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1.0 INTRODUCTION

1.1 Background

1.1.1 PTB Transport Planning Ltd has been commissioned by Richborough Estates to provide transport advice for a proposed residential development off Daly Avenue, Hampton Magna.

1.1.2 It is intended that the site will provide approximately 120 dwellings and will be accessed from Daly Avenue; the site location is shown on Figure 1.1.

1.2 Purpose of the Report

1.2.1 The purpose of the report is to confirm the deliverability of the site in terms of access, as well as considering potential off-site impacts and mitigation measures. The report will form part of Richborough Estates representations for the Warwick District Local Plan.

1.3 Limitations of this Report

1.3.1 This report has been undertaken at the request of Richborough Estates, thus should not be entrusted to any third party without written permission from PTB Transport Planning Ltd. However, should any information contained within this report be used by any unauthorised third party, it is done so entirely at their own risk and shall not be the responsibility of PTB Transport Planning Ltd.



2.0 PROPOSED DEVELOPMENT

2.1 Site Location

- 2.1.1 The proposed development is located off Daly Avenue, to the south of Hampton Magna. The site is bound by residential dwellings to the north and west, and by open fields to the east and south.
- 2.1.2 Daly Avenue, which runs along the northern frontage of the site, is a residential access road of some 6.7m in width with footways on both sides of varying width between 1.6m and 1.8m.
- 2.1.3 The other estate roads through Hampton Magna are similar in terms of geometry and form priority junctions with Old Budbrooke Road to the west of Hampton Magna; to the north, Old Budbrooke Road connects with the A4177 Birmingham Road and the A46, whilst to the south it provides a link through Hampton on the Hill to the A4189.
- 2.1.4 In the vicinity of the site, the residential estates roads are subject to a 30mph speed limit, whilst further afield Old Budbrooke Road is subject to a 40mph speed limit.

2.2 Proposed Vehicular Access

- 2.2.1 Vehicular access to the site is proposed from Daly Avenue in the form of a simple priority junction as demonstrated in drawing T16552-001.
- 2.2.2 The visibility splays shows are based on a 30mph speed; however, given the nature and alignment of Daly Avenue here, it is likely that observed traffic speeds will be lower, reducing the visibility splay requirements.
- 2.2.3 ATC surveys will be commissioned as part of any eventual planning application to inform the visibility splay requirements at this junction, with the splays calculated in accordance with the guidance set out in MfS 2.
- 2.2.4 The attached drawing demonstrates that access to the site is feasible from Daly Avenue.

2.3 Traffic Impact

- 2.3.1 Based on Warwickshire County Council's (WCC) standard residential trip rates, as specified in WCC's Strategic Transport Assessment Phase 4, a development consisting of 120 dwellings would generate approximately 72 two-way trips in the AM and PM peak periods, or just over one vehicle every minute.
- 2.3.2 This is based on the WCC trip rate of 0.6 two-way trips in the AM and PM peak hour.



2.3.3 The proposed site access junction will comfortably be able to accommodate this level of traffic in terms of junction capacity; however, appropriate capacity assessments will be carried out at the planning application stage to demonstrate how the site access is likely to operate.

2.4 Wider Traffic Impacts

2.4.1 The impact of the development on the local highway network will be assessed within the Transport Assessment that accompanies the eventual planning application.

2.4.2 However, it is considered prudent to provide an assessment of the expected distribution and assignment of traffic to/from the proposed development site and, therefore, the expected impact of the development traffic across the wider highway network.

2.4.3 An assessment of the distribution has been undertaken using Journey to Work (JTW) data from the 2011 Census.

2.4.4 The destinations have then been assessed using peak hour Google Map directions to determine the most appropriate routes to/from work, with the assignment subsequently derived using that analysis.

2.4.5 The JTW data analysis results in an assignment of development traffic to/from the site during peak hours as follows:

- To/From the North (A4177(E)/A46(N)/A425/M40(E)) = 59.6%
- To/From the South (A4189/A46(S)/M40(W)) = 34.3%
- To/From the West (Church Lane/A4177(W)) = 6.2%

2.4.6 The analysis above would result in peak hour traffic flows as follows:

- To/From the North = 43
- To/From the South = 25
- To/From the West = 4

2.4.7 This indicates that the largest impact would be to/from the north of the site, via the signals at Warwick Parkway and the signalised junction onto the A4177.

2.4.8 However, it should be noted that the assignment would represent less than one vehicle per minute in either direction, and approximately one vehicle every two minutes in any single direction (based on the 0.48/0.12 split in the WCC two-way trip rates).

2.4.9 An assessment within that context would suggest that the incremental impact of the development traffic on the operation of those signalised



junctions would be very low; for example, if the signals operated under a 60 second cycle time, the development traffic would represent one additional vehicle every two cycles on any single approach during the peak hours.

2.4.10 The alternative routes available to traffic, via Hampton on the Hill to the south and Church Lane to the west, are also capable of accommodating the additional peak hour traffic flows detailed in paragraph 2.4.6 above; there are no highway network constraints in either direction that would prohibit car traffic movements (which accounts for c.99% of residential traffic), or make those routes disproportionately unattractive to drivers.

2.4.11 WCC's Strategic Transport Assessment Phase 4, published in April 2014, highlights major highway improvements that are required across Warwick and Leamington Spa to accommodate development allocations within the Warwick Core Strategy.

2.4.12 Therefore, it is anticipated that a proportional contribution towards strategic infrastructure improvements will be sought by WCC at application stage.

2.5 Local Facilities and Sustainable Travel

2.5.1 A range of local facilities in the vicinity of the site are shown on Figure 2.1 including (but not limited to):

- Damson Road Bus Stops = 340m
- Budbrooke Primary School = 485m
- Café = 475m
- Local Shop = 490m
- Slade Hill Bus Stops = 500m
- Montgomery of Alamein Public House = 500m
- Budbrooke Medical Centre = 520m
- Budbrooke Community Centre = 600m
- Warwick Parkway Rail Station = 1.5km

2.5.1 MfS states that 'walkable neighbourhoods' are typically characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance of residential areas which residents may access comfortably on foot.

2.5.2 MfS also states that the 800m walking distance is not an upper limit and references the former PPG13 guidance in respect of walking replacing short car trips, particularly those under 2km.

2.5.3 Whilst PPG13 has now been superseded by the NPPF, the NPPF does not include any references to distances or thresholds as guidance in respect of walking trips.



- 2.5.4** The 'Guidelines for Providing Journeys on Foot' published by the Institution of Highway and Transportation (IHT) refers to 800m for the 'Preferred Maximum' walking distance to 'Town centres', with up to 1,200m for 'Elsewhere', and 2,000m considered a preferred maximum for 'Commuting/School trips and Sight-seeing'.
- 2.5.5** The IHT guidance indicates that the 'Acceptable' walking distances for the above categories are 400m, 800m and 1,000m.
- 2.5.6** The IHT guidance also refers to the walking environment being important to the attractiveness of walking as a mode of travel, stating in section 3.1 that the most important real or perceived deterrents to walking are:
- Land use patterns that are unsuited to walking
 - Unpleasant pedestrian environments
 - Danger from vehicular traffic
 - Personal security fears
 - Inconvenient pedestrian facilities
- 2.5.7** In terms of the guidance above, the site has a range of facilities between 340m and 1.5km, including bus stops, local shop, local school and Warwick Parkway Rail Station; the routes to these facilities are also relatively flat, overlooked by existing residential or commercial properties, and with convenient crossing points along the routes.
- 2.5.8** Therefore, the deterrents to walking are significantly reduced and clearly the internal layout of the site will also be designed to provide a very favourable walking environment.
- 2.5.9** In terms of public transport, as indicated above the closest bus stops are located on Damson Road, approximately 340m to the west of the development site.
- 2.5.10** The 68 bus service is available from these stops and runs between Hatton Park and Cubbington, via Warwick Parkway Rail Station, Hampton Magna, Warwick and Leamington Spa.
- 2.5.11** The 68 provides an hourly service throughout the day, Monday to Saturday, including commuter times (with the first bus arriving in Warwick at 06:45 and in Leamington at 07:03).
- 2.5.12** Additional bus stops are available from Slade Hill to the north of the site.
- 2.5.13** In terms of cycling, a local cycle route runs alongside Old Budbrooke Road to the north of Hampton Magna, connecting to Warwick Parkway Rail Station; this route connects to traffic-free local cycle routes that are available



along the Grand Union Canal Towpath into Warwick, as well as west along the A4177 Birmingham Road to Hatton.

2.5.14 Within Warwick, sections of National Cycle Network Route 41 provide access through the town centre and connect to additional traffic-free cycle routes across the town and north towards Leamington Spa.

2.5.15 The vast majority of the urban area of Warwick is within a comfortable cycling distance of the site for most people (less than 5km).

2.6 Conclusion

2.6.1 In conclusion, suitable access can be achieved from Daly Avenue in the form of a simple priority junction with adequate visibility splays.

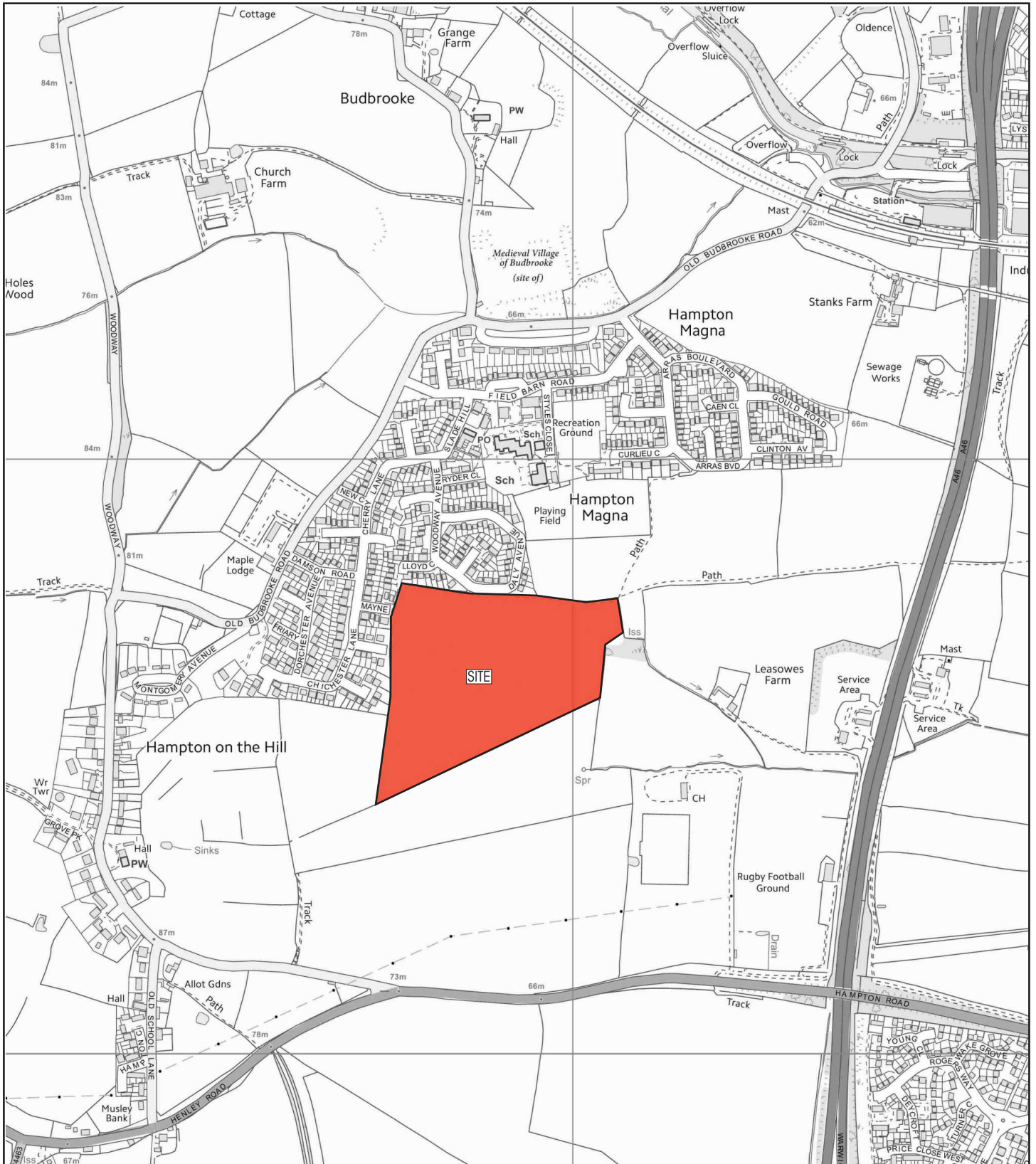
2.6.2 A Transport Assessment will be carried out to support the planning application and will include capacity assessments of the site access and off-site junctions in the vicinity of the site.

2.6.3 It is expected that appropriate off-site mitigation measures will be funded via a proportional contribution.

2.6.4 The site is well served in terms of local bus services and local facilities.

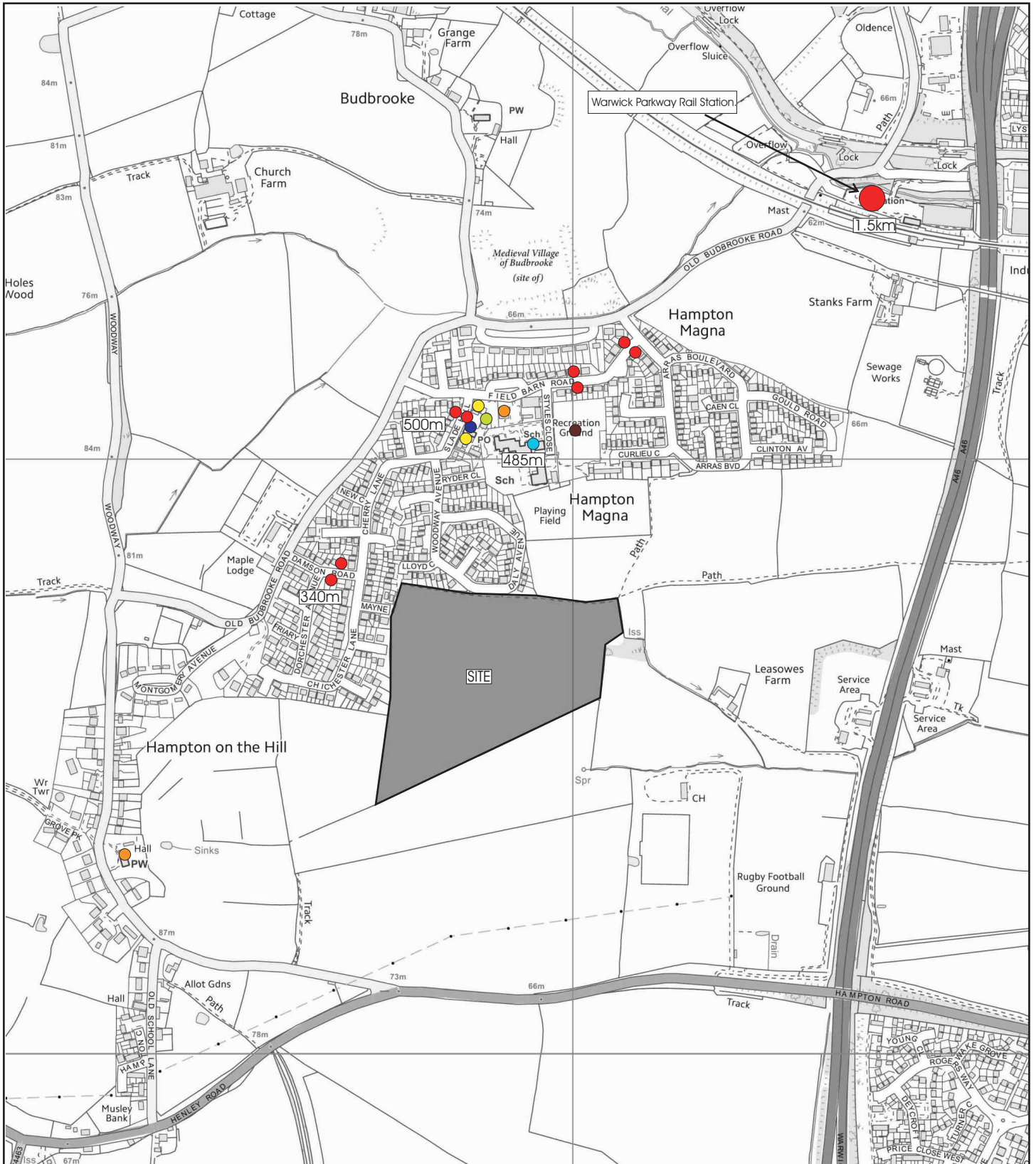


FIGURES



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Project	Daly Avenue, Hampton Magna	Key	
Project No	T16552		
Figure	1.1		
Title	Site Location Plan		
Date	22nd August 2016		



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Project	Daly Avenue, Hampton Magna	Key		
Project No	T16552			
Figure	2.1			
Title	Local Facilities Plan			
Date	22nd August 2016			

T16552
Land off Daly Avenue, Hampton Magna



DRAWINGS

1. THIS DRAWING IS NOT TO BE SCALED FOR CONSTRUCTION PURPOSES.
2. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND LEVELS ON SITE.

REV	DESCRIPTION	DATE	BY	AUTH



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 Edgbaston
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 West Midlands
 B16 8PF
 T/F : 0121 454 5530

CLIENT
RICHBOROUGH ESTATES

PROJECT
LAND OFF DALY AVENUE
HAMPTON MAGNA

TITLE
INDICATIVE SITE ACCESS LAYOUT

DRAWN	AUTHORISED	SCALE	DATE
JC	JP	1:500@A4	24.08.16
PROJECT NO.	DRAWING NO.	REV	
T16552	001	-	





Site South of Lloyd Close

Alternative Haul Road Route

Preferred Haul Road Route

DALEY AVENUE, HAMPTON MAGNA
TECHNICAL NOTE: FLOOD RISK, DRAINAGE AND UTILITIES
AUGUST 2016
REF. 22356/08-16/4507

This Technical Note has been prepared to consider flood risk, drainage and utility matters pertinent to a proposed residential development off Daley Avenue, Hampton Magna.

For the purpose of this appraisal the residential development comprises of circa 115 dwellings and the site area is shown within the redline boundary in Figure 1 below. A proposed indicative site layout plan can be found attached.

Figure 1: Site location plan



The site area plan and illustrative site layout plan is shown attached and comprises of approximately 9.6ha. The site lies to the south of Daley Avenue, Hampton Magna. The site lies within the administrative area of Warwickshire District Council, and the Warwickshire County Council.

The development area of the site falls from west to east towards the unnamed ditch along the eastern boundary. Existing residential developments are located to the north and west of the site, with agricultural greenfield land bounding the east and south. LIDAR data records a level difference of approximately 16.5 metres between the highest point on the north-western boundary (77.342m AOD) and the lowest point on the south-eastern boundary (60.819m AOD).

Flood Risk and Drainage

The Environment Agency flood maps are shown in Figure 2 below. The maps show the entirety of the site is within Flood Zone 1. Residential dwellings classified as being 'more vulnerable' are sequentially acceptable in Flood Zone 1 in accordance with the National Planning Practice Guidance: Flood Zone and Flood Risk Tables (see below).

Table 1: Copy of Table 3 (Flood Risk Vulnerability and Flood Zone 'compatibility') from the Flood Zone and Flood Risk Tables - Planning Practice Guidance (Ref. 17)

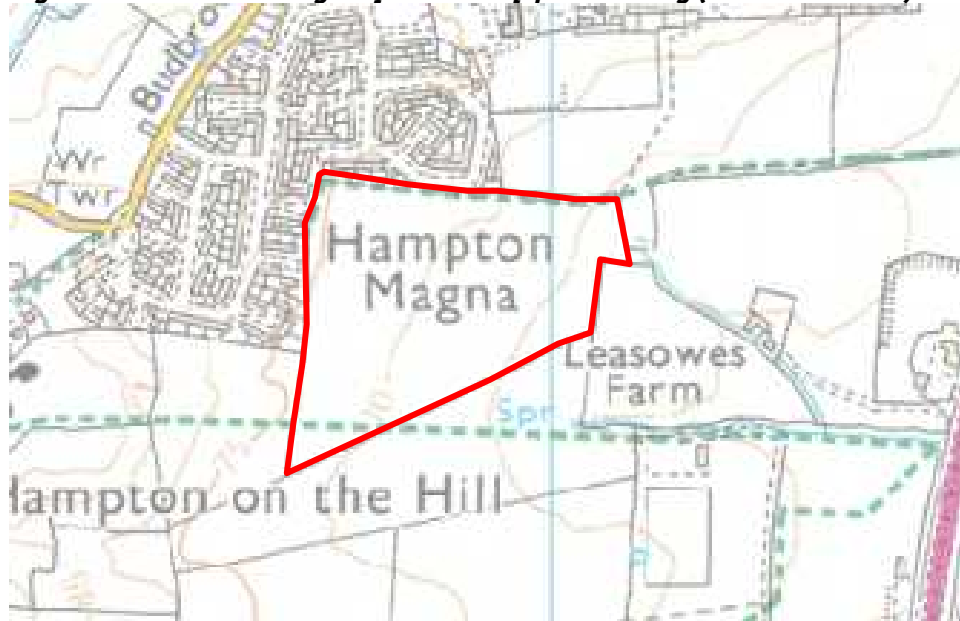
Flood Risk Vulnerability classification (see Table 2)		Essential Infrastructure	Water compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone	Zone 1	√	√	√	√	√
	Zone 2	√	√	Exception Test Required	√	√
	Zone 3a	Exception Test required	√	x	Exception Test Required	√
	Zone 3b 'Functional Floodplain'	Exception Test Required	√	x	x	x

Key:

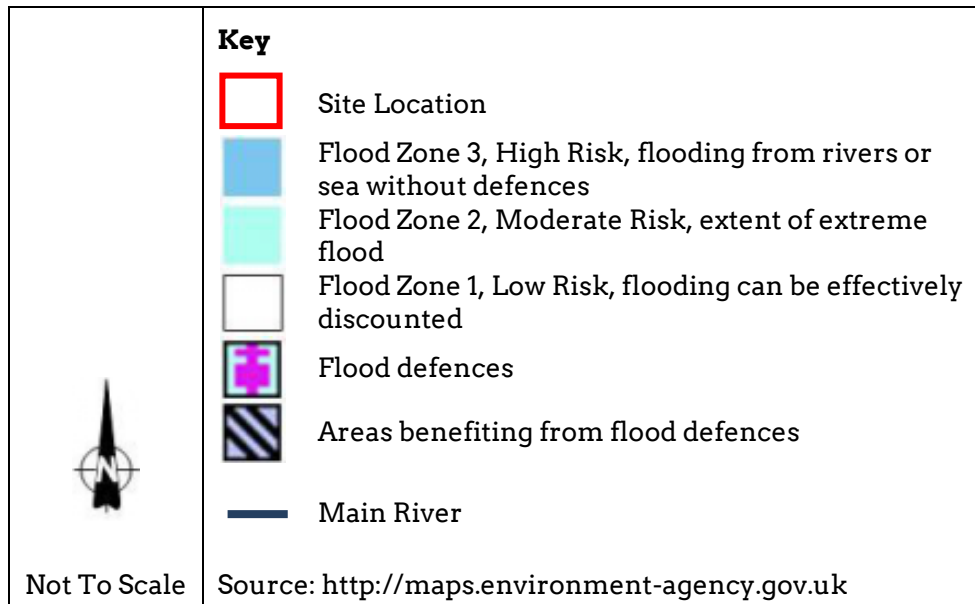
√ Development is appropriate

x Development should not be permitted

Figure 2: Environment Agency Flood Map for Planning (Rivers and Seas)








Note: Environment Agency flood maps give guidance on fluvial flood risk only for watercourses with a catchment of greater than 3km². Other information sources should be consulted for flood risk posed by ordinary watercourses with catchments less than 3km².



The surface water flooding map (see Figure 3 below) shows the majority of surface water accumulations occur across the sites field boundaries where open space is proposed. The proposed residential area to the North West is however at very low surface water flood risk and the introduction of drainage systems associated with the proposed development is likely to reduce the likeliness of overland flows. The identified accumulations have no discernible impact on the proposed development area.

Figure 3: Environment Agency Surface Water Flooding Map



 Not To Scale	Key
	 Site Location
	 High Risk, 1 in 30 (3.3%)
	 Medium Risk, 1 in 100 (1%) and 1 in 30 (3.3%)
 Low Risk, 1 in 1000 (0.1%) and 1 in 100 (1%)	
Source: http://maps.environment-agency.gov.uk	

It is essential that the proposed development does not increase flood risk to adjacent land and downstream of the site. To ensure this does not occur, the drainage design will incorporate the following flood mitigation measures as well as any others determined at the detailed Flood Risk Assessment stage:

- Finished site levels will be designed to retain and direct all overland surface water flows away from the dwellings following the natural topography of the land.
- The proposed development will include a surface water drainage system that will intercept the majority of run-off generated within the development roads. This will minimise the risk to the new buildings and also reduce the incidence of overland flows.
- The surface water drainage system will convey flows to a detention basin located to the east of the site which will store surface water flows generated from the development to greenfield runoff rates up to a 1in100 + 40% climate change event. This will ensure no increase in runoff from the site and provide betterment during critical storm events.

At present no soakage tests have been completed across the site. A review of the BGS geology maps show the extents of the site may be underlain by Mudstone and is therefore thought that infiltration will not be viable for surface water disposal at this time. During ground investigations to be undertaken at a later stage, soakage testing will be completed across the development area to confirm infiltration potential. If infiltration is not viable, surface water will be discharged to the local watercourse network following the existing natural catchment.

At this time it is assumed all surface water flows will be attenuated and positively drained into the watercourse adjoining the eastern boundary of the site following the natural falls catchment of the site. Swales can be utilised in the layout to convey surface water flows with an detention basin being provided for storage. Further refinement will be considered in due course during the detailed drainage strategy. The land use framework for the site will be designed to ensure SuDS features are provided and incorporated accordingly.

It is proposed that detention basins will be provided to the east of the residential development area with discharge into the unnamed watercourse to the east and this is illustrated on drawing 22356_01_230_01 attached. Two detention basins will be provided to accommodate the existing surface water sewer. Based on an assumed impermeable area of 3.694ha an estimated storage volume of approximately 3108m³ for a 1 in 100 year storm event

plus 40% for climate change would be required. This calculation is based on a QBAR greenfield discharge rate of 14.8 litres per second (based on 4.0 l/s/ha) as shown attached. These calculations will be refined as designs progress.

It is noted that surface water sewers and foul sewers are located within the site. These sewers will be accommodated in the layout or diverted accordingly to ensure no negative effects on the existing sewer network.

It is envisaged foul drainage from the residential development will drain partly via gravity and partly via a pumped connection to the local foul sewer network which will be detailed further during a full Flood Risk Assessment and Drainage Strategy. Discussions will be undertaken with Severn Trent Water in due course through a developer enquiry to ensure sufficient capacity is available and a S106 application made. In any event and in accordance with the Water Industry Act (1990), Severn Trent Water will be required to provide capacity for the development whilst containing environmental impact and maintaining water quality; therefore improvements to the network will be provided if required.

Utilities

Discussions have taken place with all principal Statutory Undertakers. WPD advise that the proposed development will require a 4.0m x 4.0m substation on-site in order to provide electricity to the development. No other restrictions in relation to capacity to serve the proposed development are noted. All relevant information received can be found attached for information. Clean water capacity will be made available through developer contributions and detailed discussions are currently underway with Severn Trent Water.

Service apparatus plans received to date show no significant constraints to development. Some diversions of apparatus may be required to facilitate access points (vehicular and pedestrian) either to the west or to the north of the site however, none of the identified services pose restrictions to the provision of these access points. Discussions with all service providers over capacity and diversions will continue to take place as the development proposals evolve.

A summary of responses received is outlined in Table 1 below:

Table 1: Utilities Summary

Service	Undertaker	Sufficient Capacity?	Potential Diversions?	Connection Response
Gas	National Grid	Yes	No	Connection point in Daley Avenue
Electricity	Western Power Distribution	No – Substation Required	Yes – pending on access location along Daley Avenue	Budget cost provided to supply site. 4m x4m substation required on-site. Minor diversion works required.
Clean Water	Severn Trent Water	TBC	TBC	TBC
Telecoms	BT	N/A	No	N/A

Summary

To summarise the key points outlined above:

- All development will be contained in Flood Zone 1 and therefore sequentially acceptable.
- The development will not increase runoff or flood risk downstream by utilising a sustainable drainage system to store and restrict flows to greenfield rates providing a betterment up to the 1in100 + 40% climate change storm event.
- Soakage testing will be undertaken in due course, however, positive drainage connections to an adjacent watercourse can be achieved with suitable surface water storage provided within land under the control of Richborough Estates.
- Foul drainage can be achieved through a gravity and pumped connection into the existing sewer network located within the site. Any improvements needed to provide capacity within the existing sewer network will be provided by Severn Trent Water in accordance with the Water Industry Act (1990).
- No utility capacity constraints are identified to date subject to the payment of identified costs and diversions can be facilitated as required to provide access etc.

Report Prepared By:

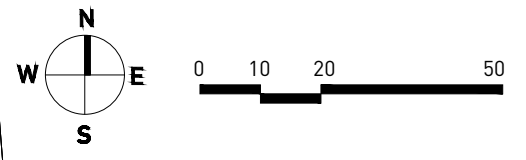


.....
Alexander Bennett Bsc (Hons) MCIHT

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EXTENT OF SITE
H27



KEY DESIGN PRINCIPLES

1. Proposed vehicular access off Daly Avenue;
2. Continuation of existing urban edge, mirroring residential patterns;
3. Pedestrian connections to existing streets;
4. Bungalows and buildings distanced to address residential amenity;
5. Longer rear gardens to address levels and achieve lower building heights;
6. Street with landscape theme positioned towards St Mary's Church in Warwick;
7. Streets orientated towards public open space;
8. Soft development edge;
9. Higher density development core;
10. Proposed new pumping station;
11. Retention of existing boundary vegetation with additional tree planting;
12. Coppice and tree planting to reinforce Green belt boundary;
13. Potential route for temporary construction access;
14. Existing ditch;
15. Natural play trail; and
16. Dual aspect buildings to address existing public footpath.

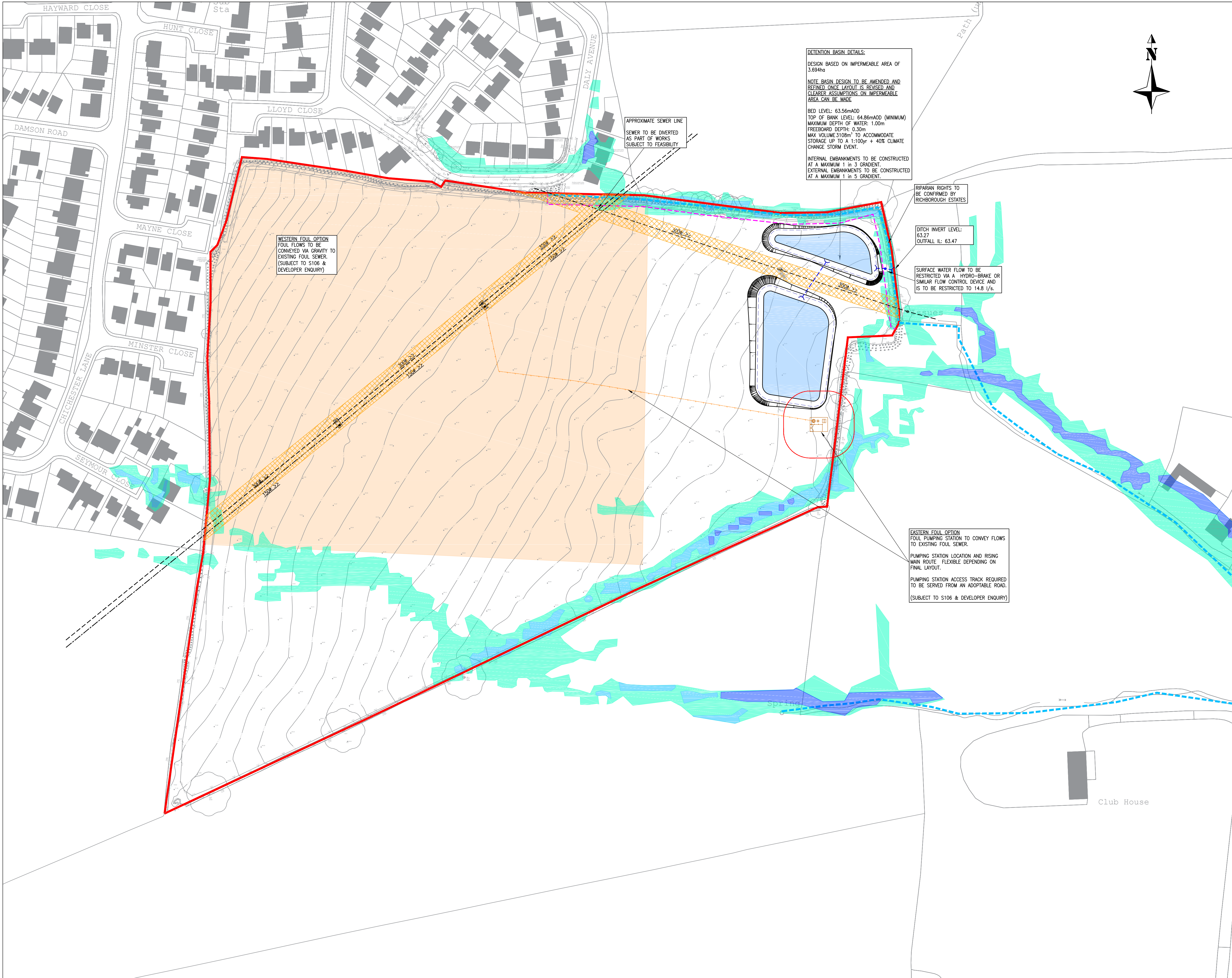
Revision A: 25.08.16 Masterplan amended to DB email comments.

LEGEND

Site location 23.8 Ac/ 9.63 Ha	Proposed residential development	Public open space	Existing landscape	Sustainable drainage
Site H27	Site H51	Public footpath	Key pedestrian link	Proposed landscape

**LAND OFF DALY AVENUE, HAMPTON MAGNA
PROPOSED ILLUSTRATIVE MASTERPLAN**





DETENTION BASIN DETAILS:
 DESIGN BASED ON IMPERMEABLE AREA OF 3.694ha
 NOTE: BASIN DESIGN TO BE AMENDED AND REFINED ONCE LAYOUT IS REVISED AND CLEARANCE ASSUMPTIONS ON IMPERMEABLE AREA CAN BE MADE.
 BED LEVEL: 63.56m AOD
 TOP OF BANK LEVEL: 64.86m AOD (MINIMUM)
 MAXIMUM DEPTH OF WATER: 1.00m
 FREEBOARD DEPTH: 0.30m
 MAX VOLUME 3108m³ TO ACCOMMODATE STORAGE UP TO A 1:100yr + 40% CLIMATE CHANGE STORM EVENT.
 INTERNAL EMBANKMENTS TO BE CONSTRUCTED AT A MAXIMUM 1 IN 3 GRADIENT.
 EXTERNAL EMBANKMENTS TO BE CONSTRUCTED AT A MAXIMUM 1 IN 5 GRADIENT.

APPROXIMATE SEWER LINE
 SEWER TO BE DIVERTED AS PART OF WORKS SUBJECT TO FEASIBILITY

WESTERN FOUL OPTION
 FOUL FLOWS TO BE CONVEYED VIA GRAVITY TO EXISTING FOUL SEWER. (SUBJECT TO S106 & DEVELOPER ENQUIRY)

RIPARIAN RIGHTS TO BE CONFIRMED BY RICHBOROUGH ESTATES

DITCH INVERT LEVEL: 63.27
 OUTFALL IL: 63.47

SURFACE WATER FLOW TO BE RESTRICTED VIA A HYDRO-BRAKE OR SIMILAR FLOW CONTROL DEVICE AND IS TO BE RESTRICTED TO 14.8 l/s.

EASTERN FOUL OPTION
 FOUL PUMPING STATION TO CONVEY FLOWS TO EXISTING FOUL SEWER.
 PUMPING STATION LOCATION AND RISING MAIN ROUTE FLEXIBLE DEPENDING ON FINAL LAYOUT.
 PUMPING STATION ACCESS TRACK REQUIRED TO BE SERVED FROM AN ADOPTABLE ROAD. (SUBJECT TO S106 & DEVELOPER ENQUIRY)

- GENERAL NOTES.
- DO NOT SCALE THIS DRAWING.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS, ARCHITECTS AND SPECIALIST DESIGN DRAWINGS AND DETAILS.
 - ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE. ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
 - THIS DRAWING IS FOR STRATEGY PURPOSES ONLY AND IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

- KEY:
- SITE BOUNDARY
 - EXISTING SURFACE WATER DRAIN
 - o EXISTING SURFACE WATER MANHOLE
 - EXISTING FOUL WATER DRAIN
 - o EXISTING FOUL WATER MANHOLE
 - EXISTING WATERCOURSE
 - PROPOSED SURFACE WATER DRAIN
 - o PROPOSED SURFACE WATER MANHOLE
 - PROPOSED FOUL WATER DRAIN
 - PROPOSED FOUL WATER RISING MAIN
 - DITCH 5m STAND-OFF
 - PROPOSED DETENTION BASIN
 - PROPOSED FOUL WATER PUMPING STATION WITH 15m STAND OFF
 - HIGH SURFACE WATER FLOOD RISK
 - MEDIUM SURFACE WATER FLOOD RISK
 - LOW SURFACE WATER FLOOD RISK
 - ▨ SEWER EASEMENT
 - DEVELOPABLE AREA

TOTAL DEVELOPMENT AREA: 9.596ha
 DEVELOPABLE AREA (70%): 5.276ha
 IMPERMEABLE AREA (60%): 3.694ha
 DISCHARGE RATE: 4.0 l/s/ha
 TOTAL DISCHARGE RATE: 14.8 l/s

NOTE - AREAS ARE SURFACE WATER FLOODING AND NOT FLOOD ZONES. DEVELOPMENT SHOULD TAKE A SEQUENTIAL APPROACH TO THE PLACEMENT OF DWELLINGS TO AVOID THESE AREAS AND FLOW ROUTES ACCOMMODATED IN A GREEN CORRIDOR

REV: AMENDMENTS DRN CHK: DATE:

PROJECT: **DALEY AVENUE HAMPTON MAGNA**

DRAWING TITLE: **PRELIMINARY DRAINAGE STRATEGY**

CLIENT: **RICHBOROUGH ESTATES**

DRAWING NUMBER: **22356_01_230_01**

REVISION: SHEET SIZE: A1 SCALE: 1:1000


DRAWN BY: EG CHECKED BY: AB DATE: 19.08.16

STATUS: **PRELIMINARY**

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File Location: T:\M-EC\Job Books\22356\Drawings\01 Services\hydrology\230 series\22356_01_230_01 Drainage Strategy.dwg
 Printed: 26.08.2016

M-EC		Page 3
Wellington House Leicester Road Ibstock Leics LE67 6HP	22356 Daley Avenue, Hampton Magna Greenfield Runoff Rates (1ha)	
Date 15.08.2016 File	Designed by EG Checked by NO	
Causeway	Source Control 2016.1	

ICP SUDS Mean Annual Flood

Input

Return Period (years) 100 SAAR (mm) 645 Urban 0.000
Area (ha) 1.000 Soil 0.450 Region Number Region 4

Results 1/s

QBAR Rural 4.0
QBAR Urban 4.0

Q100 years 10.3

Q1 year 3.3
Q30 years 7.8
Q100 years 10.3

Network Enquiry No : 180005396
Your Reference : 22356 DALEY
AVENUE



Connections, Digitising & Statutory Reco

National Gas Emergency Service - 0800 111 999* (24hrs)
*calls will be recorded and may be monitored

JAMIE ROYLE
M-EC
WELLINGTON HOUSE
LEICESTER ROAD
IBSTOCK, LEICESTERSHIRE
LE67 6HP

Date : 22nd August 2016
Contact : Claire Wilcox
Direct Tel :
Email : claire.wilcox@uk.ngrid.com

www.nationalgrid.com

Dear JAMIE,

**Re: Land Enquiry for Proposed Development Site at NEW SUPPLY, DALEY AVENUE,
HAMPTON MAGNA, CV35 8SQ.**

Thank you for your enquiry which we received on 15th August 2016. I enclose details of National Grid Gas plant in the vicinity of your proposed supply.

The nearest main with sufficient capacity is 9 metres from the site boundary and it is a Low Pressure main.

Standard design pressures have been used. Refer to www.nationalgrid.com.

Plans attached: Yes

A copy of the National Grid Connections Charging Statement referenced in this letter can be found on National Grid's website:

<http://www2.nationalgrid.com/uk/services/Gas-distribution-connections/charges/>

If you require a printed version please contact us on the details provided above.

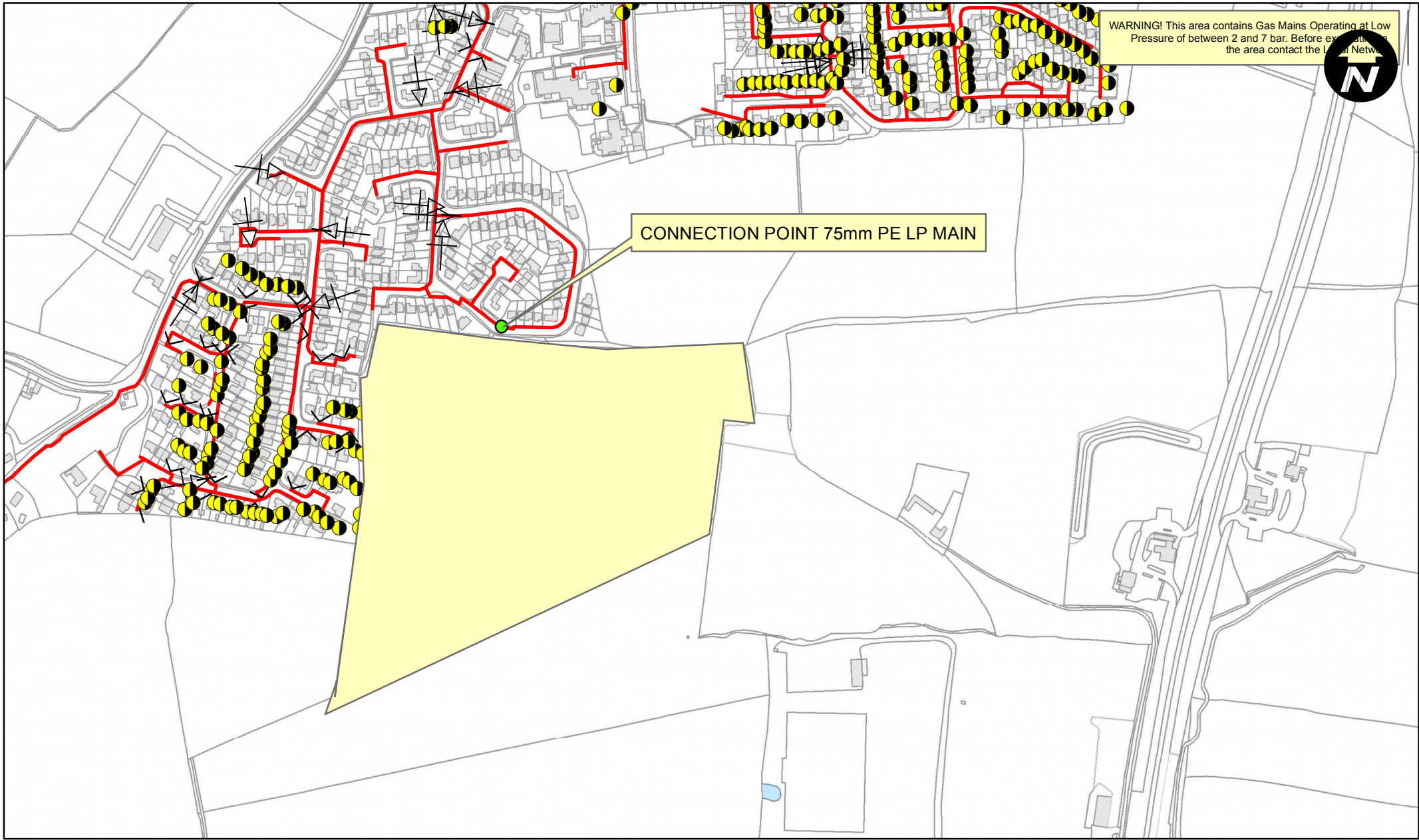
I trust this meets with your requirements at this stage. If you have any queries please do not hesitate to contact Claire Wilcox on the above number.

Yours sincerely,



Claire Wilcox
Design Specialist





WARNING! This area contains Gas Mains Operating at Low Pressure of between 2 and 7 bar. Before excavating in the area contact the Local Network



CONNECTION POINT 75mm PE LP MAIN

SCALE: 1:1,250 @ A4
 USER ID: joanne.stepto
 DATE: 18-Aug-2016 13:30:39
 INTERNAL USE ONLY
 MAP REF: 426042, 264692
 CENTRE:

L/P GAS MAIN	
M/P GAS MAIN	
I/P GAS MAIN	
H/P GAS MAIN	
NH/P GAS MAIN	
PROPOSED PIPE - LP	
PROPOSED PIPE - MP	
PROPOSED PIPE - IP	
ABANDON - LP	
ABANDON - MP	
Out Of Standard Service	

SCHEME: <NG GDFO Scheme Name>
 DESIGN: <NG GDFO Design Number>
 REVISION: <NG GDFO Revision>

This plan shows those pipes owned by National Grid in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and any other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Some examples of Plant Items:

Valve		Syphon		Depth of Cover		Change of Dia		Change of Material	
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180005396



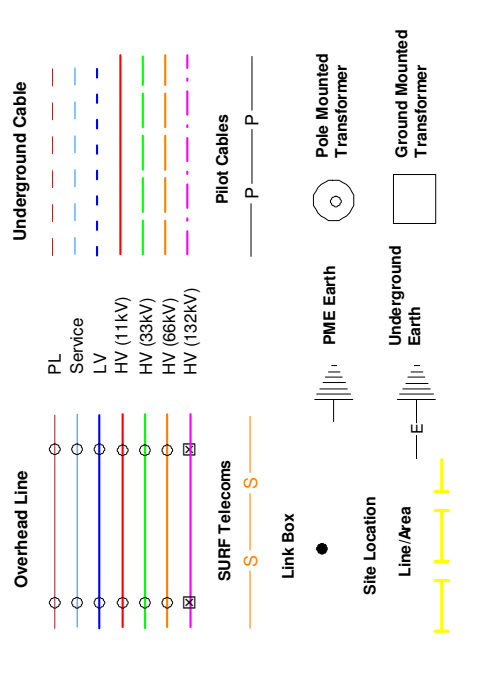
This plan is reproduced from or based on the OS map by National Grid Gas plc, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved.

Contact Us
Mapping Enquiries: 0121 623 9780 All areas 0800 096 3080
General Enquiries: 0800 096 3080 All areas
Report damage immediately – KEEP EVERYONE AWAY FROM THE AREA
0800 6783 105

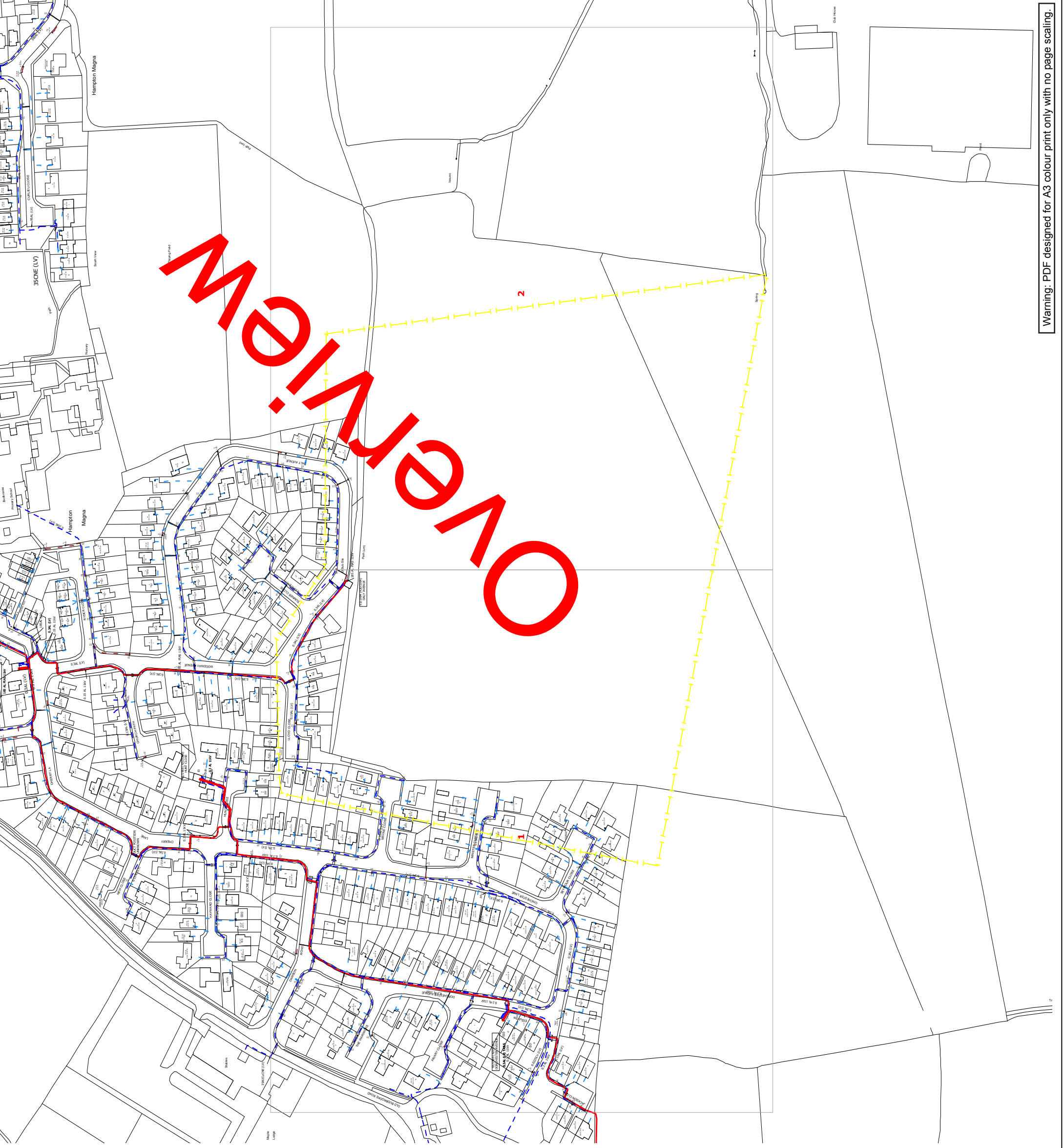
Date Requested: 12/08/2016
 Job Reference: 8924071
 Site Location: 425833 264653
 Requested by: Mr Jamie Royle
 Your Scheme/Reference: 22356

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed. Services or recent additions to the network may not be shown.
- Cables, overhead lines & substations owned by other electricity network owners or private companies may be present but will not be shown.
- You should always verify exact locations of cables using a cable locator and by careful use of hand tools in accordance with HSE guidance note HSG47.
- When working within 10m of any overhead electric line you should follow the requirements of HSE Guidance Note GS6.
- For further advice on working near our electricity cables or lines, call our Contact Centre on 0800 096 3080.
- Advice should be sought from the Western Power Distribution Contact Centre for any work that is to take place in proximity to 66kV or 132kV underground cables and 66kV 132kV overhead lines – 0800 096 3080



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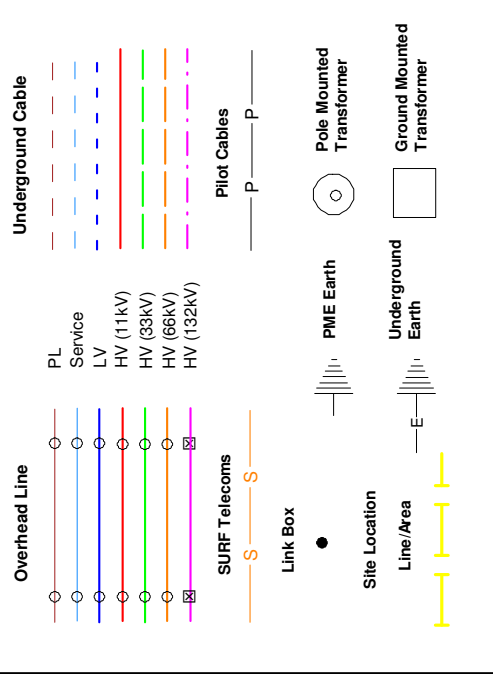
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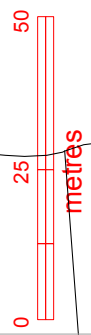
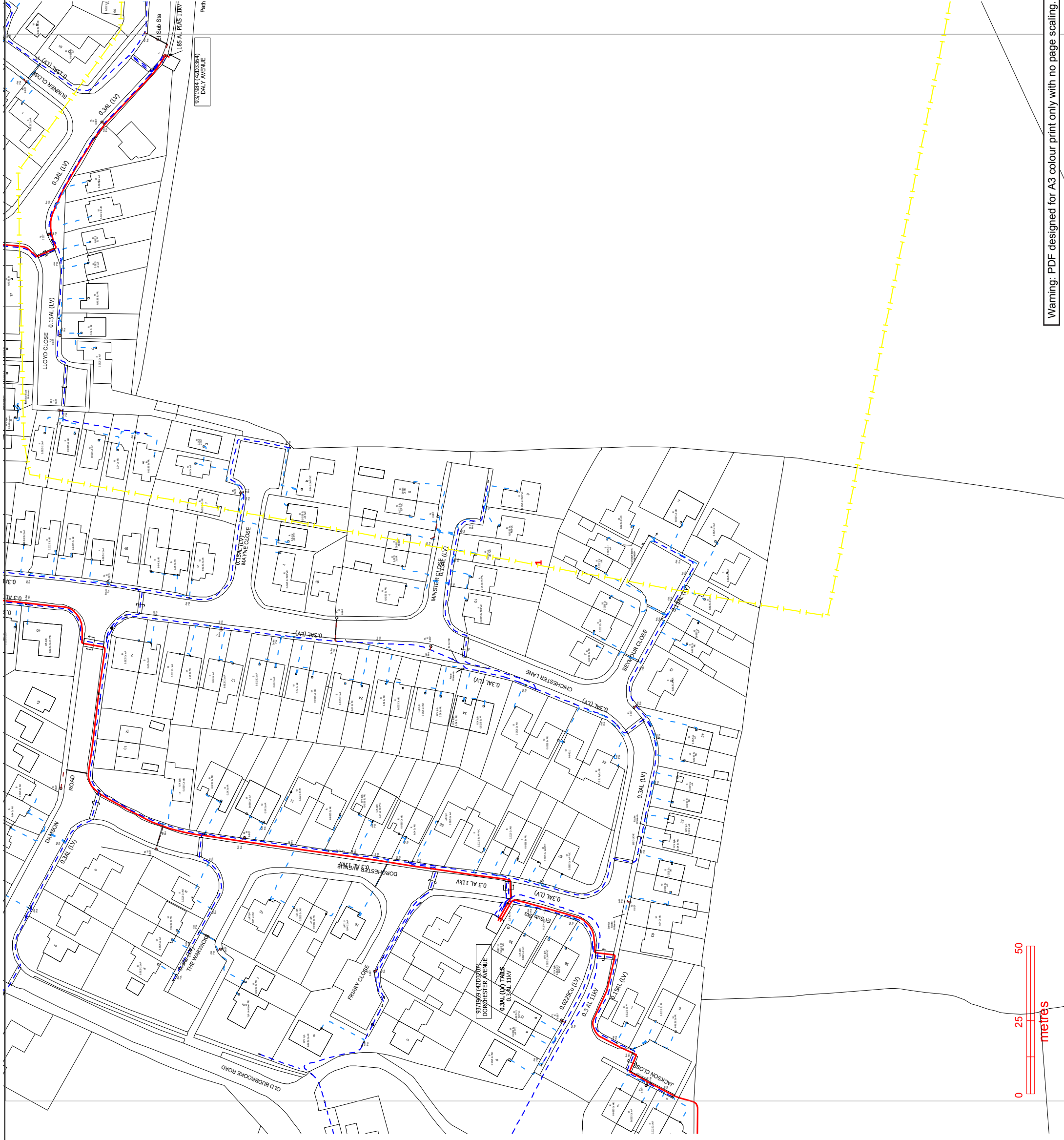
Date Requested: 12/08/2016
 Job Reference: 8924071
 Site Location: 425833 264653
 Requested by: Mr Jamie Royle
 Your Scheme/Reference: 22356
 Exact Scales:
 1:1250 Area or Circle dig site
 1:500 Line dig site

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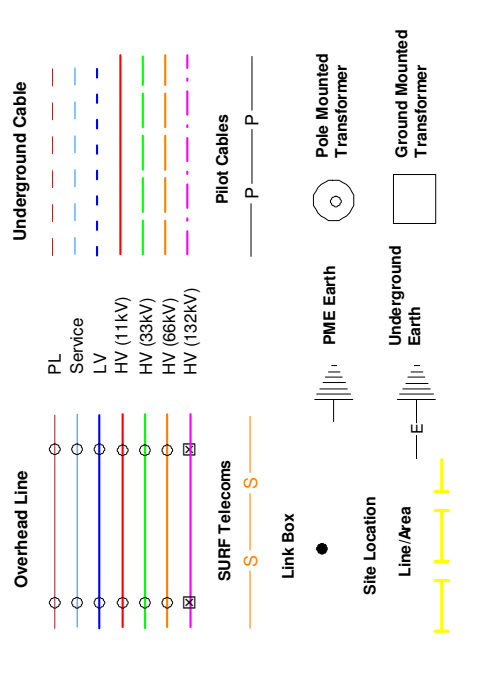
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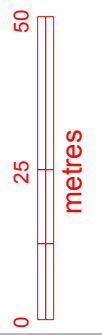
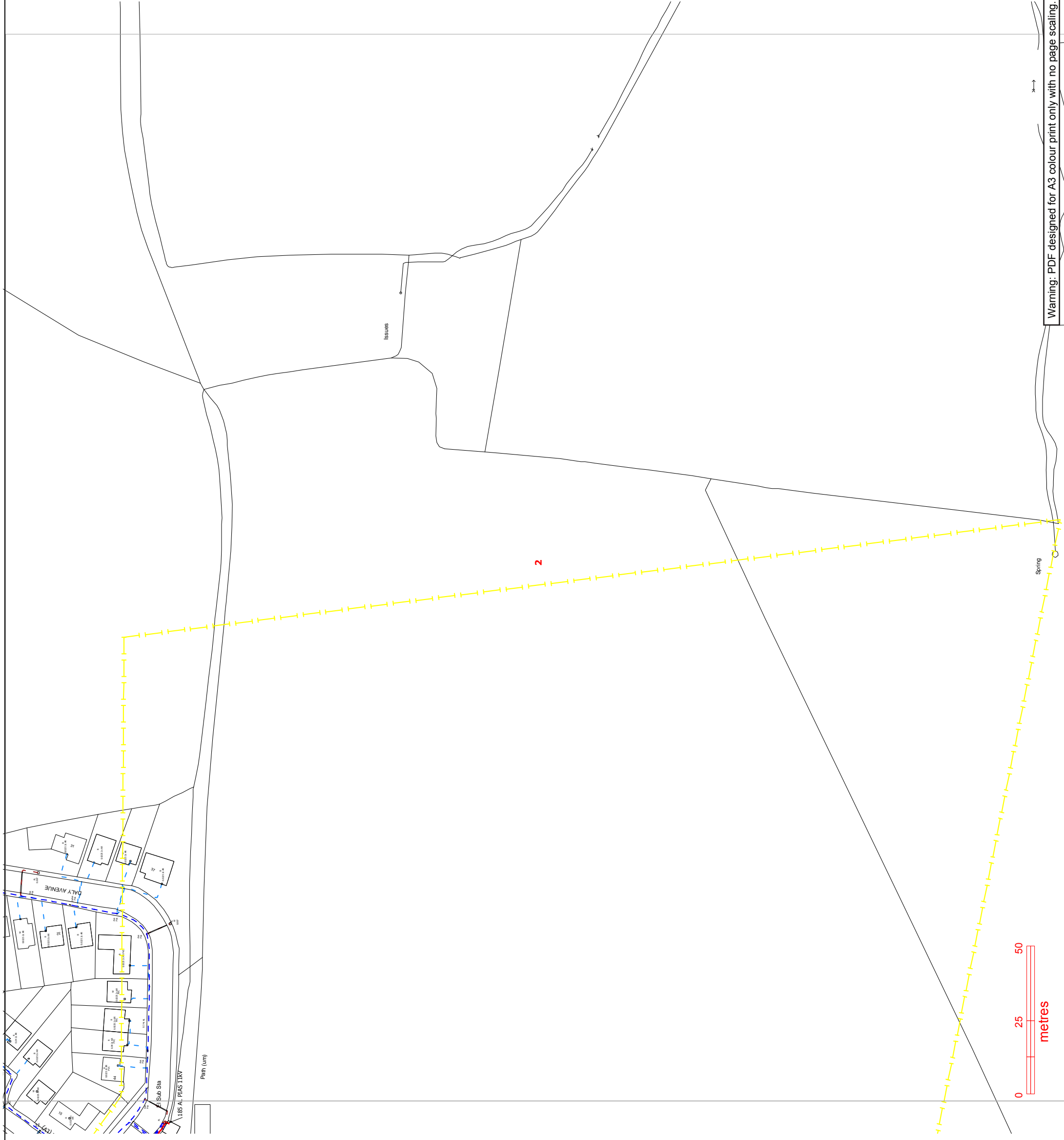
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Mr J Royle
M-EC
Wellington House
Leicester Road
Ibstock
LE67 6HP

Hammond Way
Hinckley
Leicestershire
LE10 3EQ

Tel: 01455 232222

Fax: 01455 232401

e-mail:

abrain@westernpower.co.uk

Date

23 August 2016

Our Ref:
2582004

For the attention of: Mr Royle

Dear Mr Royle,

Budget Estimate for electricity connection works by Western Power Distribution (East Midlands) plc ("WPD") at Plots 1-115 Daley Avenue, Hampton Magna ("the Connection Works").

Thank you for your enquiry. I am pleased to provide an indication of WPD's likely costs to carry out the Connection Works for you ("the Budget Estimate").

I also enclose:

- a drawing showing the expected point of connection to our distribution system (Number(s) 2582004 dated 23.8.16)

Basis of Information

WPD's proposals are based on the information provided, as summarised below:-

- Your enquiry dated 15.8.16
- Your plan Ref. No. 22356 dated 15.8.16
- WPD's completed Connection Enquiry Form dated 15.8.16

WPD's proposals are based on the following design criteria:-

- 115 gas heated domestic connections, each with an After Diversity Maximum Demand (ADMD) of 2kW

Proposed Connection Works

The Budget Estimate is based upon WPD undertaking both non-contestable and contestable Connection Works. You are able to seek competitive prices for some or all of the contestable elements. The enclosed guide provides further explanation on competition in new connections works. An outline of the proposed Connection Works is provided below;

Establish a new 4m x 4m substation position on site with full and unrestricted 24 hour access to WPD via HGV HIAB (Note, this should be sited a minimum of 5m away from any living spaces and 9m away from any earthed LV metalwork within the development. It should also provide full and unrestricted access to WPD via HGV HIAB)

The new substation will be looped into the existing network in Chichester Lane. Suitable low voltage mains and service cabling will then be installed to feed the 115 x gas heated domestic plots. Please note, as the layout of the development is to be confirmed cable lengths and associated jointing works are assumed (400m of LV mains and 1725m of service cable)

The scheme also includes a contribution toward upstream reinforcement of the network at Tournament Fields.

Off site civils by WPD.

On site civils by the customer to WPD specification.

A legal easement will be required as part of the proposed works.

As the site layout is unknown the extent of any anticipated diversionary works is also unknown. Based on the assumed access an additional £10,000.00 incl. VAT should be used for the relocation of the existing LV mains network at the site entrance to the appropriate depth.

Please note, it is advised that the outline offer is revisited once the layout is confirmed to ensure the budget price is in keeping with the proposed works.

Please note that these proposals are based upon a provisional investigation and no site visit or detailed study has been carried out. Unless otherwise stated it does not include costs for any reinforcement or diversionary work that may be required, or for any environmental, earthing, or stability studies which may also be necessary, although these are generally only required for larger capacity connections.

Estimated connection charge

The estimated connection charge for the provision of the Connection Works is £195,000.00 inclusive of VAT at 0%. Payment terms will be stipulated in any subsequent connection offer.

Please note that the estimated connection charge is for guidance purposes only and subject, in particular, to any wayleaves and other consents being successfully obtained. It is based on present day prices and includes a 10% contingency to allow for changes in labour and material costs. It does not include the costs of any necessary civil works, which should be provided by you at your expense.

Progression to Offer stage

This Budget Estimate is not legally binding, but sets out the amount we reasonably estimate we would require you to pay for the Connection Works under a formal connection offer (including the more detailed studies we would need to carry out). If you would like WPD to provide a formal offer for connection please forward your application to the address given below together with any supporting information that will allow us to carry out a detailed study.

Western Power Distribution
Records Team
6th Floor
Toll End Road
Tipton
DY4 0HH

E-mail: wpdnewsuppliesmids@westernpower.co.uk

Upon receipt of the application WPD will finalise the design of the Connection Works and firm up the connection charge. Once this has been done WPD will send you an offer, which will reflect any contestable work you wish to carry out and include payment terms and conditions for connection.

If you have any queries regarding this budget estimate please do not hesitate to contact me at the address or telephone number given at the top of this letter.

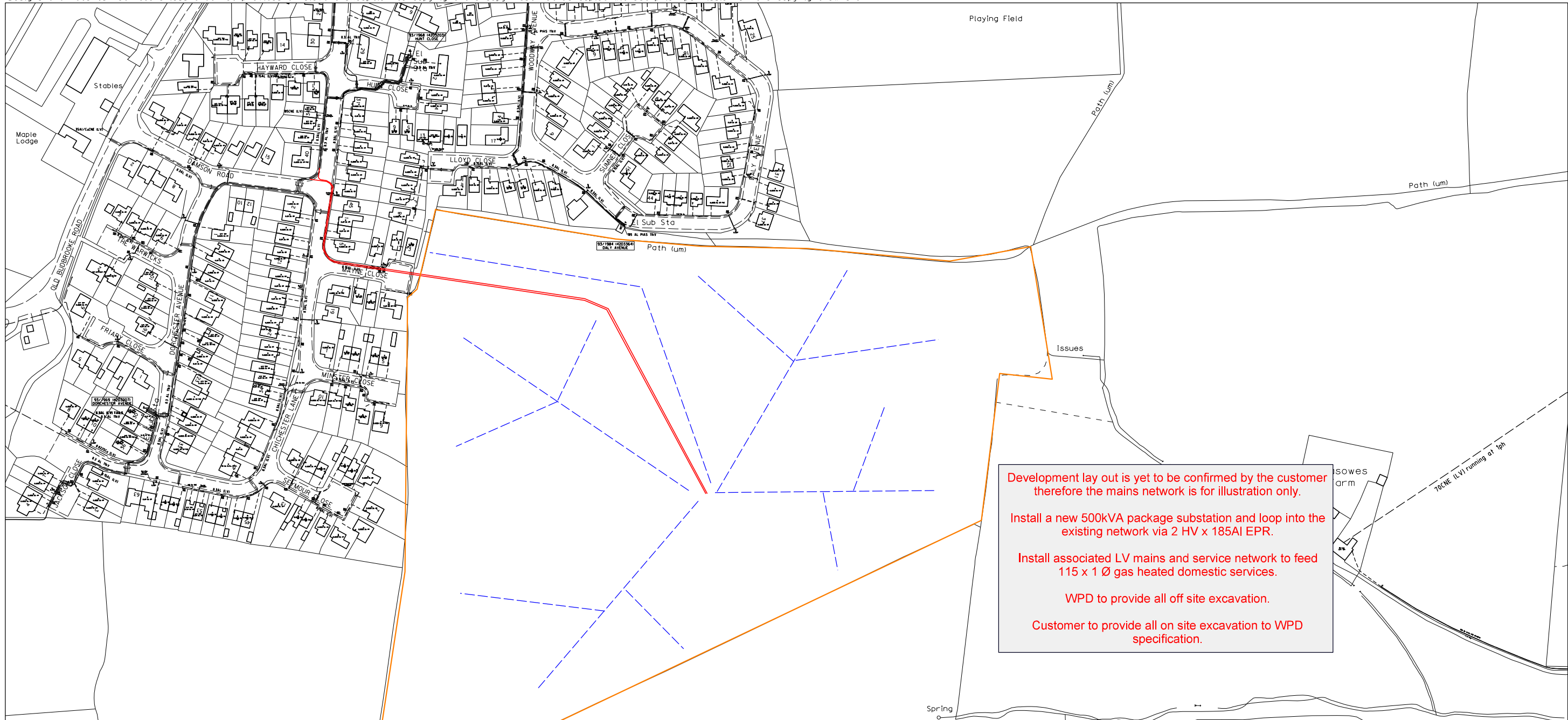
Please note that this letter and attachments are not to be treated as an offer from WPD to carry out the Connection Works.

Yours faithfully,

Adam Brain
Planner
Coventry City South
Hinckley

Information is given as a guide only and its accuracy cannot be guaranteed.

PLEASE NOTE: This plan ONLY shows assets owned by Western Power Distribution. Electricity assets owned by IDNO's (Independent Network Operators) MAY be present in this area.



Development lay out is yet to be confirmed by the customer therefore the mains network is for illustration only.

Install a new 500kVA package substation and loop into the existing network via 2 HV x 185Al EPR.

Install associated LV mains and service network to feed 115 x 1 Ø gas heated domestic services.

WPD to provide all off site excavation.

Customer to provide all on site excavation to WPD specification.

REV.	DATE	SCHEME PROGRESS BLOCK	DRN	CHK'D
.	23.8.16	.	.AB	.
.
.
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.
.

UNDERGROUND CABLES 132KV --- 33KV --- 11KV --- L.V. --- SERVICE --- STREET LTG. --- HV EARTH --- LV EARTH --- EARTH ELECTRODE ---	OVERHEAD LINES 132KV --- 33KV --- 11KV --- L.V. --- SERVICE --- STREET LTG. ---
SERVICES CABLE SIZES AS SHOWN	PYLON ☒ POLE ○ STAY —
DUCT & ALKATHENE TUBE ———	HOUSE METER POSITIONS - EXTERNAL ■ INTERNAL ●
SURF TELECOMS S — S	PILOT CABLES P — P
PROPOSALS ■ ALTERATIONS ■ DISMANTLED ■	
TRAFFIC SENSITIVE AREA YES/NO	
REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE SANCTION OF THE CONTROLLER OF H.M. STATIONERY OFFICE, CROWN COPYRIGHT RESERVED. LICENCE No.NA27318X	

WESTERN POWER DISTRIBUTION <i>Serving the Midlands, South West and Wales</i>	
TITLE •Plots 1-115 •Daley Avenue •Hampton Magna, CV35 8SQ	
DEVELOPER, BUILDER, ARCHITECT Drg. No.	@ A3
O.S. MAP, SCALE 1:2500	PARISH, 11KV DIAG, LV. DIAG.
PLAN No. 2582004	
Eng No. 2582004	1 of 1

X - 425446.086,264245.509

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route



CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

Reproduced from the Ordnance Survey map by BT by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office
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KEY TO BT SYMBOLS

Planned DP	DP	Planned Pole	Pole
Planned PCP	PCP	Joint Box	Joint Box
Built	Built	Change Of State	Change Of State
Planned	Planned	Split Coupling	Split Coupling
Inferred	Inferred	Duct Tee	Duct Tee
Building	Building	Planned Box	Planned Box
Kiosk	Kiosk	Manhole	Manhole
Hatchings	Hatchings	Planned Manhole	Planned Manhole
		Cabinet	Cabinet
		Planned Cabinet	Planned Cabinet

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation



BT Ref : DJC02 1582

Map Reference : (centre) SP25 86864657

Easting/Northing : (centre) 425 868,264

Issued : 12/08/2016 14:15:50

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Dear Jamie,

Your Newsite reference WK/236 - DALEY AVENUE, HAMPTON MAGNA

Thank you for registering your development with Openreach. We wanted to contact you about our recently launched a “connectivity assessment” service for developers, which provides details on the Broadband options for your development, and also provides you with a proposal for Fibre infrastructure for your development.

We have already run a connectivity assessment on your development, and wanted to offer to this pro- active assessment for you to consider. By way of background, this new process has been created to provide clarity on the fibre connectivity options for your development, and allows us to work with you to provide the available network technology that best suits your developments and customers. It will also enable you to better understand the predicted broadband speeds you can expect up front and will help you to make the right decision for your customers.

As part of the Connectivity Assessment process, we considered your site location, the number and type of planned premises (house or flat/apartment), and proximity to our network. This has enabled us to assess:

- our ability to offer Fibre infrastructure and the predicted speeds to your development;
- confirming the ‘Developer Contribution’ charge that may apply, and the amount to be paid; and
- a forecasted range of ADSL (traditional broadband) speed if we cannot provide fibre connectivity to your site, or if you do not wish to build fibre infrastructure.

The Connectivity Assessment process is available as part of our wider New Sites website which has been designed to support you and your customers through the lifetime of the development. It contains information from registering your sites through to the quality standards required by us and an easy route to contact us should you have any queries or issues. You can find us at www.newdevelopments-openreach.co.uk

CAT results for your development

We are very pleased to offer your development a Fibre Broadband infrastructure, based on Fibre to the Premise (FTTP) technology, in this case due to the size of this site no developer contribution is required. In the table below, we also have provided an estimate of the likely speeds your home owners may receive if they order fibre based services from their chosen communications provider. (Actual speeds available may vary and will depend on the infrastructure and any limitations which might be set by the relevant communications provider)

Technology	Total Developer Contribution	
FTTP	£0	
Estimated Fibre Broadband speed range (up to)	Low	High
	300MB	300MB

What next – how to accept our offer?

To accept our offer and progress to the next stage and agree a connectivity contract, please:

- If any of the details that you provided us with at the Registration stage are incorrect, please contact us immediately so that we can make any changes and provide, if necessary, an updated Connectivity Assessment report. Please note subsequent re-runs of the Connectivity Assessment tool, due to changes in developer details, or incorrect submissions will be chargeable at £195 + VAT;
- review the above Connectivity Assessment proposal and confirm that you are happy to proceed based on the information set out in this letter;
- review the contract which can be found at <http://www.newdevelopments-openreach.co.uk/developers-and-architects/ProcessAndPolicy.aspx> and, if agreed, return two copies of the signature page to us for countersignature;

Please send the above by email to us at newsitereceptiongeneral@openreach.co.uk . We will confirm receipt of your email and notify you of the assigned New Sites Representative (NSR) who will be your primary point of contact for the duration of the build.

Terms & Validity of Offer

This offer is valid until either 2 months from the date of this offer or (if earlier) the last working day 9 months prior to First Occupancy Date (FOD).

The pricing we have offered is based on the Developer Contribution rate-card which is available on our website.

Existing Exchange (ADSL) based Broadband speed

Finally, if you decide not to go ahead with fibre connectivity to your new development, the current estimated ADSL broadband speed range based on the distance from the applicable telephone exchange is:

Estimated ADSL Broadband speed range	Low	High
	4 Mbps	8 Mbps

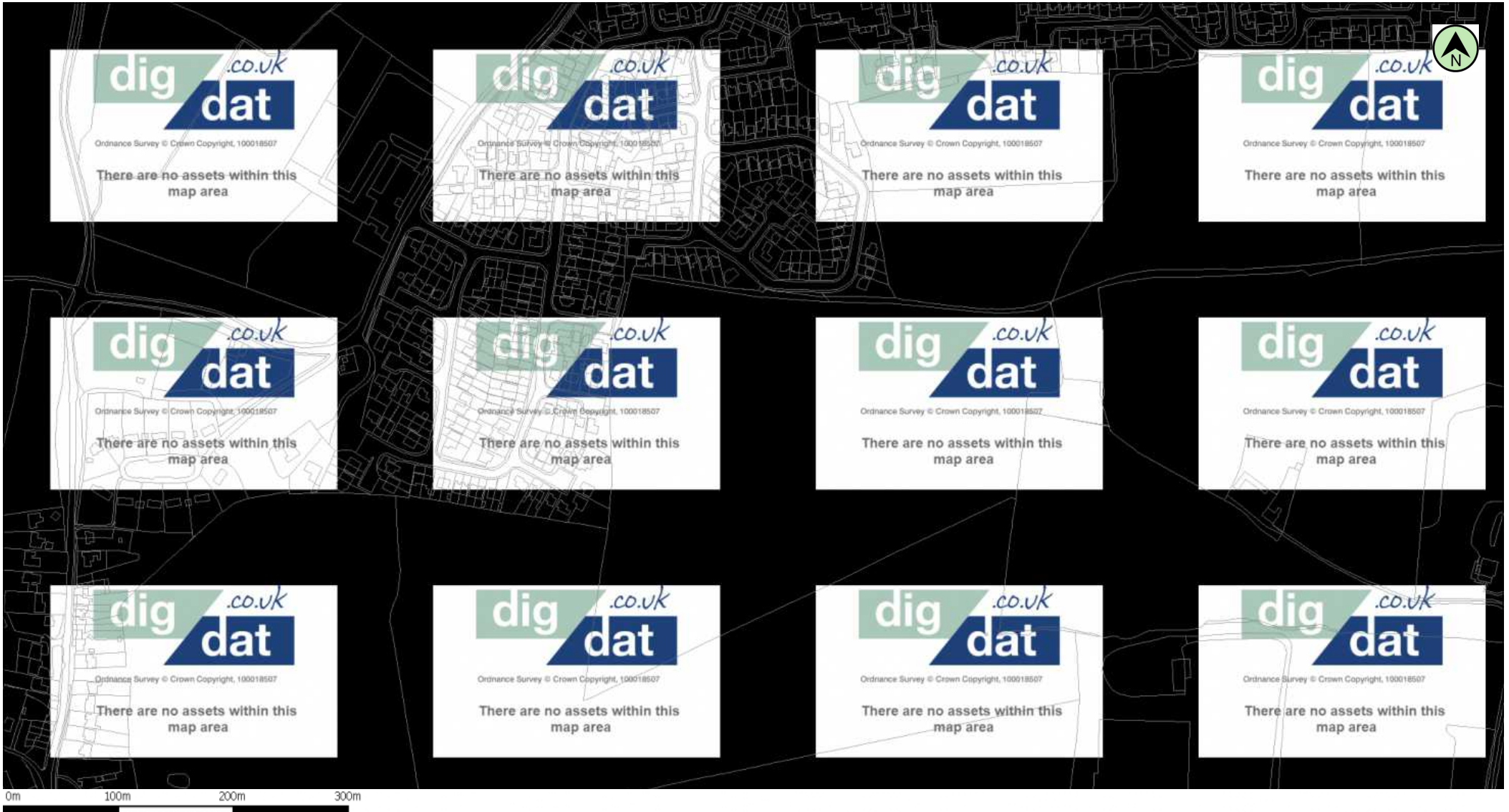
Additionally, we have a comprehensive set of information on our website to help you understand Fibre infrastructure, the technology we use, and the benefits for you and your customers, along with detailed FAQ's, the Developers handbooks (one each for copper and fibre infrastructure), and much more, please go to:

www.newdevelopments-openreach.co.uk

We look forward to hearing from you soon about this offer as this will enable us to progress your work at your development as quickly as possible.

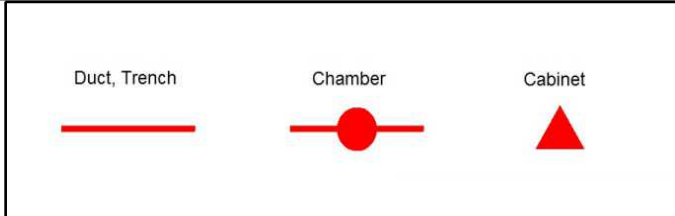
Yours sincerely,

New Sites Reception Team



(c) Crown copyright and database rights 2016 Ordnance Survey 100019209 Date: 16/08/16 Scale: 1:4715 Map Centre: 425817,264674 Data updated: 03/07/16 Telecoms Plan A4

Important Information - please read The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2016 Ordnance Survey 100019209.



sultan.mohammed@virginmedia.co.uk
 VM.155220



Our Ref:EM/34093506/LN

Energy House
Woolpit Business Park
Woolpit, Bury St Edmunds
Suffolk IP30 9UP

T 01359 240363
F 01359 243377

E info@gtc-uk.co.uk
www.gtc-uk.co.uk

Mr Jamie Royle
M-EC
Wellington House Leicester Road
IBSTOCK
Leicestershire
LE67 6HP

23 August 2016

Dear Mr Royle

DOMESTIC BUDGET COSTING – GAS & ELECTRICITY

Project: Daley Avenue, HAMPTON MAGNA, CV35 8SQ with 115 domestic gas and 115 domestic electric connections

Further to your recent enquiry requesting a budget costing for the provision of gas and electricity infrastructure to the domestic properties at the above development, the costing is as follows:

On-site works – You pay GTC	£ 46,545.09
-----------------------------	--------------------

This quotation is based on Smart Meters being installed to all domestic plots on this site.

In addition to this price we have itemised any exceptional and off-site costs that are required, including those by the Upstream Network Operators (NWO), to complete the work to supply your site.

We would like to draw your attention to the charges below; it is essential that these charges are included in all cost comparisons for this development.

Off-site works (GTC) - Gas:	£ 5,635.62
Off-site works (GTC) - Electricity:	£ 5,950.26
Network Operator Cost - Gas:	£ 100.00
Network Operator Cost - Electricity:	£ 3,000.00
Steelwork (Internal) - Gas:	£ 0.00
TOTAL OFFSITE - You pay GTC	£ 14,685.88

Additional Points of Note

- ◆ The Budget Costing is formulated on the basis of a total of **115** domestic plots.
- ◆ Our costing includes the installation of domestic gas meters only.
- ◆ We anticipate a lead in period of a minimum of **6** weeks from acceptance of our subsequent firm quotation for supply and distribution before work can commence onsite.
- ◆ The network will be designed and installed by us.
- ◆ We will supply all materials for the gas and electricity infrastructure.

- ♦ The anticipated lead time to energise the electricity network is a minimum of **14** weeks from acceptance of a firm quotation.

Terms of Offer

The developer is responsible for all excavations, the supply and installation of meter boxes, duct laying and backfill work onsite unless otherwise requested at the quotation stage.

The developer will carry out all civil works associated with installing substations on an electric high voltage (HV) network.

This quotation includes indicative electric point of connection (PoC) and offsite costs. Costs associated with the PoC are therefore subject to change. Please note: PoC and off-site costs will be provided when the upstream DNO has provided these details in full. However, PoC and non contestable charges will be the same regardless of who is to own the network.

We have assumed all properties are having gas heating.

We have assumed a Low Voltage connection due to the size of the site.

For location of upstream Gas Transporter apparatus, call: **01455 892257**

All mains and services on this costing are based on pre excavated trench by the developer apart from the connection to the existing main.

This costing is based on smart meters in cavity meter boxes.

This costing excludes any reinforcement costs that may be necessary from connecting to the upstream gas transporters network.

The total budget price for your development is Onsite - You pay GTC £46,545.09, Off site - You pay GTC £14,685.88, **Total = You pay GTC £61,230.97** .

Should you be successful in obtaining and developing this site, we will be pleased to supply a firm quotation. Please return a detailed site plan and a completed Quotation Request Form.

Confidentiality

This quotation and associated documentation is confidential between GTC, **M-EC** and their associated parties for this project. It contains commercially sensitive information and should not be divulged to any other party without written permission from GTC.

We trust that this budget costing will be acceptable and look forward to receiving your instructions. However if there are any points you wish to discuss please contact either myself or my sales support team on (01359) 243301. We enclose a copy of our Quotation Request Form for any future developments you may require quotations for.

Should you require any further details please do not hesitate to contact me.

Yours sincerely



Paul Summers
Regional Sales Manager - East Midlands

Enc: