



## M&E CONSULTANCY SERVICES FOR JMP CONSULTANTS LTD LAND AT WEST HEMEL HEMPSTEAD (LA3)







## PLANNING STAGE UTILITIES STATEMENT

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# DOCUMENT CONTROL

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Issue	Description	Date	Prepared By	Signed Off
1	First Issue	07/06/2012	CF	JDK
1.1	Revised following client comments. Water budget costs correspondence added to appendix H.	13/06/2012	CF	JDK





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## 1.0 EXECUTIVE SUMMARY

An area adjoining existing development at West Hemel Hempstead has been identified by Dacorum Borough Council as a local allocation in their Core Strategy to provide 900 new homes, shop, doctors surgery and additional social and community provision, including a new primarly school (LA3).

The proposals have not yet progressed beyond this proposed local allocation.

Elementa Consulting have assessed future loads for the development based on similar sized developments of this nature. In addition, Elementa Consulting have reviewed the available record documentation for infrastructure services on or adjacent to the site.

Correspondence with the gas, electrical and water infrastructure providers responsible for the site indicates that they are capable of supporting the proposed development from the local infrastructure network, based on the estimated loads developed by Elementa Consulting. The electricity network would require installation of a new 11kV transformer and associated works at Warners End Primary Substation. Veolia water require 740m of reinforcement to be laid to ensure existing customers are not adversely impacted by the development.

From our review of available services there appears to be a localized high pressure gas main (LHP) crossing the centre of the site. Record drawings from UK Power Networks show the site is clean except for a One2One mast on the site in the Pouchen End area (see Appendix D, map 4.) Veolia water have confirmed that there are no mains on the site. BT were also approached to determine if there were any telecoms infrastructure on the site. This has shown that there is underground plant crossing the site, joining the One2One mast with the adjacent housing estate (see appendix K, map 5,) and overhead plant along the west perimeter of the site. A small amount of underground plant is also located on the west perimeter of the site.





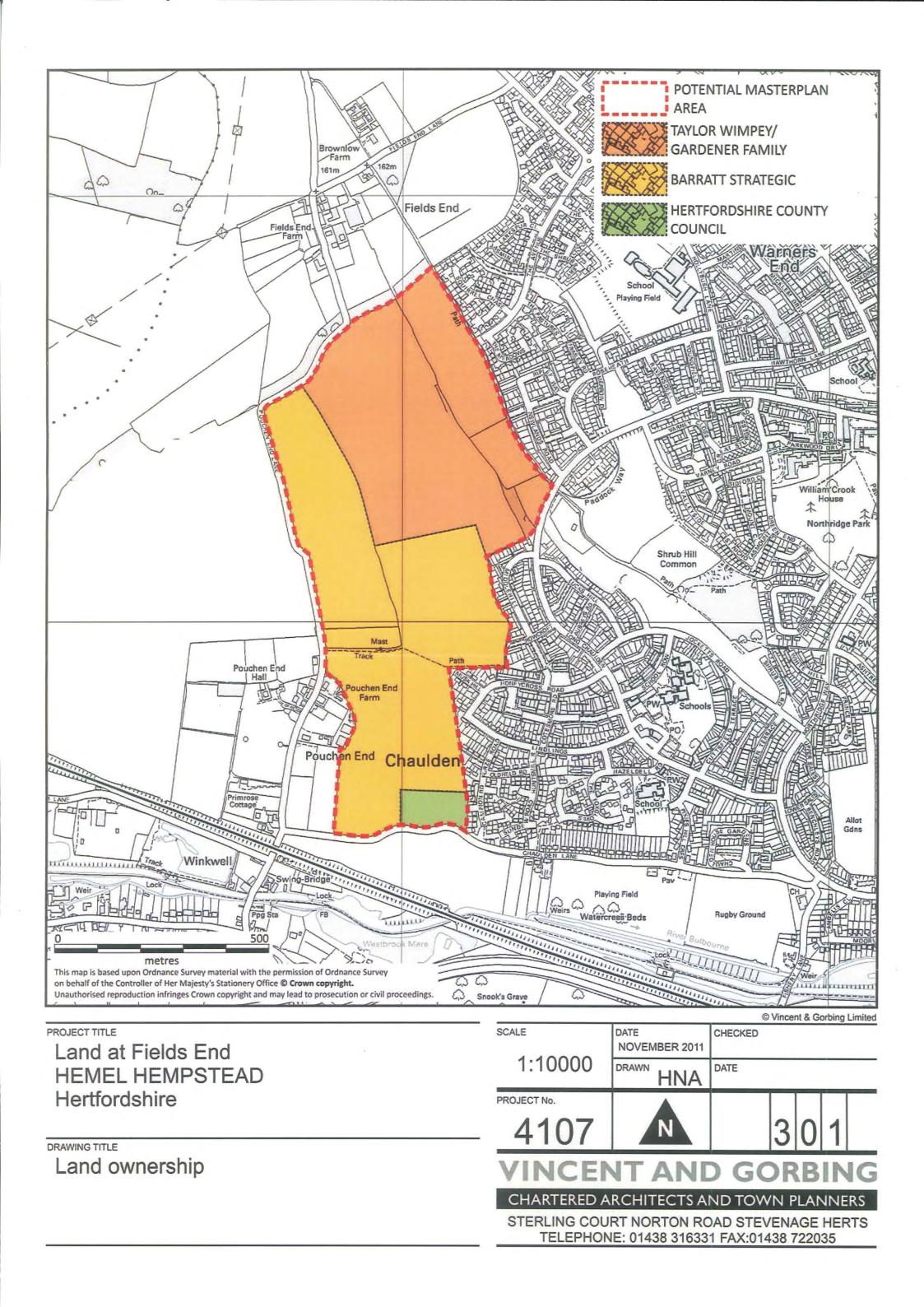
## 2.0 INTRODUCTION

Elementa Consulting have been commissioned to investigate the status of any existing infrastructure services (gas, water and electricity) on the land to the west of Hemel Hempstead. In addition Elementa Consulting have estimated gas, water and electricity loads for the future development of the land in accordance with the principles in the core strategy (refer to Appendix B). These loads have been assessed, based on information available in the Elementa information sheet completed by JMP (refer to Appendix A), and data for similar sized developments of this nature. A map showing the main ownerships within the potential area of the local allocation is included on the next page of this report.

The estimated loads have been given to the following infrastructure providers all of whom are responsible for services in the area of the proposed development;

UK Power Networks	-	Electricity
National Grid	-	Gas
Veolia	-	Water
BT	-	Telecoms (record plans only)

The infrastructure providers have each been asked to confirm that the proposed development can be supported, to provide a budget estimate and to confirm whether they have any equipment within the planned development area (refer to Appendices for correspondence with infrastructure providers). In addition to this, an online search using Linesearch.org was undertaken.





## 3.0 STATEMENT

#### GAS:

National Grid have confirmed that the development can at this time be supported from the existing local infrastructure without any major reinforcement.

National Grid have indicated a connection point to their infrastructure at The Avenue, within 16m of the site where they have an existing 180mm diameter low pressure main.

National Grid are not able to provide a cost estimate for the gas infrastructure services to the site based on the information available, however, Fulcrum have provided a quote of £450,000 for the works.

From record information made available to Elementa Consulting it appears that the land at West Hemel Hempstead (LA3) has a Localized High Pressure (LHP) gas main crossing the site. This is shown in Appendix F.

#### ELECTRICITY:

UK Power Networks have indicated a connection point to their infrastructure at their Warners End Primary substation, Stoneycroft, Hemel Hempstead. This is subject to an additional 11kV transformer and associated works being undertaken at the substation. This will also involve substantial off site works to run cables from the sub-station to the land at West Hemel Hempstead.

UK Power Networks have indicated a budget cost of £1.2m+VAT to provide electrical infrastructure reinforcement to the site for the non-contestable works. This does not include cost for the 11kV substation, infrastructure and the LV distribution on the site. In the absence of a detailed site layout or breakdown of dwelling types, a budget estimate for the cost of these works is in the order of £750,000.

Record drawings from UK Power Networks show the site is clean except for a One2One mast on the site in the Pouchen End area (see Appendix D, map 4.)

#### WATER:

Veolia water have confirmed that the development could be supported subject to 740m of reinforcement.

Veolia water estimate a budget cost of approximately £650,000 broken down as follows:

Item	Excavation	Approx. Unit Cost	Approx. Scope	Budget Price	Estimated Contribution
Onsite (development) water mains	Not included	£130/m	1500m	£195,000 (Developer contribution (30%) approx £60,000)	30%
Onsite (development) service connections	Not included	£400 ea	900no.	£360,000	100%
Onsite large diameter (>63mm) services	Not included	£3,000 ea	3no.	£9,000	100%
Off Site (in public Highway) (>63mm) services	Included	£4000	0no.	£0	100%
Offsite water mains laying (e.g. reinforcement)	Included	£270/m	740m	£199,800	100%
Offsite (in public highway) Service connections	Not included	£2000 ea	0no.	03	100%

Veolia water estimate a budget cost of approximately  $\pounds 650,000 + \text{connection charges at approximately } \pounds 400 \text{ per dwelling and } \pounds 3,000-4,000 \text{ per large connection (school, blocks of flats etc).}$ 

#### LINESEARCH:

This showed that there were no known utilities in the development area from a list of specified utilities providers.

#### BT:

BT do not provide budget estimates.

A search of BT's record drawings has shown that there is underground plant crossing the site, joining the One2One mast with the adjacent housing estate (see appendix K, map 5.) Overhead plant runs along the west perimeter of the site. A small amount of underground plant is also located on the west perimeter of the site.





## **APPENDICES**

- A ELEMENTA INFORMATION SHEET
- B ESTIMATED LOADS

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# APPENDIX A ELEMENTA INFORMATION SHEET



Please complete the following as accurately as possible and provide the requested information to ensure that works can be carried out as efficiently as possible:

Project Details				
Developer name	Taylor Wimpey/Barratt Homes/Hertfordshire County			
	Council			
Developer address	Taylor Wimpey			
	Stratfield House			
	Station Road			
	Hook			
	Hampshire			
	RG27 9PQ			
	Dewett Llemes			
	Barratt Homes Barratt House			
	Wellstones			
	Wallstones			
	Hertfordshire			
	WD17 2AF			
	Hertfordshire County Council			
	County Hall			
	Pegs Lane			
	Hertford			
	SG13 8DQ			
Main contact	Nigel Agg (Taylor Wimpey); Michael George (Barratt			
	Homes); Matthew Wood (Hertfordshire County			
	Council) (Please direct all communications with the			
	developers through JMP)			
Development name	Land West of Hemel Hempstead.			
Development address	ong Chaulden/Chaulden Lane, Hemel Hempstead			
Project description	Preparation of information to support the promotion of			
	the proposed development site within the Core			
	Strategy.			

Question		Notes
Total number of dwellings?	900	Insert the total number of plots (or estimate if
		not finalised)
CSH Level required	Not known	
How many dwellings to meet CSH?	Not known	Estimate if not finalised
Dwelling types?	Not known	Schedule of Houses/Apartments
What stage is the development at?	Pre-planning	Pre-planning, Outline Planning, Planning
		granted, works started?

Question		Notes	
		Insert total area of non-residential space.	
Non-residential type 1		Insert type and area	
Non-residential type 2		Insert type and area	
Non-residential type 3		Insert type and area	
Sustainability targets	Not known	e.g. BREEAM level	

Question	Answer
Is renewable feasibility required?	No
Is there an on-site renewable energy	No
target from planning?	



Is the target for CO <sub>2</sub> or energy?	No
Are there additional requirements placed	No
upon the development?	

Please note that work will not commence until this form has been completed and returned to Elementa. Overleaf is a list of required documentation/evidence/data that is required to commence the agreed work.

#### **Requested documentation:**

Requested information/data	Provided?	Notes
Planning consent document	No	If planning has been granted
Site masterplan	Site boundary provided. Masterplan currently being prepared.	
Schedule of accommodation*	No – currently being prepared.	Proposed/estimated if not yet finalised
Schedule of non-residential buildings*	Descriptions only at this stage. Further details to follow.	Proposed/estimated if not yet finalised
Full set of drawings**	Not available yet.	Or as much as have been prepared

\*including type, floor area, position, orientation

\*\*including floor plan, cross section, roof plans, preferred in .dwg format





# APPENDIX B ESTIMATED LOADS

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#### Long Chauldon, Hemel Hempstead Gas, Water & Electricity Estimate Load Schedule

	Gas KWh/Annum	Electricity KWh/Annum	Water I/Annum	
Domestic	6,289,200	4,014,000	164,250,000	
Commercial	Commercial 341,720		16,629,400	
Primary School	148,500	121,500	3,000,000	
Total	6.779.420	6.356.500	183.879.400	

**Note:** 1. The above loads are estimated values based on on the limited, outline information currently available.

2. Loads are subject to change following design development

3. Gas loads are based on individual gas boilers in dwellings and gas fired boiler plant in the primary school.

4. Contributions from renewable energy sources have not been assessed at this stage.

5. Loads are estimated for the purposes of determining if there is capacity in the local utility networks and should not be used for other purposes





# APPENDIX C UKPN CORRESPONDENCE

#### **Cheryl Forrester**

From:Cheryl ForresterSent:30 March 2012 18:06To:'connections.projectsgateway@ukpowernetworks.co.uk'Subject:major housing development connectionAttachments:application\_for\_an\_electricity\_connection\_completed signed.pdf; HP1 2SE site.pdf

Please find attached an application for a budget estimate for connection of a new site.

The site will have approximately 900 dwellings, a school and some commercial. It is currently a green field site.

Please confirm whether there is capacity in the local area, a budget estimate and whether you have any plant on the site that the developers need to know about and any associated easements

Should you have any queries please contact me on the details below.

Regards, Cheryl Forrester



Unit 1, Library Avenue, Harwell Oxford, Didcot, OX11 0SG dd 01235 441974 | t 01235 820300 | f 01235 441970 www.elementaconsulting.com Supporting Teenage Cancer Trust – Helping young people fight cancer

#### Celebrating 25 years of Building and Environmental Engineering Excellence

Registered in England and Wales. Registered Company Number: 2113730. 1 George Street, Snowhill, Wolverhampton, WV2 4DG This email is subject to Elementa's legal notice. To read, click the link.

# APPLICATION FOR AN ELECTRICITY CONNECTION (PROJECTS)

Completing this form accurately will help us deal with your application as quickly as possible. Please complete all sections.

# Online Downkast or complete the form at www.ukpowernetworks.co.u (navigate to Connection Services) Errail it to connections, projectsgateway@ukcowernetworks.co.us By post Projects Gateway, UK Power Networks, Metropolitan House, Darkes Lane, Porters Bar, Hertfordshire EN6 1AC Fax: 0845 650 0248

You can complete this for

**Safety note:** before you allow anyone to start digging or building near to any overhead or underground electricity cables, please get a copy of our cable records for your site from our plan provision team on **0800 056 5866**. Sometimes there's a charge for this service.

#### Please complete this application form for:

- Any development requiring more than four connections
- Any development with a power requirement of more than 70kVA
- Any commercial development requiring more than one single or three phase connection
- The diversion of existing electricity assets, e.g. cables, substations, overhead lines
- Alterations to an existing electricity connection of more than 70kVA.

For enquiries that involve the connection of generation please visit **www.ukpowernetworks.co.uk** (navigate to Connection Services) to see our application process.

#### This isn't the correct application form if you require:

- Alterations to your existing electricity connection including bracket moves and earthing up to 70kVA
- Up to four new domestic electricity connections
- Single commercial supplies including temporary builders supplies up to 70kVA
- Upgrades up to 70kVA.

If any of these apply to your application, please call **0845 234 0040** (select option 3) and ask for a small services application form, or visit **www.ukpowernetworks.co.uk** (navigate to Connection Services).

# Any questions? Call 08701 964 599

Monday to Friday 8.30am to 5pm



## Section A: Your details

A1.	Details of the person making this application and to whom we will issue a budget estimate or quotation (we will consider you to be the Applicant). The Applicant will also receive any payments due under our guaranteed standards of performance during the 'estimate and quotation' stage of your application. The Applicant must also sign and complete Section I.     Title:   Miss   Name: Cheryl Forrester     Address:   Unit 1, Library Avenue, Harwell Oxford, Didcot, Oxfordshire							
		Postcode	e: OX11 0SC	3				
	Telephone: 01235 820300	Mobile: _						
	Email: cheryl.forrester@elementaconsulting.com							
A2.	Site address (where the work is taking place) Address: Long Chauldon/Chauldon Lane, Hemel Hempstead							
		Postcod	e: HP1 2SE	(approx, green fi	eld site)			
A3.	How would you prefer to be contacted by us during the application p	rocess?	🖌 Email	P	hone 📃 Letter			
A4.	Your authorised representative's details (to allow someone to act on y this person's instructions as if they are your own	our behalf	during this	application). If yo	ou complete this, we will deal with			
	Contact name:							
	Relationship to you (e.g. developer, consultant):							
	Address:							
		Postcode	9:					
	Telephone: Mobile:							
	Email:							
Sec	ction B: Quotation requirements							
B1.	Did you know you can seek competitive quotations from an Independ getting an electricity connection? Please indicate if you:	dent Conn	ection Provi	der for many eler	ments of the work involved in			
	Want UK Power Networks to complete all of the work							
	Are intending to use or are acting as an Independent Connection Provider (ICP).							
	Are intending to use or are acting as an Independent Distribution Networks Operator (IDNO).							
	More information can be found in our helpsheet 'Did you know you have a choice?' found at www	v.ukpowernetv	vorks.co.uk					
	Independent Connections Provider (ICP) is an accredited company that is entitled to build electricity networks to the specification and quality required for them to be owned by UK Power Networks		Independent Distribution Network Operator (IDNO) an IDNO has a wider scope than an ICP; after building the local network, it will continue to own the local network and provide maintenance and 24 hour fault repairs.					
B2.	Please tick which you require (tick only one box):							
	Budget estimate This is based on a desktop assessment only without any site specific conditions being taken into account, it may vary considerably from a formal connection offer. It is not capable of acceptance and does not secure any network capacity.		acceptance an uesting a quota	d is normally valid for ! ition you are confirmin	ig an assessment of your requirements. It is 90 days from the date issued. Please note 19 that you are in a position to accept our se then please request a budget estimate.			
B3.	Please confirm that you would like your Budget Estimate or Quotatic (we will use the details provided in A1)	n issued b	by:	🗸 Email	Letter			
B4.	Have you had a budget estimate or quotation from us before for this If yes, please state your previous UK Power Networks reference number (this will be a			<b>I</b> Yes (14) (14) (14) (14) (14) (14) (14) (14)	No			
	400937280 (This was for a smaller site. The site is now considerably				nate)			

#### 03

## Section C: Your requirements

C1.	What is your required date for the connection(s) to be provided? (	we call this the 'power on	date) TBA				
C2.	. Does your project require notification under the Construction (Design and Management) (CDM) Regulations 2007?						
	Yes No						
	For guidance on CDM please go to www.hse.gov.uk	For guidance on CDM please go to www.hse.gov.uk					
	If yes, please provide contact details below for your CDM Coordin	ator and Principal Contrac	ptor:				
	CDM Coordinator						
	Name; None appointed yet	Company name:					
	Address:						
		Postcode:					
	Telephone:	Mobile:					
	Email:						
	Principal Contractor						
	Name:	Company name:					
	Address;						
			· · · · · · · · · · · · · · · · · · ·				
		Postcode:					
	Telephone:	Mobile:					
	Email:						
~ -							
C3.	Please tick which service(s) you require:		Office use only (project ref no):				
	New connection						
	Total number of connections required;						
	Upgrade of an existing connection						
	Existing service capacity:	kva/ kw					
	Existing 13-digit Meter Point Administration Number MPAN): (this can be found on your electricity bill and will start with 19, 10 or 12)						
	Please complete C4.						
	Temporary connection						
	Capacity required for the temporary connection	kva					
	Please complete C4.						
	Diversion work (this is an alteration or diversion of electricity cables, ove Please complete section F.	rhead lines or substations)					
C4.	Will any of these connections power any motors or welders?	[	Yes 🖌 No				

If yes, please note that you will need to provide further details in Section E

## Section D: Site and load details

Depending on your project, there may be a requirement to install a substation on your site. Our design team will discuss this with you in more detail but it would be helpful at this stage if you could indicate a preferred location on a plan (explained in section H).

D1.	Please complete	the section(s)	which best	match your	project:

Domestic				
Please complete this table:				
Type of property (e.g. house or flat)	No. of bedrooms	No. of properties	Load required per property	
Residential (no details)	Please select	900	5	kVA
	Please select			kVA
	Please select			kVA
	Please select			kVA
	Please select			kVA
b. How will the property be heated? Gas Electric Other If electric, please provide the space or water heating demand per property				
Are landlord connections required?		Yes	No please com	plete D2
How many landlord's are required?		If you require more than one lan	dlord supply please supply full details in	section G
Capacity required for the landlord's co	onnection:			kVA
The landlord's connection is:		sing	gle phase three phase	
ease complete D2.				

#### ii. Commercial/Industrial

a. Please complete this table:

Type of property (e.g. office, industrial, warehouse unit)	No. of metering points	Load required per metering point
School		200 kVA
Commercial (approx 12000m2)	unknown number of unit	800 total kVA
		kVA
		kVA
		kVA
b. Maximum power required (after diver Please complete D2.	rsity):	kVA/ kW
······································		

D2. Will any new street lights be required? Ves

No

If known, how many? Unknown

(if yes please mark the proposed location on the plan that you send to us, in section H)

## Section E: Motors/welders or other disturbing loads

E1. Some types of load can disturb our electricity network. Please provide details of any air conditioning, fuel or heat pumps, lifts, motors, refrigeration, welders or other industrial machinery. If the electrical characteristics are unknown please refer to the manufacturer or the equipment installer.

Type of appliance (e.g. motor, welder, heat pump, wind turbine)	Rating of appliance	How often will the appliance be started in one hour?	Single or three phase?	Starting method (Star Delta, Direct On Line, Soft start)	Starting current
	kW		Please select	Please select	amps
	kW		Please select	Please select	amps
	kW		Please select	Please select	amps
	kW		Please select	Please select	amps

Please use the following conversions as a guide: 4 amps = 1 kilowatt or 1 kilowatt = 1.1kVA

### Section F: Diversion works

F1. If applying for diversion work please provide a full description of the work that you propose to carry out.

• Please detail whether you require the diversion of electricity cables, overhead lines or substations.

• Please send us detailed plans of your works to allow us to identify the impact on our electricity assets.

## Section G: Additional information

Please provide any additional information that you think will help us process your application. For example, any details of land ownership, planning constraints, site hazards or areas of contamination.

See electronic site location plan (no detailed site plans available at this time)

## Section H: Checklist of what to send us

Before you submit your application, please ensure that you have enclosed the following information which will allow us to process your application as quickly as possible:

1. Plan showing the site location (an example is shown on page 7)

2. Plan showing the site layout (an example is shown on page 7)

## Section I: Signature of the Applicant

The applicant must sign this section (the person named in A1).

Signature of applicant:

Date: 30/03/2012

Print name: Miss C Forrester

Acting on behalf of company name (from section A1): Elementa Consulting



Registered Office: Newington House 237 Southwark Bridge Road London SE1 6NP

Registered in England and Wales No: 3870728

Company: UK Power Networks (Operations) Limited

Our Ref: 3661/401098661/138528/DDL Your Ref: CF

Miss Cheryl Forrester Elementa Consulting Unit 1 Library Avenue Harwell Oxford Didcot Oxfordshire OX11 0SG elementa 1 2 APR 2012 JDK G 2M SR J RM S RJW I MH FILE REF

**Dear Miss Forrester** 

11 April 2012

#### Project – Proposed Development – Long Chauldon / Chauldon Lane, Hemel Hempstead

I refer to your recent enquiry for a 5.5MVA connection at the above project.

To provide a capacity of 5.5MVA at the above site it will be necessary to;

- 1. Install a second 33/11kV transformer at Warners End Primary Substation
- 2. Fit new radiators on the existing 33/11kV transformer at Warners End Primary
- 3. Extend the 11kV switchboard at Warners End Primary by two circuit breakers

All the above will be non-contestable at full cost as this is a speculative development.

On the basis of the above and our understanding of your requirements my budget estimate to carry out the above work is £1,200,000 plus VAT at the appropriate rate.

Please note that the budget estimate provided is based on a number of assumptions and has been created from a quick desk top assessment only. This is provided free of charge and is intended as a guide only. It does not constitute formal quotation and neither does it reserve any capacity on UK Power's network. You should also note that the accuracy of the budget estimate is limited as described below and may vary considerably from UK Powers Network's formal connection offer.

Please see enclosed a drawing showing the position of Warners End Primary and notes on assumptions made on the compilation of the above figure.

If you require any further information then please do not hesitate to contact me.

Yours sincerely

SOONGI

Derek Levy Project Manager, Major Connections Tel: 08701 962384 Mob: +44 (0)7875 114831 Email: Derek.Levy@ukpowernetworks.co.uk

UK Power Networks, Connections, Metropolitan House, Darkes Lane, Potters Bar EN6 1AG

The estimates are based on the following assumptions:

- We have estimated the likely cost of the work on the basis of our current policy and the network conditions that exist at the date of this letter
- The budget cost does not include the site's 11kV infrastructure, including the 11kV cables from the primary substation, or LV network
- That all necessary easements, wayleaves and statutory consents can be obtained on usual terms and without undue delay
- That no other new load or generation connection is accepted on the same part of the distribution system
- That there are no unusual circumstances concerning the proposed installation, which are not yet apparent
- o That no unusual/unexpected ground conditions exist
- That all the work can be carried out within our normal working hours and that our existing cost rates for labour and materials are unchanged at the time UK Power Networks works are carried out.
- That no contingency has been taken into account for future increases in costs of raw materials required in the manufacture of materials such as EHV cables.
- That there is no consideration for any possible network outages
- The budget cost does not include any diversion that might be necessary on the site

