support Advisor – Developer Services

*Please note my standard working days are Monday to Thursday*

**Mobile:** 07543301284

**Email:** [developmentenquiries@nwl.co.uk](mailto:developmentenquiries@nwl.co.uk)

**Address:** Leat House, Pattinson Road, Washington NE38 8LB



*Customer focused · Results driven · Ethical · Creative · One team*

**Our new charges for Developer Services customers are now available on our website. Details of the charges that apply from 1 April 2022 can be found here:**

Direct Line: 07543301284  
Email: [developmentenquiries@nwl.co.uk](mailto:developmentenquiries@nwl.co.uk)  
Our Ref: 304021

Monday, 19 December 2022

Portland Consulting Engineers  
10 Bankside  
The Watermark  
Gateshead  
Tyne & Wear  
NE11 9SY

Dear Kieran,

**Re: Pre-Planning Enquiry – Westmoreland Court, Hebburn**

Further to the Point of Connection Application for the above site, received 29 November 2022, we are now able to provide the following response.

We have based our response on the information in your application and accompanying correspondence. Therefore, should any of the information now be different, then you must ensure that you inform us of any changes as further Network Modelling may be required and our response may also change, leading to this response being invalid.

Northumbrian Water assesses the impact of the proposed development on our assets and assesses the capacity within our network's to accommodate and treat the anticipated flows arising from the development. We do not therefore offer comment on aspects of planning applications that are outside of our area of control.

Enclosed in this response is a scaled plan showing the **approximate** position of the water and sewerage networks within the vicinity of this site.

We have changed the way contractors and developers can access our assets.

Historically only our own staff and framework contractors could access our sewerage network. As of 1st January 2018, we are allowing third party contractors to access our sewer network on a site by site basis, subject to certain conditions.

Further information (including how to apply) is available from our web site - <https://www.nwl.co.uk/services/developers/developer-sewerage-services/>

Also enclosed is our extract showing locations within the approximate vicinity of this site that have, from our records, experienced flooding. This has been provided to demonstrate the known flood risks within the vicinity which have been considered as part of our assessment on this enquiry.

We have also carried out a review of your application and can confirm the following:

## **Sewerage and Sewage Treatment**

Northumbrian Water would ask that you please separate the foul and surface water flows in accordance with Part H of the Building Regulations prior to the final connection to the public sewer.

All new connections to the public sewerage system must first be approved through the Section 106 of the Water Industry Act 1991 process prior to construction.

Should you decide to proceed with this development, a fully completed Sewer Connection application form will be required. These are available to download from the following link:

<https://www.nwl.co.uk/services/developers/developer-sewerage-services/new-sewer-connections-s106/>

- Foul Water Discharge

The foul flows can discharge without restriction into the **150mm** diameter **foul** public sewer via manhole **6310**.

- Surface Water Discharge

No surface water flow from the proposed development will be allowed to connect into the existing public sewerage system unless it is proven that the alternative options which are listed within Part H of the Building Regulations 2010 are not available:

*Rainwater from a system provided pursuant to sub-paragraphs (1) or (2) shall discharge to one of the following, listed in order of priority –*

*(a) an adequate soakaway or some other adequate infiltration system; or, where that is not reasonably practicable,*

*(b) a watercourse; or, where that is not reasonably practicable,*

*(c) a sewer.*

If the more sustainable options prove to be unfeasible, a restricted surface water flow of **5 l/sec** would be permitted to discharge into the **675mm** diameter **surface water** public sewer via manhole **6308**. Any excess in flows must be attenuated on site.

Written approval for all individual connections (direct or indirect) to the public sewerage system should be obtained through the Section 106 process, following completion of the detailed drainage design and before the commencement of any drainage works on site.

- Protection of Existing Sewerage Assets

We wish to draw your attention to the existing sewers which pass through the site. These sewers could be diverted, protected or accommodated within your site layout with an appropriate easement.

Part H of the Building Regulations also details the reasons why Northumbrian Water does not permit buildings to be built over or near to its sewerage network: