

KNIGHT DEVELOPMENTS LTD

**PROPOSED RESIDENTIAL DEVELOPMENT:
LAND WEST OF CANEWDON**



**HIGHWAYS, DRAINAGE AND UTILITIES
POSITION STATEMENT**

**REPORT REF. L750-01
PROJECT NO. L750
AUGUST 2012**

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LAND WEST OF CANEWDON**

**HIGHWAYS, DRAINAGE AND UTILITIES
POSITION STATEMENT**

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DOCUMENT CONTROL SHEET

REV	ISSUE PURPOSE	AUTHOR	REVIEWED	APPROVED	DATE
-	1 st Draft Client Issue	SAF/SJB	ML	ARF/ML	07.08.12
-	Final	SAF/SJB	ML	ARF/ML	29.08.12

1.0 INTRODUCTION

- 1.1 Ardent Consulting Engineers has been appointed by Knight Developments Ltd to advise on highways/transport, flood risk, drainage and utility supply aspects associated with the proposed allocation of land to the west of Canewdon, Essex, for up to 30 residential dwellings.
- 1.2 Rochford District Council (RDC) is the local planning authority and Essex County Council (ECC) is the local highway authority. The site is being promoted through RDC's Site Allocations Development Plan Document (DPD).
- 1.3 This Position Statement sets out baseline conditions and outlines opportunities for vehicle and pedestrian site access, and is informed by discussions held with Mark Lawrence of ECC. In addition, the statement also outlines the baseline conditions associated with flood risk, drainage and utility infrastructure.

2.0 EXISTING SITUATION

Site Location

2.1 The proposed allocation site is located on the western edge of the village of Canewdon, as shown at **Plate 1**.

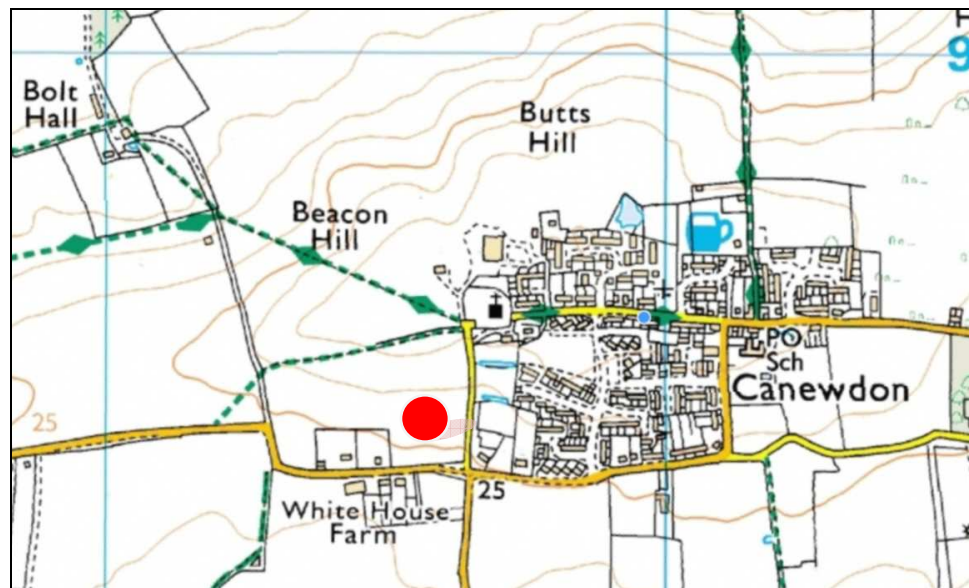


Plate 1: Site Location

2.2 The outer boundary of the site is formed as follows:

- by open fields to the north;
- an unnamed cul-de-sac ("Church Lane") running to St Nicholas Church to the east; and
- Lark Hill Road (and two houses fronting onto it) to the south and west.

Site Use

2.3 The proposed allocation site has a total area of circa 2.5 hectares and is in agricultural (arable) use. A Public Right of Way (PRoW) runs along and within the northern boundary of the site.

Surrounding Area

2.4 Given the site’s edge of village location, the surrounding area is predominately residential and agricultural. There is a limited range of facilities within the village including two convenience stores and a primary school.

Local Highway Network

2.5 The local highway network in the vicinity of the site is shown at **Plate 2** with adopted highway shaded yellow.

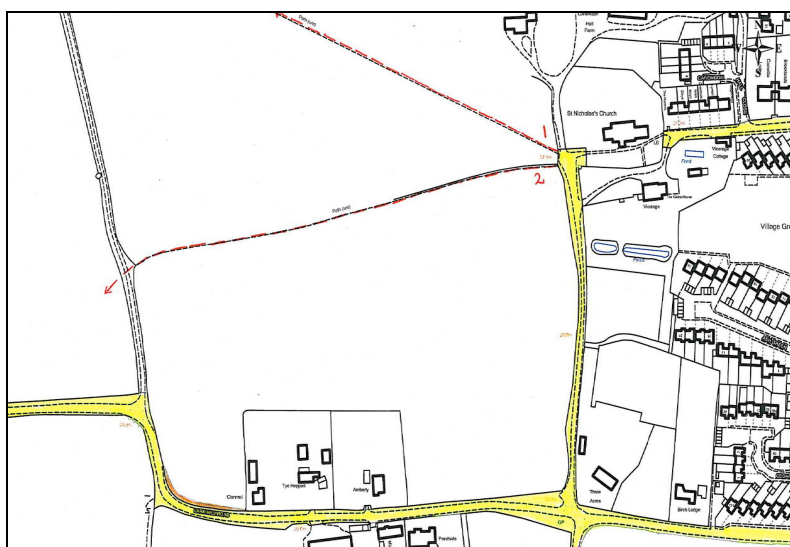


Plate 2: Local Highway Network

Church Lane

2.6 Church Lane is a narrow 3-4m wide lane, which serves St Nicholas Church and Canewdon Hall Farm (see **Plate 3**). It has hedgerow/vegetation on both sides.



Plate 3: Church Lane

- 2.7 Church Lane joins Lark Hill Road as a minor arm on the northern approach to a crossroads junction with a slight right-left stagger; Scotts Hall Road forms the southern minor road approach (see **Plate 4**).



Plate 4: Crossroads Junction

Lark Hill Road

- 2.8 Lark Hill Road is circa 5.5m wide in the vicinity of the site and is de-restricted (i.e. subject to the national 60mph speed limit for a single carriageway) and unlit west of the built-up area. It is no longer a "County Road", following a review of the County's strategic road network in 2011.

- 2.9 Lark Hill Road becomes Anchor Lane to the east of the junction. Anchor Lane forms the existing southern boundary of the village and runs west to Ashingdon. It is subject to a 30mph speed limit within the built-up area, commencing circa 120m east of Church Lane.

Scotts Hall Road

- 2.10 Scotts Hall Road is also de-restricted and unlit. It runs south to provide a link to Rochford via Stambridge.

Pedestrian Facilities

- 2.11 There are no footways either side of Lark Hill Road (see **Plate 5**) or Church Lane, although the latter is very lightly trafficked and therefore suitable for pedestrian use. There is a footway on the north side of Anchor Lane, which commences circa 120m east of Church Lane. Footways are present alongside most other roads within the village except along parts of High Street.



Plate 5: Lark Hill Road

- 2.12 A PRoW (no. 2) runs along and within the northern boundary of the site, extending west from Church Lane to Lark Hill Road. Another PRoW (no. 1) extends north-west from Church Lane towards Bolt Hall. A footpath runs through the churchyard of St Nicholas, connecting Church Lane to High Street.

2.13 Canewdon Endowed Primary School has entrances on Lambourne Hall Road and Anchor Lane. It is a circa 800m (10-min) walk distance from the site via Anchor Lane, and 650m (8-min) via the footpath link through the church yard and High Street.

2.14 The convenience stores (a Costcutter and village store) are located on High Street, a circa 850 (11-min) walk distance from the site via Anchor Lane, and 650m (8-min) via the footpath link through the church yard and High Street.

Cycle Facilities

2.15 There are no formal cycle routes in the site locale, however cycling journeys are suitable on local quiet residential roads.

Public Transport

2.16 Canewdon is served by three bus routes and two school buses. The 60, operated by Stephensons, is most frequent with 6-7 services per weekday (5 on Saturdays). It routes along Anchor Lane and Scotts Hall Road, serving an unmarked pair of stops at the junction (see **Plate 6**), and connects to Rochford and Southend-on-Sea.



Plate 6: Westbound bus stop

2.17 The closest rail station is Rochford (a circa 6.5km travel distance from the site), on the Southend Victoria to London Liverpool Street line, operated by the Greater Anglia franchise.

Summary

2.18 The proposed allocation site is located on the western edge of the village, within walking distance of local services (shops and primary school). It is also accessible by bus with stops located within a short walk of the site.

2.19 Given the above, the application site is located to take advantage of sustainable travel opportunities.

3.0 THE PROPOSED DEVELOPMENT

3.1 The proposed residential allocation is for up to 30 dwellings.

Site Access

3.2 Vehicular access to the site is proposed to be taken from a new access road that will connect to Lark Hill Road via a simple priority 'T' junction, located circa 55m west of Church Lane. The proposed junction arrangement is shown on **drawing no. L750-01**.

3.3 It is proposed to retain Church Lane in its existing form, and this will continue to provide access to existing dwellings, the farm and church. Ease of movement of large agricultural vehicles accessing Canewdon Hall Farm via Scotts Hall Lane will be unaffected.

3.4 ECC has confirmed that the proposed junction arrangement is acceptable in principle subject to *appropriate visibility splays and junction design being secured* (see **Appendix A**).

Junction Visibility

3.5 Visibility of 2.4m x 179m is achieved looking right from the junction, the 'y' distance of which relates to an 85th percentile wet weather speed of around 56mph, which is considered ample given that eastbound speeds are restricted on approach due to the two 90 degree bends in Lark Hill Road.

3.6 Visibility of 2.4m x 188m is achieved looking left, the 'y' distance of which relates to an 85th percentile wet weather speed of around 58mph, which is also considered ample given that westbound speeds are low coming out of the 30mph zone.

3.7 A speed survey on Lark Hill Road would be undertaken as part of a Transport Statement prepared in support of any future planning application to demonstrate the adequacy of these visibility splays.

Internal Layout

- 3.8 The site layout will be designed with consideration given to both *Essex Design Guide (EDG)* and the *Manual for Streets (MfS)*, with the emphasis on reducing car dominance and keeping traffic speeds within the target of 20mph.
- 3.9 The *Essex Design Guide* stipulates that a 4.8m wide Type 4 Minor Access Road cul-de-sac can serve up to 100 dwellings.

Parking

- 3.10 The proposed level of on-site parking for cars and bicycles is to be provided in accordance with the adopted Essex Parking Standards (2009).

Off-site Pedestrian Access Improvements

- 3.11 There is scope to provide a new footway along Lark Hill Road/Anchor Way to facilitate a pedestrian link between the site and the existing footway 120m east of Church Lane.
- 3.12 This could extend from the site access along the north side of Lark Hill Road, crossing Church Lane, and connecting to the eastbound bus stop. The footway could then cross to the south side of Anchor Lane to connect to the westbound bus stop and extend east (within highway land), terminating at the point which the existing footway on the north side of Anchor Lane commences. The potential new footway provision is shown on **drawing no. L750-01**.
- 3.13 This provision, additional to the existing pedestrian route through the church yard and High Street, would increase site accessibility in facilitating ease of walk movements between the site and local bus stops and the village centre, including the school.

Residential Travel Packs

- 3.14 In accordance with ECC requirements for residential developments, a Residential Travel Pack (RTP) would be delivered to each new resident on occupation.

- 3.15 The aim of the RTP is to reduce reliance on car use by promoting, and thereby encouraging the use of, alternative modes of travel to the private car, namely walking, cycling and public transport.

- 3.16 In summary, the RTP would contain information on local walk, cycle and public transport routes and provide service timetables.

4.0 FLOOD RISK AND SURFACE WATER DRAINAGE

Flood Risk

- 4.1 From a review of the Environment Agency's mapping, the site is not shown to lie within the indicative undefended floodplain of any designated main river/watercourse and is therefore considered to be at a low risk of flooding, as defined by the latest legislation (National Planning Policy Framework – NPPF, published in March 2012). An extract of the Environment Agency's indicative floodplain mapping is shown in **Plate 7** below:

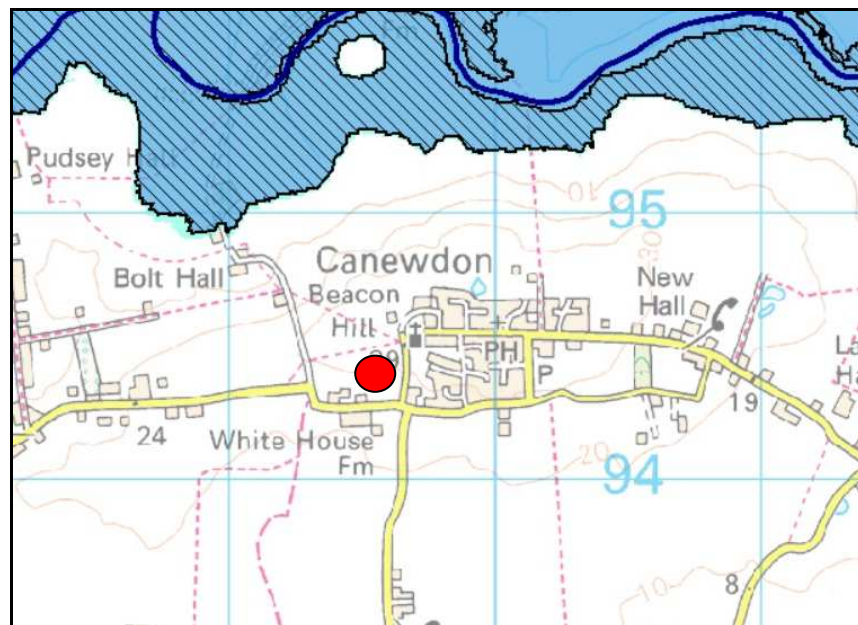


Plate 7: Indicative Floodplain Mapping

- 4.2 Sites which are deemed to be at a low probability of flooding are described as land having less than 1 in 1,000 annual probability of river or tidal flooding and classified as a Flood Risk Zone 1 site.
- 4.3 Consultation with the Environment Agency's Anglian Region Eastern Area Office has confirmed that the site is considered to be situated within a Flood Risk Zone 1 area.

4.4 The NPPF uses the concept of sequential testing and risk based approach to flood risk and development. The sequential test aims to steer new development to areas with the lowest probability of flooding (i.e. Flood Risk Zone 1). Referring to Table 2 contained within the NPPF classifies residential schemes as a ‘more vulnerable’ land class usage, in terms of flood risk:

More vulnerable

- Hospitals.
- Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels.
- Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.
- Non-residential uses for health services, nurseries and educational establishments.
- Landfill and sites used for waste management facilities for hazardous waste⁶.
- Sites used for holiday or short-let caravans and camping, *subject to a specific warning and evacuation plan.*⁷

4.5 Table 3 within the NPPF however, determines that a residential scheme within a Flood Risk Zone 1 area, is an appropriate form of development in this site’s particular location:

Table 3: Flood risk vulnerability and flood zone ‘compatibility’

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	✗	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	✗	✗	✗

Key: ✓ Development is appropriate.
 ✗ Development should not be permitted.

4.6 Should a planning application for the site be forthcoming, the submission will need to be supported by a site-specific Flood Risk Assessment (FRA) if the red-line boundary area exceeds one

hectare, otherwise a default objection will be raised by the Local Planning Authority.

- 4.7 The FRA report will need to demonstrate that:
- i. The development scheme is at a low risk of flooding;
 - ii. The development scheme and its occupants will not be at an increased risk of flooding;
 - iii. The development scheme will not increase the risk of flooding elsewhere; and
 - iv. The development scheme can be drained in a sustainable manner.

Surface Water Drainage

4.8 The Drainage Authority for the area is Anglian Water and a copy of the public sewer record plan has been obtained and provided in **Appendix B** of this report for further reference.

4.9 The record plan illustrates that there is an existing surface water public sewer network to the east of the site which discharges run-off into a watercourse/land drain at the junction with Anchor Lane and Sycamore Way (as illustrated in **Plate 8**).

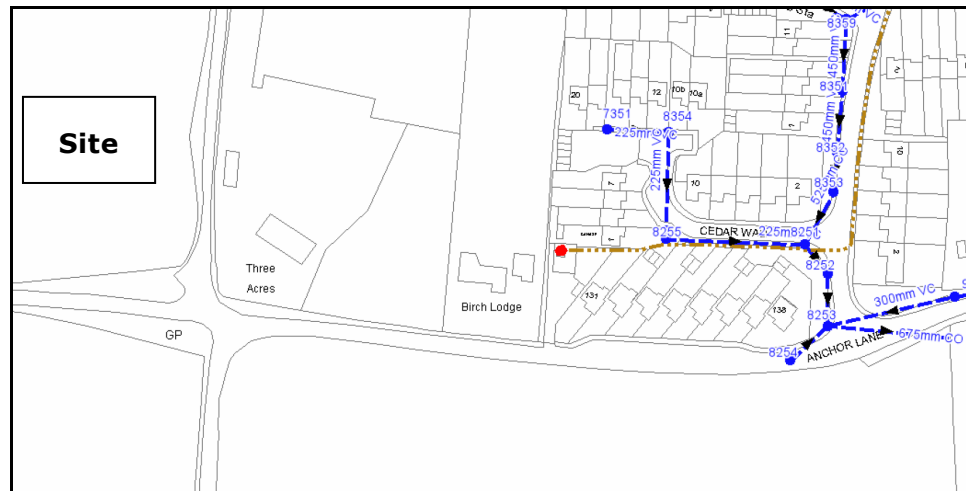


Plate 8: Extract of Public Sewer Record Plans

- 4.10 In devising an appropriate surface water drainage strategy, the use of infiltration drainage techniques were initially considered which would seek to convey the surface water run-off to the underlying soil, providing suitable ground conditions exist.

- 4.11 Preliminary geotechnical advice was sought which confirmed that the site is underlain by the London Clay Formation and would provide a natural impermeable barrier which would prevent infiltration drainage techniques from being successfully utilised on this site.

- 4.12 In view of the geotechnical consultant’s initial advice, an alternative outfall to discharge of the development’s surface water run-off was considered. A pre-development capacity assessment was undertaken by Anglian Water and outlined that an alternative outfall to either the nearby public sewer or watercourse/land drain could be utilised. The post-development discharge rate would however, need to be limited to a commensurate greenfield rate when subjected to a 1:30 year rainfall event.

- 4.13 Greenfield run-off simulations have been prepared (based on a development boundary of 2.15 hectares) and the post-development discharge rate will be limited to a flow in the region of 16.3 litres/sec, when subjected to a 1:30 year design event, as illustrated below:

<u>ICP SUDS Mean Annual Flood</u>			
Input			
Return Period (years)	100	SAAR (mm)	554
Area (ha)	2.150	Soil	0.450
		Region Number	Region 6
		Urban	0.000
Results l/s			
	QBAR Rural		7.2
	QBAR Urban		7.2
	Q100 years		22.9
	Q1 year		6.1
	Q30 years		16.3
	Q100 years		22.9

Plate 9: Greenfield Run-off Simulation

4.14 To dispose of the surface water run-off, it is anticipated that a sustainable urban drainage system (SUDS) will seek to convey flows from the northern boundary of the site (to collect run-off from the proposed car park) in a southerly direction towards Lark Hill Road. Flows will be limited to a commensurate greenfield rate at the site’s boundary and the excess volume of surface water attenuated on-site.

4.15 Based on the current boundary of 2.15 hectares and an associated impermeable area of 0.736 hectares for the residential scheme, preliminary attenuation simulations predict that in the region of 271 to 375m³ of storage will be required to withstand the impact of a 1:100 year rainfall event (including an allowance for any potential climate change impact), as per the guidance stated within the NPPF document:

Variables		
FSR Rainfall	Cv (Summer)	0.750
Return Period (years)	Cv (Winter)	0.840
Region	Impermeable Area (ha)	0.736
Map	Maximum Allowable Discharge (l/s)	16.3
M5-60 (mm)	Infiltration Coefficient (m/hr)	0.00000
Ratio R	Safety Factor	2.0
	Climate Change (%)	30

Results
Global Variables require approximate storage of between 271 m³ and 375 m³.

Plate 10: Storage Assessment

4.16 The form of SUDS could comprise (excluding the use of infiltration drainage techniques) utilisation of basins/ponds, filter strips and swales, permeable surfaces, geo-cellular modular attenuation units and over-sized pipes/culverts.

- 4.17 To attenuate the residential scheme's surface water run-off, it is anticipated that detention basins will be provided along the site's southern façade (potentially supported by additional underground geo-cellular modular attenuation units) and hydraulically modelled to ensure the network of sewers and storage devices can withstand the impact of a 1:100 year rainfall event (including an additional 30% as an allowance for climate change).
- 4.18 Run-off from the proposed car park and open space will also be supplemented by an off-line detention basin to delay the rate of inundation to the site's drainage network downstream.
- 4.19 The SUDS proposals could also seek to include the provision of permeable paving construction within car parking courtyards, driveways etc.
- 4.20 The drainage assessment is considered preliminary at this stage. Upon finalisation of the development proposals, the design parameters (including the recalculation of the post-development discharge rate and attenuation provision) should be reviewed to ensure the SUDS strategy is efficient and economical.
- 4.21 Once the topographical survey has been produced, an assessment will be required to ensure the proposed off-site sewer provision can reach the outfall location using gravity draining techniques (otherwise a pumping station may be required and will use a lower discharge rate of 3.8 litres/sec, thus increasing the extent of on-site attenuation required).

5.0 FOUL WATER DRAINAGE

5.1 The public sewer record plan illustrates that there is an existing foul water pumping station located to the east of the site, situated between the properties known as Birch Lodge and 131 Anchor Lane, as illustrated below:

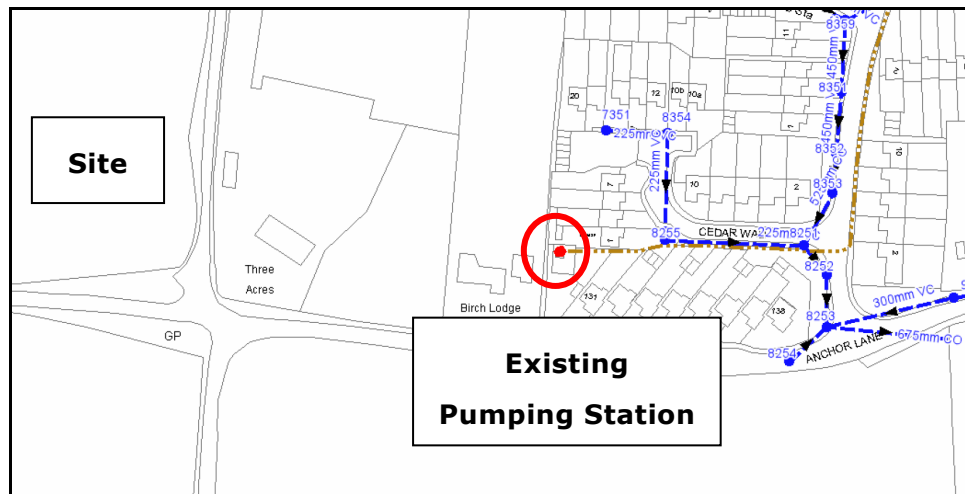


Plate 11: Location of Pumping Station

- 5.2 Discussions have been held with Anglian Water which confirmed that the local Sewage Treatment Works (Rochford) has sufficient spare capacity to accept the foul water flows generated by the residential scheme.
- 5.3 Furthermore, Anglian Water’s capacity assessment has also confirmed that the existing pumping is able to serve the development scheme, without requiring any off-site reinforcement or improvement works.
- 5.4 Depending on the site’s topography in comparison to the invert level of the pumping station’s existing pipework, an assessment will be required to determine whether a gravity draining system can be achieved or whether a pumping station will be required on-site (flows pumped at a rate of 3.8 litres/sec) with supporting storage,

compound provision and cordon sanitaire (typically a 15m no-build zone to residential units is required).

- 5.5 In view of the outfall's off-site location, it is anticipated that a gravity draining network will be constructed through the centre of the site which conveys flows towards the southern boundary with Lark Hill Road and connects into the existing drainage pipework which serves the pumping station.
- 5.6 Consent to connect will need to be obtained under S106 of the Water Industry Act 1991 prior to commencement of the works with the potential requirement to requisition the connection (under Section 98 of the WIA 1991) if third-party land is required to reach the outfall location.

6.0 UTILITIES

- 6.1 To identify the potential for the site to be served by services and extent of any necessary diversion works, asset record plans were obtained from a range of utility companies with plant in the area. These supplies included the provision of gas, water supply, electricity and telecommunications.
- 6.2 Furthermore, the Linesearch database has also been referred to, which confirmed that the following companies are not in the "Zone of Interest" and remain unaffected by the development proposals:

NOT IN THE ZONE OF INTEREST	
BOC Limited (A Member of the Linde Group)	Mainline Pipelines Limited
BPA	Manchester Jetline Limited
Centrica Energy	Marchwood Power Ltd (Gas Pipeline)
ConocoPhillips Ltd Humber Refinery	NPower CHP Pipelines
ConocoPhillips UK Ltd	National Grid Gas and Electricity
Coryton Energy Co Ltd (Gas Pipeline)	Transmission
E-on UK Plc (Gas Pipelines Only)	Oikos Storage Limited
ESSAR	Perenco UK Limited (Purbeck
Esso Petroleum Company Limited	Southampton Pipeline)
FibreSpeed Limited	Premier Transmission Ltd (SNIP)
Geo Networks Limited	RWEnpower (Little Barford and South
Government Pipelines & Storage System	Haven)
HV Cables	SABIC UK Petrochemicals
INEOS Manufacturing (Scotland and TSEP)	Scottish Power Generation
Ineos Enterprises Limited	Shell Pipelines
	Star Energy
	Total UK (Finaline, Colnbrook & Colwick
	Pipelines)
	Wingas Storage UK Ltd

Plate 12: Linesearch Results

Water Supply

- 6.3 Essex and Suffolk Water (E&SW) is the authority responsible for providing mains water to the area of Canewdon.
- 6.4 Asset Mapping provided by E&SW indicates that there is an existing 9" distribution main which runs along the northern verge of Lark Hill Road, adjacent to the site's southern boundary.

- 6.5 The indicative location of the existing water supply distribution network in close proximity to the site is illustrated in **Plate 13** below:

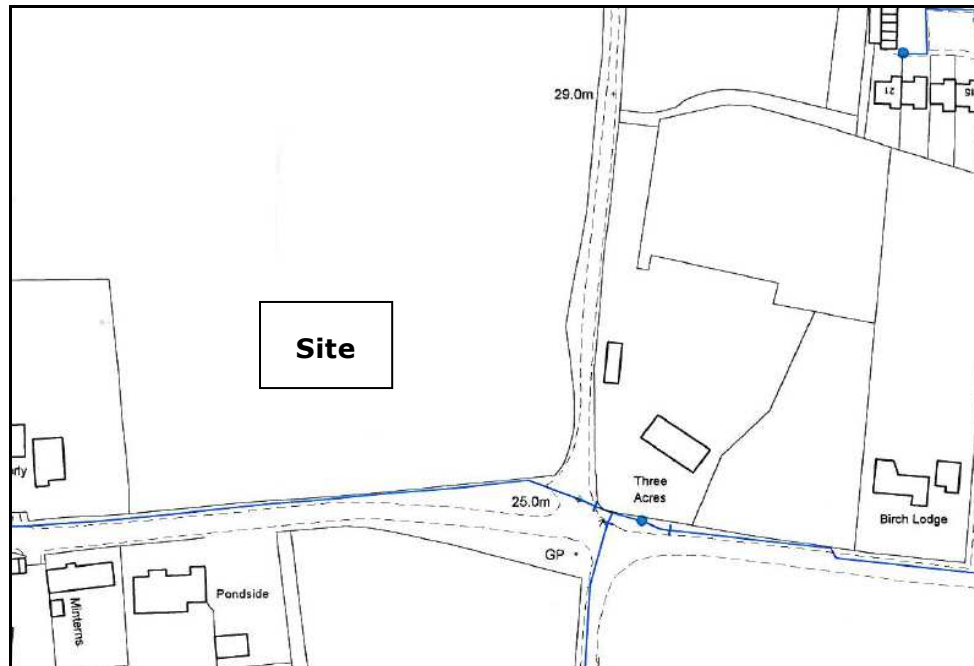


Plate 13: Existing Water Supply Mains

- 6.6 Depending on the proposed location of the vehicular access to the site and the depth to the existing main, it may be necessary to protect or divert the plant to ensure the continuity of the water supply.
- 6.7 E&SW has prepared a preliminary assessment and confirmed that there is currently sufficient spare capacity to serve the development proposals, without requiring any off-site improvement works.

Telecommunications

- 6.8 BT Openreach's asset mapping records illustrates the presence of underground plant within the carriageway/verge of Lark Hill Road.
- 6.9 There is an existing joint box in close proximity to the site's southern boundary (see below) and it is anticipated that the

network could be extended to serve the development, subject to detailed discussions with BT Openreach in the future:

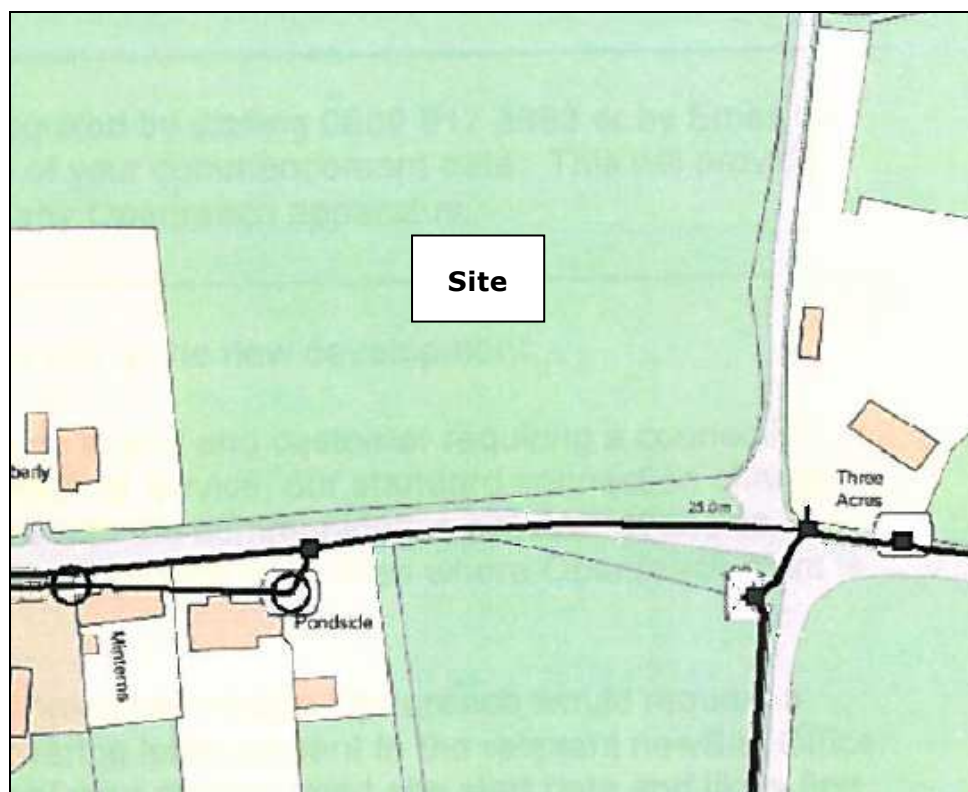


Plate 14: Existing BT Openreach Plant

6.10 Virgin Media and Cable & Wireless have confirmed that they do not have any apparatus in the area.

Electricity Supply

6.11 UK Power Network's asset mapping records illustrates the presence of an existing high voltage electricity cable which runs partially along the western boundary of the site as identified below:

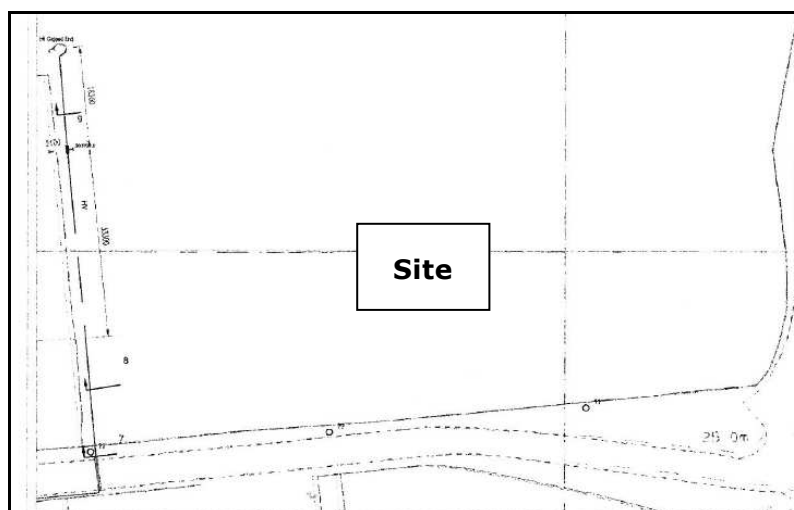


Plate 15: Existing Electricity Supply

- 6.12 The existing cable could be retained in its current location, providing the necessary easements/way leaves are respected and a means of access for future maintenance operations is provided. Alternatively, the HV cable could be diverted and utilised to serve the development scheme. Discussions with UK Power Networks has also established that a sub-station will also need to be included within the masterplan layout.

Gas Supply

- 6.13 National Grid's asset mapping records illustrates the presence of an existing 63mm diameter polyethylene medium pressure gas main which runs along the southern verge of Lark Hill Road, as identified below:
- 6.14 No diversionary or protection works are anticipated to accommodate the development's proposed vehicular access. The scheme's proposals have also been discussed with British Gas which confirmed that the site can be served without requiring any significant off-site improvement works being required, although a gas governor will be required at the site's southern boundary (or in close proximity).



Plate 16: Existing Gas Supply Main

7.0 SUMMARY AND CONCLUSIONS

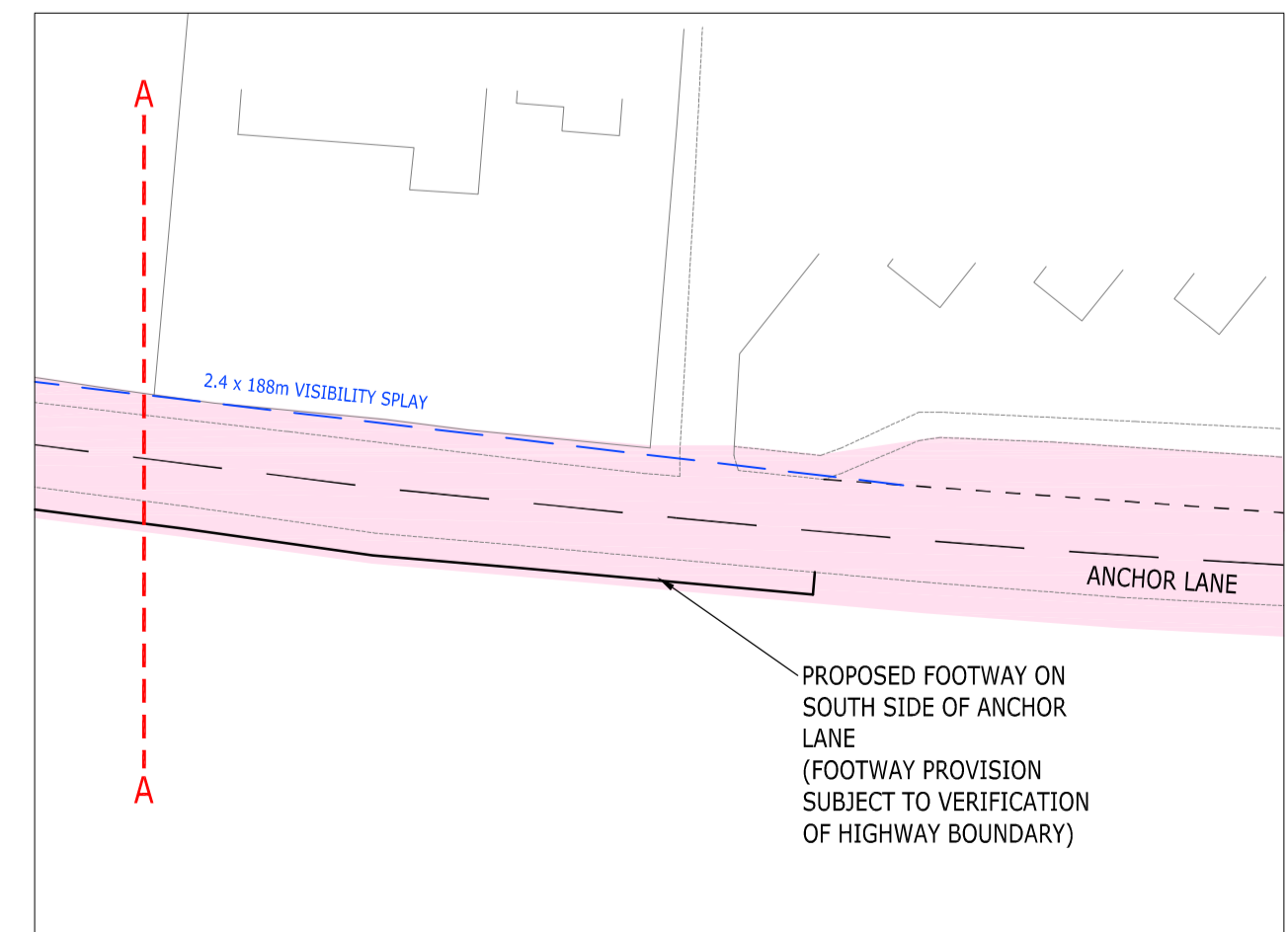
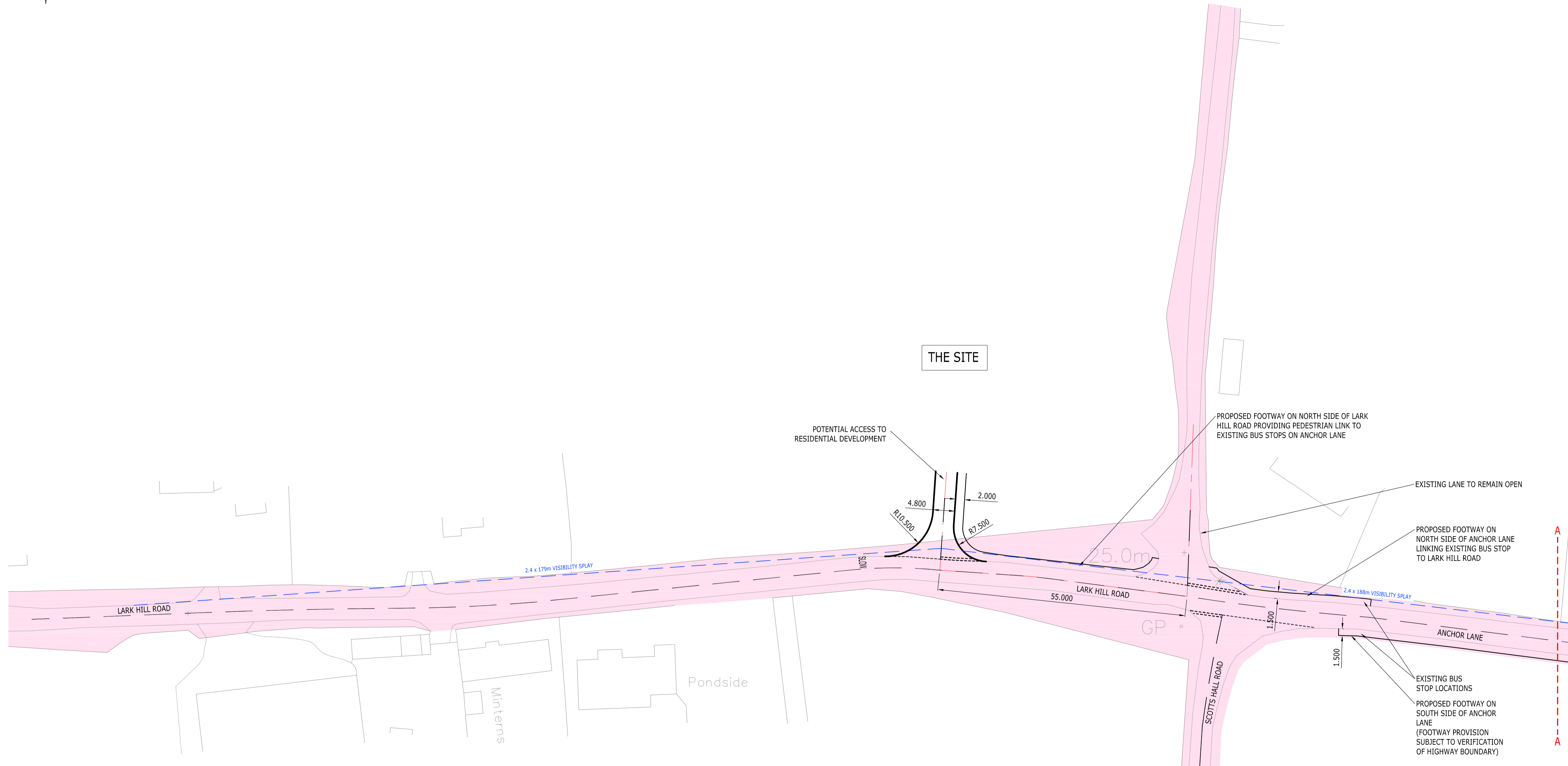
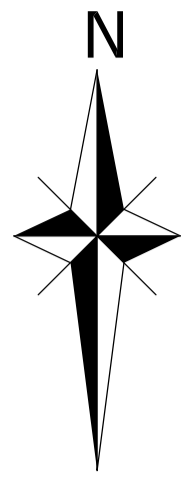
- 7.1 This Position Statement sets out baseline conditions and outlines opportunities in respect of the highways/transport, flood risk, drainage and utility supply aspects of the proposed allocation of land to the west of Canewdon, for up to 30 residential dwellings.
- 7.2 Vehicular access to the site is proposed to be taken from a new access road that will connect to Lark Hill Road via a simple priority 'T' junction, located circa 55m west of Church Lane, as agreed in principle with ECC.
- 7.3 The proposed allocation site is located on the western edge of the village, within walking distance of local services (shops and primary school). It is also accessible by bus with stops located within a short walk of the site.
- 7.4 There is scope to provide a new footway along Lark Hill Road/Anchor Way to increase site accessibility in facilitating ease of walk movements between the site and local bus stops and the village centre, including the school.
- 7.5 The Environment Agency has confirmed that the site is situated within a Flood Risk Zone 1 area at a low risk of flooding, and a residential scheme is therefore considered to be an appropriate form of development in this particular location.
- 7.6 The underlying soil conditions comprise London Clay Formation and therefore considered unlikely that infiltration drainage techniques can be successfully supported on this site.
- 7.7 An alternative outfall location has been agreed in principle with Anglian Water to discharge surface water run-off into the existing public sewer or land drain that is present along the southern

channel of Anchor Lane (subject to a review of the levels, otherwise a pumping station may be required).


- 7.8 The post-development discharge rate will need to be limited to a commensurate greenfield rate associated with a 1:30 year rainfall rate. Excess surface water will be attenuated on-site to accommodate the run-off generated by a 1:100 year rainfall event (including an additional 30% for any potential climate change impact in accordance with the national planning legislation).
- 7.9 A SUDS strategy can be devised and potentially include the provision of off-line detention basins at the southern boundary of the site and also at the interface between the open space and residential dwellings. Permeable paving can also be provided within the car parking courtyard, driveways etc.
- 7.10 Depending on timescales, the proposed SUDS strategy may need to be reviewed should the formation of the SUDS Approval Body be in existence at the time of submitting the planning application.
- 7.11 Should a future planning application be submitted which exceeds one hectare, a site-specific FRA will need to be prepared to support the scheme, otherwise a default objection will be raised by the Local Planning Authority.
- 7.12 Essex & Suffolk Water has confirmed that the existing water supply distribution main is capable of serving the proposed development scheme without requiring any off-site improvement works. Depending on the depth of the existing main, it may be necessary to divert or protect the main.
- 7.13 BT Openreach has plant in close proximity to the site's boundary and it is anticipated that the telecommunications network will be extended to serve the development, subject to future discussions.

- 7.14 There is an existing HV cable present along the western boundary of the site which could be retained (if the development layout permits, include the associated easement/way leave) or diverted to suit the masterplan layout. The provision of a sub-station will also be required.
- 7.15 Gas distribution mains are also in close proximity to the site and British Gas has confirmed that there is sufficient spare capacity to serve the development scheme without requiring any off-site reinforcement works. A gas governor will be required at the site's boundary or in the close vicinity.

Drawings



NOTES:

KEY:
 HIGHWAY BOUNDARY (SCALED AND TRANSCRIBED FROM ESSEX HIGHWAYS DRAWING DATED 31-05-2012)

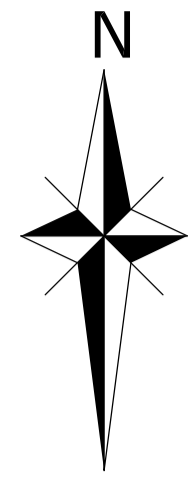
DRAFT

REV	AMENDMENTS	DRN	CHK	APP	DATE
A	VISIBILITY SPLAY LOOKING LEFT MODIFIED	RMA	SAF	ML	30-07-12

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CLIENT: KNIGHT DEVELOPMENTS
 PROJECT TITLE: LAND WEST OF CANEWDON ESSEX
 DRAWING TITLE: POTENTIAL ACCESS LOCATION

SCALE: 1:500 @ A1	DATE: JUNE 2012	DESIGNED: SAF
DRAWN: RMA	CHECKED: SAF	APPROVED: ML
DRAWING NO. L750-001		REV: A



POTENTIAL MASTERPLAN PROVISION:

- 1. ELECTRICAL SUB-STATION
- 2. RETENTION OF EXISTING HV CABLE (WITH TWO METRE WIDE EASEMENT) FOR FUTURE MAINTENANCE OR DIVERSION
- 3. PUMPING STATION WITH COMPOUND WITH CORDON SANTIARE

POTENTIAL REQUIREMENT TO PROVIDE ATTENUATION FOR PROPOSED CAR PARK

EXISTING HV ELECTRICITY CABLE TO POTENTIALLY BE DIVERTED TO SUIT MASTERPLAN LAYOUT

POTENTIAL DEVELOPMENT SITE

INDICATIVE EXTENT OF OFF-LINE ATTENUATION PROVISION BASED ON A DISCHARGE RATE OF 16.3/sec AND 1.2m DEPTH OF WATER AND 1:3 SIDE SLOPES (271 TO 375m²)

WATER LEVEL AT 1.2m DEPTH

INDICATIVE LOCATION OF EXISTING ANGLIAN WATER FOUL WATER PUMPING STATION

POSSIBLE LOCATION FOR ACCESS ROAD TO SITE

ANGLIAN WATER EXISTING SURFACE WATER NETWORK LOCATED AT JUNCTION OF ANCHOR ROAD & SYCAMORE WAY, DISCHARGING TO WATERCOURSE

NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
2. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
3. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
4. ALL EXISTING SERVICE ROUTES HAVE BEEN TRANSCRIBED FROM THE RESPECTIVE UNDERTAKERS RECORDS AND AS SUCH NO RESPONSIBILITY IS ACCEPTED BY ARDENT CONSULTING ENGINEERS FOR THE ACCURACY OF ROUTES SHOWN.
5. THE AVOIDANCE AND PROTECTION OF SERVICES DURING THE WORKS IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE CONTRACTOR IS REMINDED OF HIS OBLIGATION TO VERIFY THE ROUTE OF ALL SERVICES ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS.
7. THE CONTRACTOR SHOULD ALLOW FOR ANY NECESSARY LIAISON WITH THE STATUTORY UTILITIES DURING THE COURSE OF THE WORKS TO AVOID ANY DISRUPTION TO RETAINED SERVICES.
8. THE CONTRACTOR SHOULD NOTE THAT THE SERVICES SHOWN ARE NOT TO BE CONSIDERED EXHAUSTIVE. PRIVATE SERVICES MAY BE PRESENT WITHIN THE LIMIT OF WORKS AND CARE SHOULD BE TAKEN TO LOCATE AND AVOID THESE DURING CONSTRUCTION.

KEY:

- APPROXIMATE SITE BOUNDARY
- ANGLIAN WATER EXISTING FW SEWER
- ESSEX & SUFFOLK WATER EXISTING DISTRIBUTION MAIN
- BT EXISTING UNDERGROUND PLANT
- BT EXISTING JOINT BOX
- BT EXISTING POLE
- NATIONAL GRID EXISTING MP MAINS
- NATIONAL GRID EXISTING LP MAINS
- UK POWER NETWORKS EXISTING HV CABLE
- UK POWER NETWORKS EXISTING LV CABLE

DRAFT

NOT FOR CONSTRUCTION - SUBJECT TO APPROVAL

A PRELIMINARY SURFACE WATER ATTENUATION ADDED	FB	SJB	ARF	6/8/12
REV AMENDMENTS	DRN	CHK	APP	DATE

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CLIENT: KNIGHT DEVELOPMENTS

PROJECT TITLE: LAND WEST OF CANEWDON

DRAWING TITLE: SITE CONSTRAINTS PLAN

SCALE: 1:500 @ A1	DATE: 28/06/12	DESIGNED: FB
DRAWN: FB	CHECKED: SJB	APPROVED: ARF
DRAWING NO. L750-003		REV: A

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Appendix A

ECC Correspondence

Steve Field

From: Mark Lawrence Development Management Engineer [<mailto:Mark.Lawrence@essex.gov.uk>]
Sent: 14 June 2012 10:36
To: Steve Field
Subject: RE: Canewdon

correct

From: Steve Field [<mailto:sfield@ardent-ce.co.uk>]
Sent: 14 June 2012 10:40
To: Mark Lawrence Development Management Engineer
Subject: Re: Canewdon

Mark,

Many thanks for your email. Just to clarify, and further to our telephone conversation, this relates to provision of a new access onto Lark Hill Road and retaining the lane in its current form - is this correct?

Thanks again.

Kind regards,

Steve.

Steve Field
Associate

A R D E N T
CONSULTING ENGINEERS

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www.ardent-ce.co.uk

On 14 Jun 2012, at 10:30, "Mark Lawrence Development Management Engineer"
<Mark.Lawrence@essex.gov.uk> wrote:

Steve,

Having reviewed the proposal the highway authority would accept the layout in principle subject to the appropriate vis splays and junction design being secured

Kind regards

Mark Lawrence BSc. (Hons) MSc. MCIHT

Strategic Development Engineer

Essex County Council | telephone: 01245 437 178 | extension: 51178

Fax: 01245 280 356 | email: Mark.Lawrence@essex.gov.uk

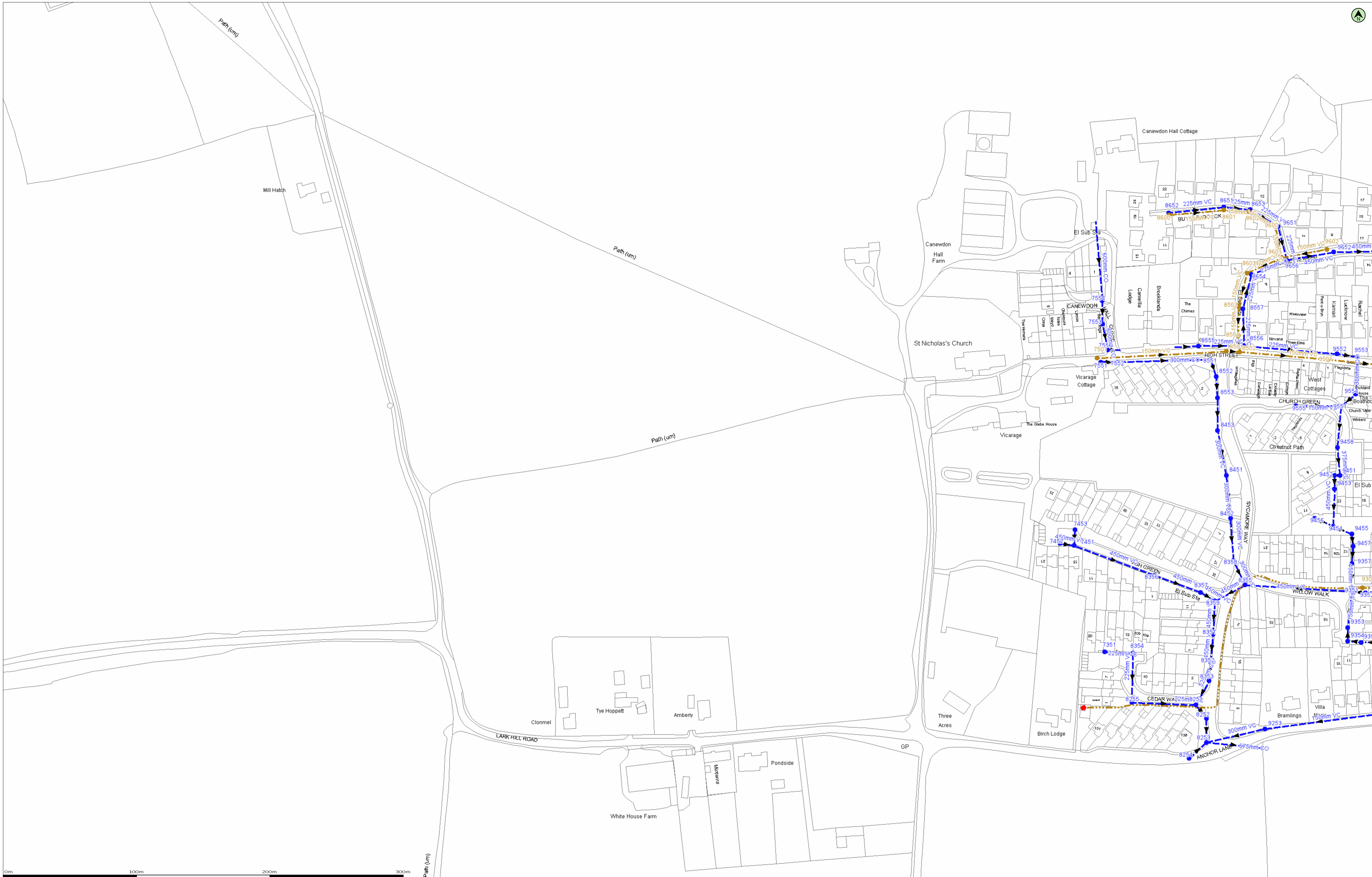
<image001.jpg>



Please consider the environment before printing this e-mail

Appendix B

Public Sewer Record Plans



Ordnance Survey Mapping © Crown Copyright 1000018507 Date: 18/05/12 Scale: 1:1250 Map Centre: 589471.2,194480.7 Data updated: 17/11/11 Our Ref: 27676 - 1 Wastewater Plan A1

This plan is provided by Anglian Water pursuant to its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but the position must be regarded as approximate. Service pipes, private sewers and drains, and former private sewers transferred to Anglian Water on or after 1 October 2011, are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or drain or disposal main or any item of apparatus. This information is valid for the date printed. The plan is produced by Anglian Water Services Limited from Ordnance Survey © Crown Copyright, 100018507. This map is to be used for the purposes of viewing the location of Anglian Water infrastructure only. Any other use of the map data or further copies are not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

- | | | | |
|----------------|-----------|------------------------|---|
| Foul Sewer | — — — — — | Foul Manhole | ● |
| Surface Sewer | — — — — — | Surface Manhole | ● |
| Combined Sewer | — — — — — | Combined Manhole | ● |
| Rising Main | — — — — — | Sewage Treatment Works | ■ |
| Private Sewer | — — — — — | Pumping Station | ■ |
| Final Effluent | — — — — — | Final Effluent Manhole | ● |

sburton@ardent-ce.co.uk
L750



