

TriConnex Utilities Quotation Report: January 2017

Ptarmigan Group
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Kinnert Street,
London
SW1X 8EQ

Tuesday, 10 January 2017

Quotation Ref: T1329 v1

Contact: Paul Etherton
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For the Attention of: Joseph Haynes – Development Manger

Dear Joseph,

Site: Land North and East of Ware, Ware, East Herts, SG12 7PX

Further to your enquiry, we are pleased to enclose our budget quotation for the design, installation and connection of gas, water, electricity and super-fast broadband infrastructure to service your development.

Our core objective is to ensure your utilities are connected safely, on time and in line with your specific site needs.

Our commitments to you include:-

- A comprehensive utility solution to ensure your CML's are achieved
- Attendance at early design team meetings to provide an agreed and workable site solution
- Full multi utility design construction drawings including road crossing duct sizes (on acceptance)
- A dedicated legal team to ensure timely legal conclusion
- Coordinated off site works in line with your section 278 works, reducing disruption to the public
- Dedicated Operational Manager and access to our expert teams
- 10 day maximum call off period for gas, electricity, self-lay water and fibre connections

We will be in touch within five days to answer any questions you may have.

Yours Sincerely

Paul Etherton

Senior Bid Coordinator



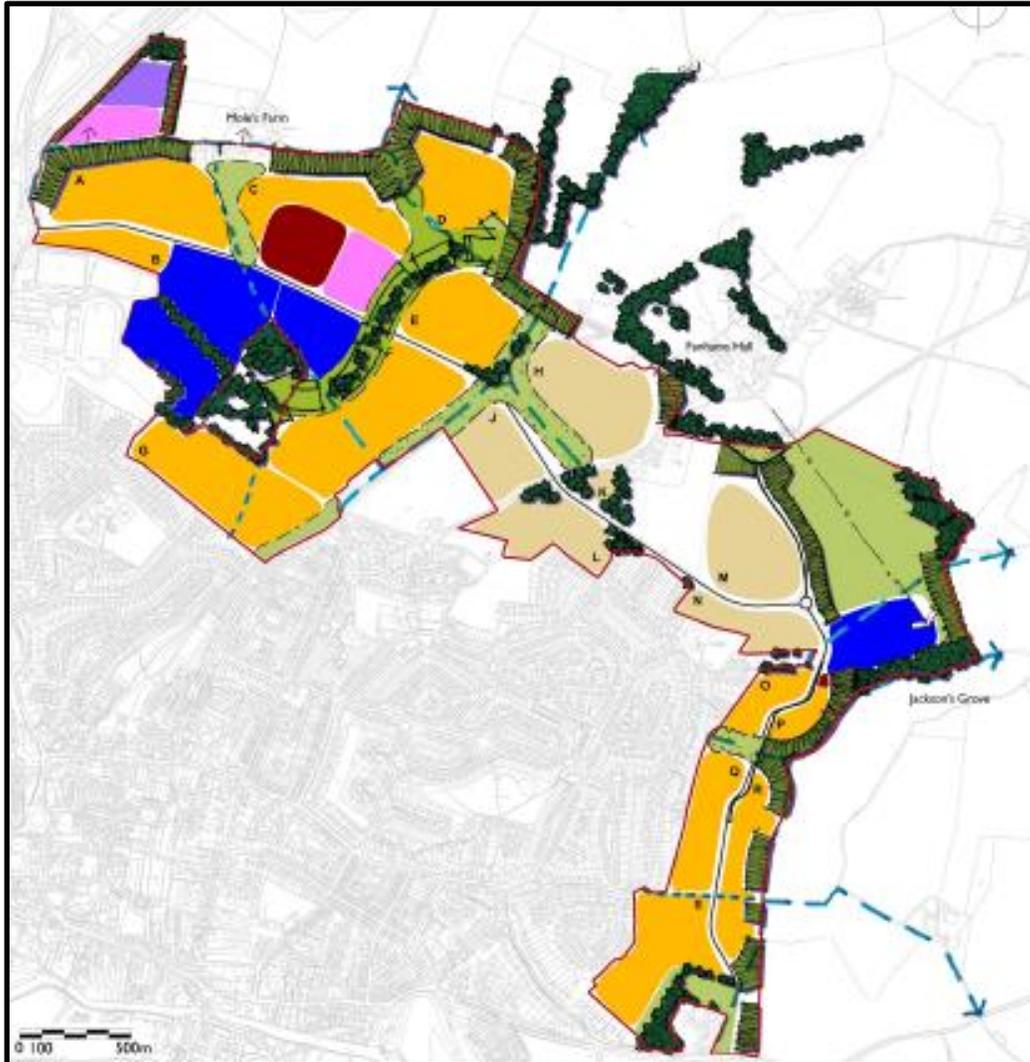
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1.0 – Introduction

This Site is located on land North and East of Ware in East Hertfordshire. This new development consists of 1,500 new residential units, 2no schools, 2no employment developments, 1no mixed-use centre and 1no travelling show people site. This is a budget offer for TriConnex to design, install and connect the gas, water, electricity and fibre infrastructure to service this development.



Site Overview



2.0 – Site Requirements and Design Gains

Electricity

For electric TriConnex have obtained an UKPN High Voltage (HV) Point of Connection (POC) offer for the calculated load of 3.89MVA jointing onto an existing 11kV UKPN HV cable close to the 'Ware Primary Substation' on Musley Lane as shown in Figure 1. From the point of connection TriConnex will dual lay HV mains within the footway of Musley Lane, the carriageway of Musley Hill and the carriageway of Fanhams Hall Road and High Oak Road. Approximately 1,222m of offsite works will be required to bring the supply into the site comprising excavation, reinstatement and localised traffic management within the carriageway and footways of Musley Lane, Musley Hill, Fanhams Hall Road and High Oak Road. All offsite works are subject to route approval.

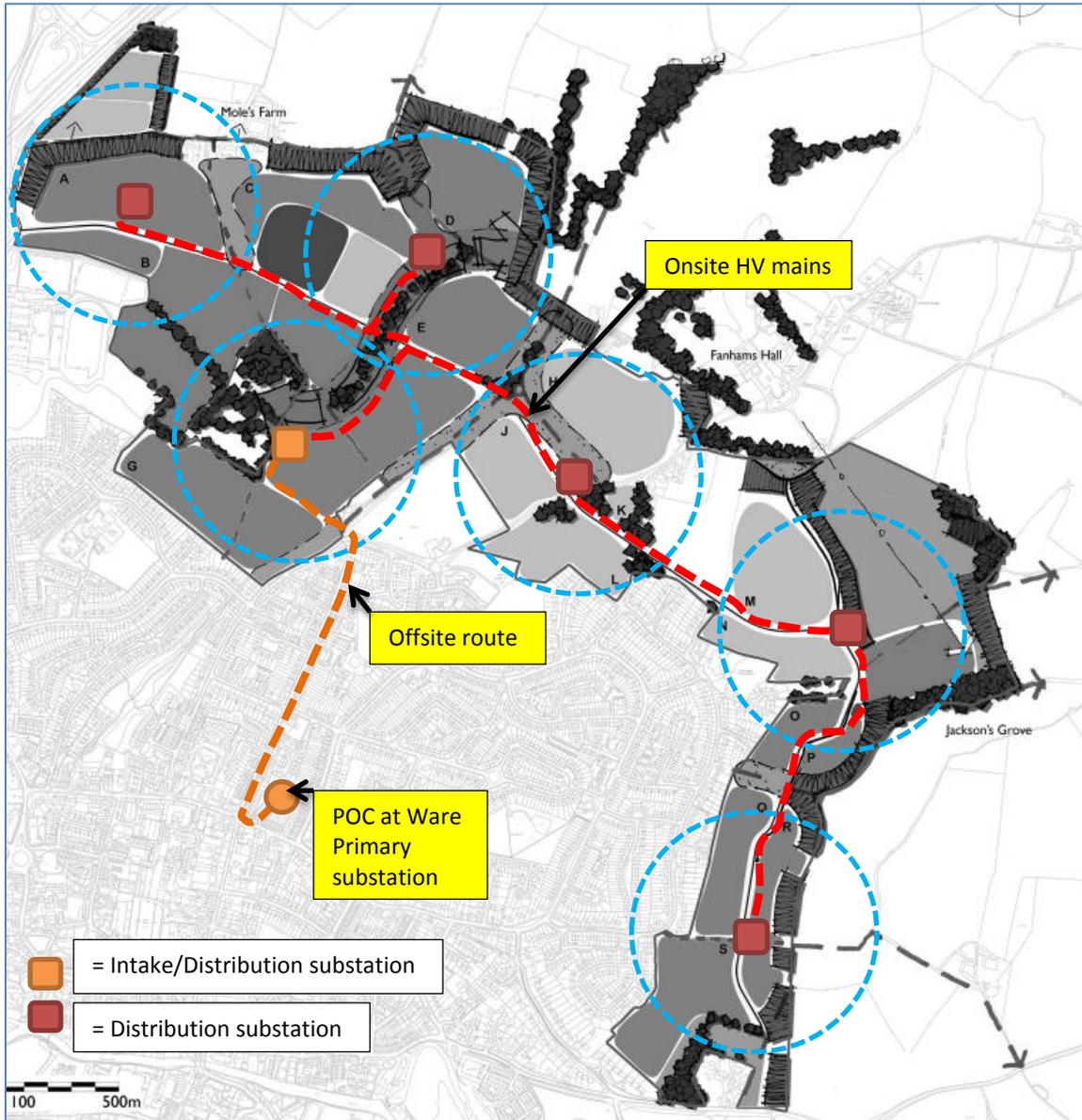
Once onsite TriConnex will dual lay HV cables up to an intake substation, within the site boundary, continuing to a 1,000kVA transformer housed within a purpose-built substation enclosure (by others) which TriConnex have assumed will be located close to the site entrance into Parcel G.

The HV network will continue to service further 6no 800kVA transformers in purpose brick built substation enclosures (by others) required around the site. The approximate substation locations are shown in Figure 3. From these substations, an LV network will be installed across site, with individual services terminating within approved external meter boxes or an agreed internal ground floor position within each residential unit.

Capacity for non-residential units has been allowed for within our budget offer, and these units will each be serviced by single services for the plant rooms terminating at a heavy-duty cut-out only, onward distribution of supply and metering is deemed to be by others. All excavation and reinstatement within the site redline boundary is deemed to be the responsibility of the ground worker and NOT TriConnex.



Figure 3 – Approximate Onsite HV Distribution Layout (Indicative only)



The UKPN existing asset plans show existing LV and HV overhead cables crossing the site. TriConnex have not obtained a UK Power Networks (UKPN) diversion offer and no allowance has been made for any diversion or disconnection of any existing mains or services within this budget quotation. If an application for diversion was to be made there is an approximate 18-week lead time from acceptance and it would be assumed that Ptarmigan would accept and pay for any agreed diversionary works to UKPN directly.



Gas

For gas TriConnex will connect to the existing National Grid (NG) 180mm PE medium pressure main located within the carriageway of Dovedale, as shown in Figure 4.

The closest Low Pressure main was unsuitable to provide the full site load, National Grid have confirmed they will part fund the reinforcement works required to bring gas to the site entrance. This reinforcement will be carried out by TriConnex and will involve the installation of a Medium Pressure gas main from the CSEP point in Dovedale to a Pressure Reduction Station at the Western Entrance to site. The main will be installed carriageway Dovedale. Offsite installation will take place in the footpath and carriageway of Dovedale, Quincey Road and the A1170. The length of these offsite works is approximately 760m and is detailed in Figure 5. The part funding from National Grid is included in our cost calculations.

On site TriConnex have allowed for individual connections to each residential plot terminating at a smart meter within an approved external multi box and for non-residential units we have allowed for single services up to the plant rooms of the non-residential units, terminating at an above ground entry with an Emergency Cut-off Valve directly inside the external wall, onward distribution of supply and metering is deemed to be by others.

Figure 4 –Medium Pressure Gas Connection Location

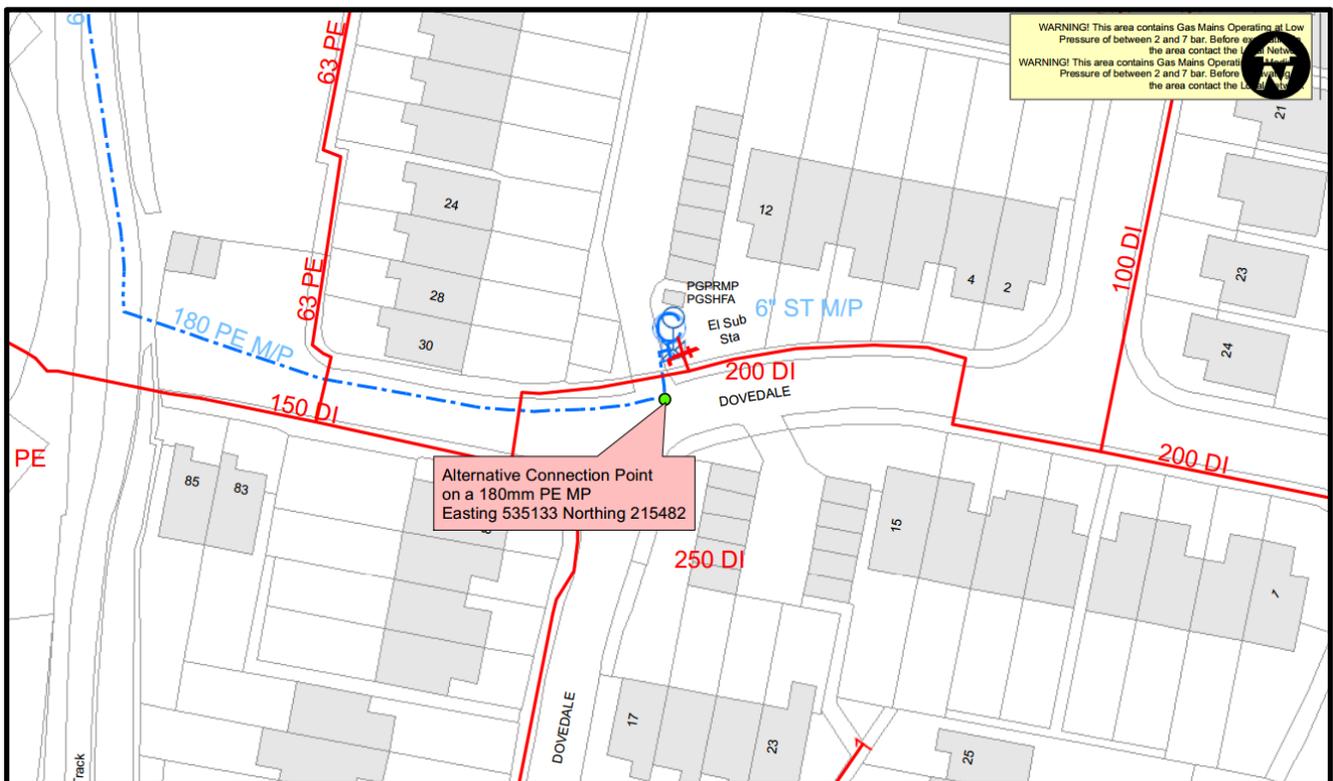
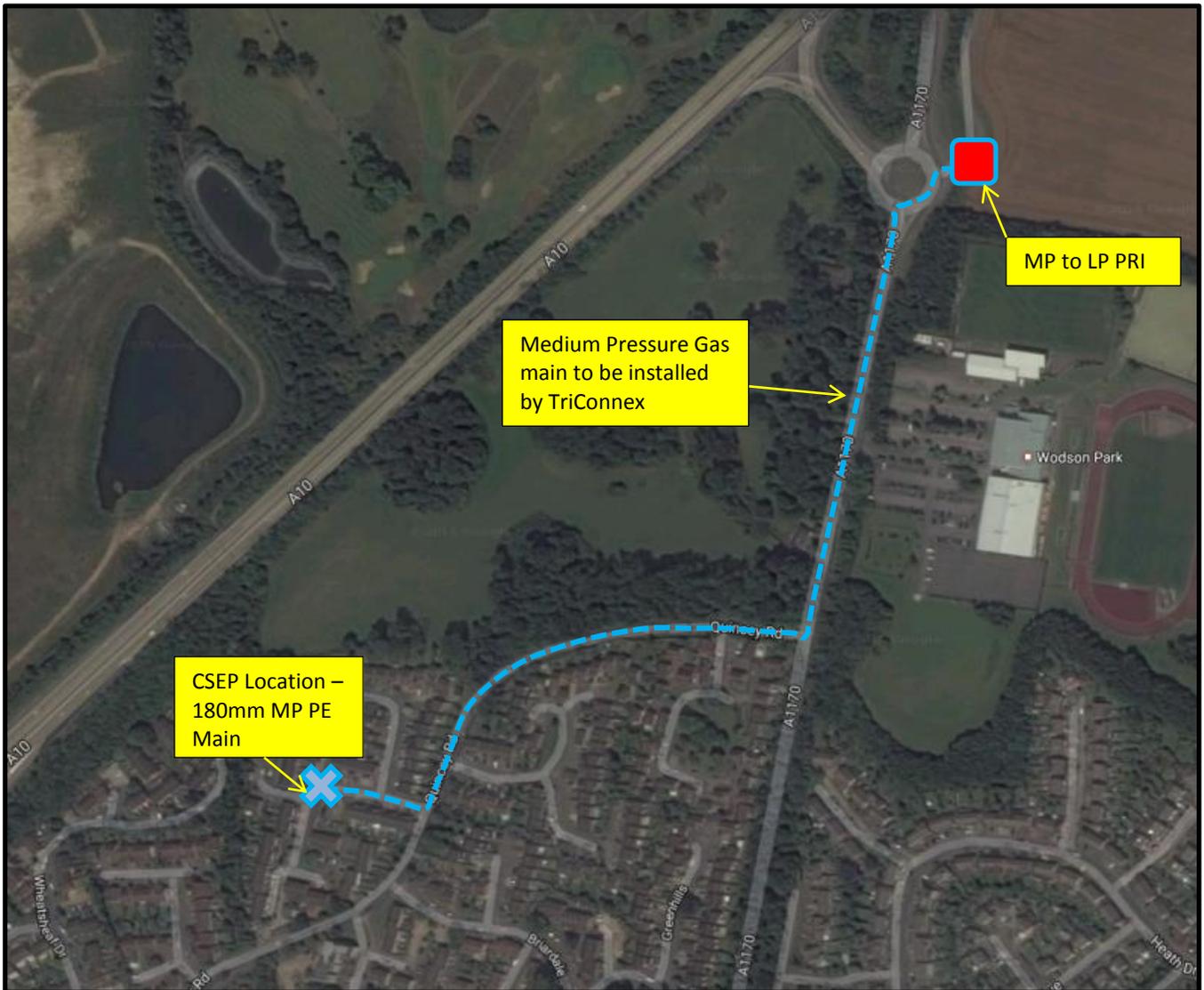
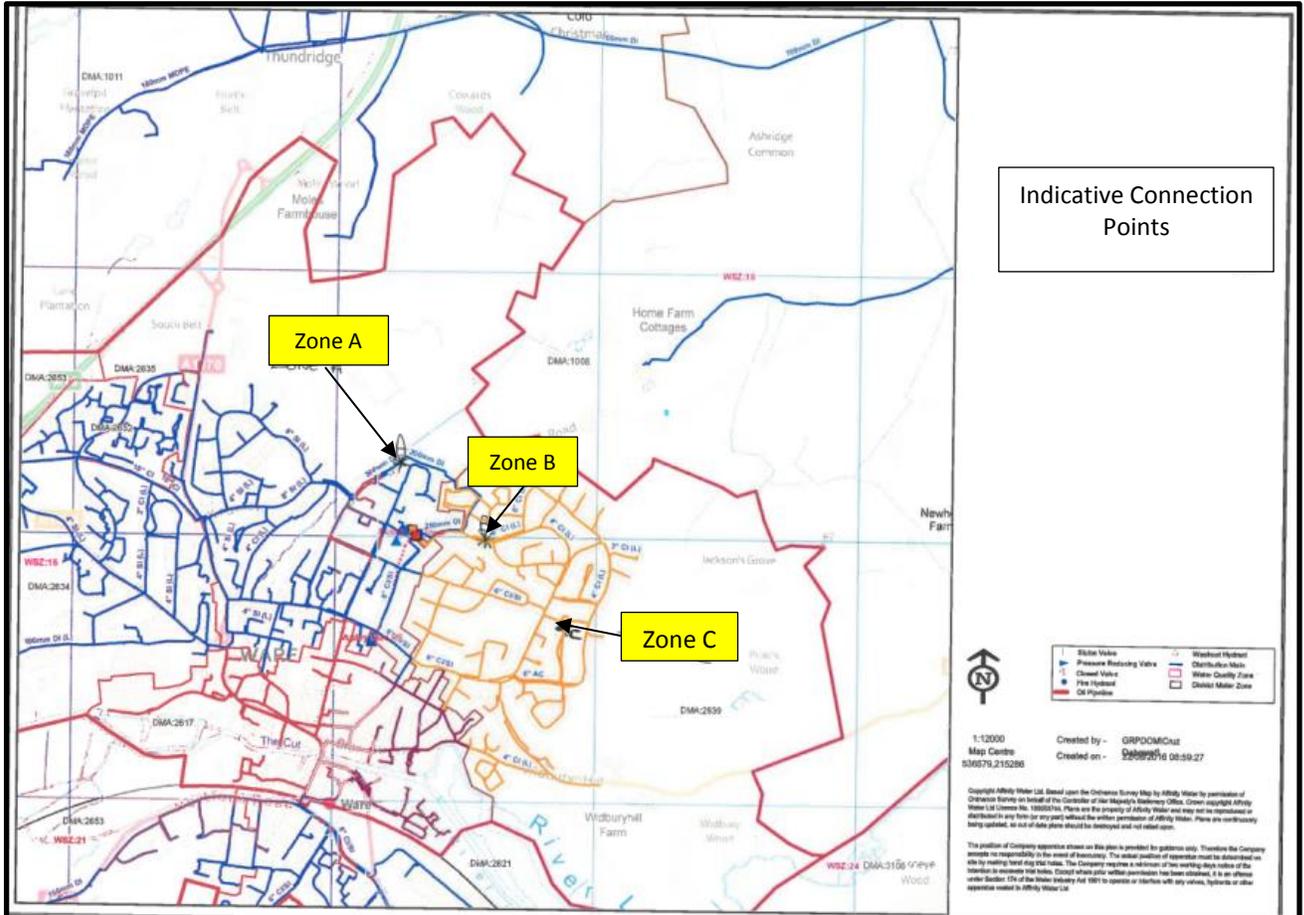


Figure 5 –Proposed Offsite Route for Medium Pressure Gas Main



Water

Figure 6 – Indicative Water Connection Points



For water TriConnex have contacted Affinity Water and they have provided three indicative connection points, as marked in Figure 6. Offsite works are to be completed by Affinity Water and the costs shown are excluded from our budget offer.

Affinity Water have provided a budget cost for water boosters of £155,000.00 and 300m of offsite works at a budget figure of £81,000.00. These costs have not been included within our tender.

On site TriConnex have allowed for the new mains with individual plot connections terminating within a ground boundary box only for the residential units. For each non-residential unit, we have allowed for a single large service terminating at a bulk meter within a ground boundary chamber, onward distribution of supply and boosting is deemed to be by others. We have not allowed for the disconnection, diversion or lowering of any existing mains or services within our budget offer.



Fibre

For fibre we can confirm this site can be serviced with fibre to the premise (FTTP). TriConnex will connect to the existing fibre network and will undertake all offsite works, excavation, ducting and fibre install to a new cabinet offsite.

Once onsite we will install a cabinet containing a fibre aggregation node/convergence point either freestanding or integrated within a bespoke brick built substation (Construction by developer, dependent on asset adopter). From this point TriConnex will install fibre to the premise terminating internally at a consumer unit. From the consumer unit onwards the developer is to install all Cat 5e cabling

Diversions and existing services

Unless specifically stated otherwise our budget quotation makes no allowance for any diversions, lowering, disconnection or reinforcement of any existing utilities either on or off site.



3.0 - Assumptions, Inclusions and Exclusions

3.1 General

All properties are gas heated.

Unless stated otherwise, our designs are based on gas, electricity, water and fibre mains being installed along one side of the road with services crossing to supply units opposite. If due to permeable roads, phasing or wide boulevards dual mains are required a redesign will be needed which may require additional costs.

Our designs are based on sequential build out of phases or alternatively the provision of an agreed suitable route such as kerb line or haunching between phases.

We have made reasonable assumptions regarding the meter locations. Prior to finalising our design we will require house type layouts and may need to make some minor changes to our design.

This quote assumes that TriConnex will install all gas meters, if a third party installs or owns gas meters TriConnex reserve the right to review this budget offer.

Our price assumes uncontaminated or fully remediated site conditions.

Our budget offer is based on a minimum of **5 plot connections** per visit with site mains installed within **80** visits to site or a combination of both equating to 1 days reasonable labour.

For fibre it is assumed that TriConnex will be able to install all services to apartments in either one visit or by complete floor

Based on the accommodation schedule below we have applied generic peak loads for design purposes and industry standard annual loads coupled with a build period of 15 years for asset calculation purposes.

Residential units	Number
1 Bed	150
2BF, 2BT	300
2BS, 2BD, 3BT, 3BF	150
3BS, 2BB	450
4BD, 4BT, 4BS	300
5BD, 5BS, 6BD	150
TOTAL:	1,500



Non-residential units	Gas kW/h	Electricity kVA	Electric Metering	Water
School 1	348	250	LV	Inc
School 2	350	100	LV	Inc
Employment 1	204	128	LV	Inc
Employment 2	197	124	LV	Inc
Mixed Use	292	183	LV	Inc
Traveller's site		100	LV	
TOTAL:	1,391	885		

Please note, non-residential loads are based on "Rule of thumb" calculations unless specific loadings are provided. Construction costs may vary once more detailed information is received.

Assumptions

We have allowed for all off-site reinstatement to our trench line only. No allowance has been made for any additional reinstatement that may be required if the existing highway / footway is covered under a Section 58 notice.

Offsite routes are subject to a site survey.

Inclusions

All off site excavation and back fill by TriConnex based on legal boundary as detailed on drawing titled '00849 Land North and East of Ware A4 Portrait' supplied by Ptarmigan.

Design development and submission to all relevant adopting parties for approval as per our respective GIRS/NERS and WIRS industry accreditations.

Risk assessments and as-built records, in line with the CDM 2015 regulations. TriConnex to act as Designer and contractor. Client to provide details of Principal Designer and Principal Contractor.

Exclusions

The Works that are the subject of this budget offer may be carried out in roads that are subject to lane rental charges. Lane rental charges are daily charges levied by certain highway operators such as Transport for London. Where we are required to carry out works in roads that are covered by a lane rental scheme, unless noted as included, the price will be amended to reflect the Costs arising from such lane rental charges in accordance with our Terms and Conditions.

On occasion our project offering may include co-ordination of third party works by TriConnex such as undergrounding of overhead cables or co-ordination of the incumbent water operator as an alternative to self lay. It should be noted that co-ordination is not management and is limited to the inclusion of detail on our combined service drawing, initial communication and attendance at site meetings. TriConnex cannot be held responsible for managing or for the failings of third parties.



3.2 Gas

Assumptions

All meters will be in external ground multi box.

Inclusions

The existing gas infrastructure is owned by National Grid. We have contacted National Grid and can confirm that no reinforcement is required.

Reinforcement works are required, and will be carried out by TriConnex, with a rebate paid by National Grid. This rebate has been included within our cost calculations.

The National Grid quotation is valid until the 08/02/17 if the quotation is accepted outside of this validity period the National Grid quotation may increase or decrease and TriConnex will pass through any cost changes.

The connection is to the existing 180mm PE MP main located at Dovedale, South West of the site. A pressure reduction installation is required adjacent onsite near to the main site entrance.

Gas Scope	TriConnex
Gas reinforcement	Non chargeable, National Grid funded, reinforcement required.
Connection to existing MP gas main	✓
Off-site mains	✓
Pressure Reduction Installation & housing	✓
Pressure Reduction Installation Base construction and civils works	✓
On site LP mains and services terminating with 3/4" Emergency Control Valves	✓
Non residential Services	✓
Provision of domestic boxes	✓
Provision of MPRN's	✓
Installation of smart domestic gas meters	✓

Exclusions

Service entries to garages. These can be supplied at an additional cost if required.

Supply and installation of any commercial meters and housings.

Our gas network is not designed to work in conjunction with boosted boilers. If these are required please contact us so we can amend our quotation accordingly.



3.3 Electric

Assumptions

This proposal is based on a demand only connection and if any onsite generation e.g. PV panels are planned the customer or their nominated specialist will be required to conduct a “worst case” generation study in accordance with G59/1, G59/2 or G83 as appropriate. If this information is provided prior to the demand only POC being accepted we can request that UKPN confirm whether the generation can be connected at the proposed POC or additional works are required.

If the aforementioned generation information is provided after acceptance of the POC the IDNO will assess its impact on the Network and is required to confirm to UKPN that the generation has no impact on the original POC parameters.

All electricity metering will be external within an approved meter box to houses or within the riser cupboard on the same floor as the flat it serves.

No allowance has been made for fast or communal car charging points in our budget quotation.

Inclusions

The existing electricity infrastructure is owned by UKPN. We have contacted UKPN and can confirm that no reinforcement is required.

The UKPN quotation of £132,070.63 is included in this quotation and is valid for 90 days from 16/09/2016.

If this quotation is accepted outside of this validity period, the UKPN quotation may increase and TriConnex will pass through any cost changes.

The connection is to the existing 11KV HV main located at the Ware Primary Substation. Multiple substation installation is required across site.

We have allowed for standard substation earthing.

Electricity Scope	TriConnex
Electricity reinforcement	Required, Included
Non Contestable Electricity Connection/s	✓
Off Site High Voltage	✓
On Site High Voltage/Low Voltage	✓
Installation of substation/s equipment and small power and lighting	✓
Installation of Sub Station Earthing (perimeter)	✓
Installation of LV mains, services and cut outs	✓
Termination at ground floor	✓
Installation of single phase landlord services x 25	✓
Installation of commercial services x 6	✓
Provision of MPAN's	✓



Exclusions

Supply and fit of electricity meters.

Electricity ducting or racking

The supply of electric meter boxes or hockey sticks.

Installation of enclosures, plinths, meter boxes.



3.4 Water

Assumptions

Water connections will be near to the site boundary from existing Affinity Water mains, shown within the indicative plan as per Figure 6

In the absence of a soil investigation we have assumed the site is clean and inert and therefore allowed standard MDPE water mains and services. Once a soil investigation is complete please forward this to us so we can confirm this requirement.

Note – this proposal is already NETT of any predicted asset values from the host water company and no further rebates will become payable to the Developer on this project.

For internal water meter installations, where TriConnex include the co-ordination of the water meter within its scope, we only supply the material element of the water meter, excluding the installation and the meter carrier in which it is housed

Inclusions

The existing water infrastructure is owned by Affinity Water. We have contacted Affinity Water and can confirm that reinforcement is required. The cost of reinforcement and offsite works are not included within this budget offer. Our budget quotation is based on TriConnex installing water as part of a Self Lay Agreement.

Water Scope	TriConnex
Water reinforcement	Required, although excluded from our budget offer
Connection to existing water main	✓
Off-site mains	Excluded from our budget offer
On site water mains	✓
25mm plot connections terminating in external boxes	✓
Commercial services terminating in external boxes	✓
Full testing and chlorination	✓

Exclusions

Infrastructure Charges or any network reinforcement required by the adopting network.



3.5 Super-Fast Fibre Optic Network

Assumptions

Our Fibre network is the only communications network installed on site.

For your customers to gain the most from the fibre network installation you should;

Ensure that you follow the developer guidelines that outline the requirements within the plot.

Install a standard Cat5e socket near the fibre hub with Cat5e wiring to a second point (normally behind the likely TV location and within close proximity to a power socket). This enables accurate testing of the ordered broadband speeds.

For apartment blocks TriConnex will install services to each apartment in one visit or by entire floor on a single visit.

Inclusions

The existing fibre infrastructure is owned by one of three national backhaul providers. We have contacted all of them and can confirm that any off site, connection and reinforcement required is included in this quote.

The off-site network will be connected to a termination box that will be attached to the proposed brick substation enclosure or in a free-standing cabinet (Dependent on energy asset adopter).

Super-fast fibre and telephone connections in each property including supply and install of the home hub box, power adaptor and battery backup, ONT (Modem) and telephone adaptor.

This proposal includes for a one off temporary broadband and or phone connection to your site compound.

Super-Fast Fibre scope	Design	Supply	Install
Off-site connection and any network reinforcement	TCX	TCX	TCX
OSCP – Equipment room – generic details	TCX	CL	CL
OSCP – Equipment room – site specific design	CL	N/A	N/A
OSCP – LV connection and power and lighting	TCX	TCX	TCX
OSCP – Fit out with equipment	TCX	TCX	TCX
OSCP – Ducting	TCX	TCX	CL
OSCP – Fibre	TCX	TCX	TCX
On site tube and ducting	TCX	TCX	CL
On site chambers	TCX	CL	CL
On site chamber lids	TCX	TCX	CL
On site fibre cabling and joints	TCX	TCX	TCX
On site containment for flats / Trays	CL	CL	CL
Service drops to flats – tube and ducting	TCX	TCX	CL
Fibre to flats	TCX	TCX	TCX
Plot – Ducting through slab	TCX	TCX	CL
Plot – Mini Duct	TCX	TCX	CL



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Plot - Home hub box	TCX	TCX	CL
Plot – Fibre	TCX	TCX	TCX
Plot – Electronics	TCX	TCX	TCX
Plot – In plot Cat5e cabling	CL	CL	CL

TCX – TriConnex / CL - Client

Exclusions

This proposal does not include for any provision of broadband or telephony service which is provided direct to your purchasers by their selected ISP.

3.6 Future Phases

Allowance has not been made for capacity for future phases.

3.7 Additional Services

Upon request TriConnex are also able to offer:-

- Water and electricity temporary builders supplies
- Offsite LV street lighting service connection
- Onsite LV street lighting service connection



TriConnex Limited, 4 Tamdown Way, Braintree, Essex, CM7 2QL

01376 332680 | triconnex.co.uk

Registered in England & Wales No. 07466247

4.0 - Responsibilities and Attendances

4.1 Schedule

	TriConnex	Client
Provision of all necessary drawings and the like including all subsequent revisions in a suitable electronic format in a timely manner to enable TriConnex to carry out design and provide project drawings		✓
Provision of Developer Guidelines documentation at pre start meeting	✓	
Supply the client with TriConnex design documents up to the termination points as defined in the above scope.	✓	
Provision of risk assessments and as built information in accordance with CDM 2015 regulations. TriConnex act as Contractor and Designer.	✓	
Obligation to ensure engagement in and timely completion of all necessary licenses, transfers and consents		✓
Transfer of land free of charge necessary for the installation of network equipment		✓
Granting of easements, Wayleaves where required by distribution companies in agreed adoptable or private areas		✓
Suitable and sufficient welfare facilities in accordance with Schedule 2 of the CDM regulations		✓
Supply of suitable temporary or permanent hard standings and access roads necessary to carry out the works		✓
Suitable secure space for the storage of materials and any office accommodation required		✓
Adequate on site security measures. Customer responsible for all fixed and unfixed material prior to energisation / charging of mains		✓
Off-loading of equipment / material delivered to site		✓
Hoisting, distribution and placing in position items of equipment requiring mechanical handling		✓
Setting out of line and level of all on site works in accordance with approved design.		✓
Highway surface installed adjacent to proposed mains routes prior to install		✓
Clearance of rubbish to an agreed onsite location	✓	
Disposal of rubbish / waste from site		✓
Provide location onsite for temporary storage of excavated and backfill material from / for off-site works.		✓



5.0 – Contract Price

5.1 Proposed Contract Price Breakdown

Offsite Gas	112,362.47
Offsite Electricity	565,440.23
Offsite Water	Excluded, see below
Offsite Fibre	Included
Offsite Total	677,802.70
Onsite LP Gas Main & Connections	713,339.43
Onsite HV Network	752,065.83
Onsite LV Mains & Connections	1,035,008.24
Budget Onsite Water Mains & Connections	1,336,180.22
Onsite Fibre Mains & Connections	(156,678.26)
Onsite Total	3,679,915.46
Quotation Total	4,357,718.16

All prices are net of VAT

All prices are net asset value, no other rebates will be paid to the developer.

The price excludes the costs of water boosters: £155,000.00 and offsite water costs: £81,000.00

5.2 Payment Schedule

TBC



5.3 Additional Commercial Considerations

Infrastructure Charges current as of 2016-2017: £354.00 per plot clean water: £354.00 per plot sewerage.

Please note that Infrastructure Charges for clean and waste water are excluded in entirety from this budget offer. These are standard charges and must be paid by you before the water company will permit water service connections. To avoid site delays please pay promptly directly to the water authority and provide TriConnex with a copy of the remittance advice.

The base price for Aluminium is £1,387.47 per metric tonne and in the case of copper £4,542.79 per metric tonne.

This budget quotation should be read alongside our standard terms and conditions version 4.0 which are available to download at [Triconnexfiles](#).



7.0 - Timescales

Lead in time to finalise designs is provisionally 8 weeks from receipt of acceptance and payment subject to statutory authority's approval. We anticipate energisation within 18 weeks from design approval.

For consistency, our chosen asset adopters utilise standard legal documentation to secure and manage the land interests they require. The timetable for programming the engineering and connection works is based upon you providing accurate land ownership information and completing the standard documentation without delay.

If, due to programme constraints, any works are required to be installed in advance of completion of all necessary consents and / or licenses and the Customer fails to obtain such consents and / or licences it will indemnify us for all loss and / or damage suffered and shall remain responsible for all work done and materials supplied on a quantum merit basis.

Standard call off periods for plot connections once site is live are as follows.

Electric	Gas	Self Lay Water	Fibre
10 days	10 days	10 Days	10 days

Our Quote is valid for 60 Days from the date of this quotation.

Our Quotation is based on the following information:

- '00849 Land North and East of Ware A4 Portrait' supplied by Ptarmigan.
- Provided in email correspondence from Ptarmigan to TriConnex

References to Customer, You or Your (whether capitalised or not) means the person, firm or company whose name and address is shown on the Acceptance Form at section 6 below (together with any holding or subsidiary companies as defined in the Companies Acts, any co-venturers, assignees and successors in title).

References to TriConnex, We, Our, Ourselves, or Us (whether capitalised or not) means TriConnex Limited whose registered office is at 4 Tamdown Way, Braintree, Essex, CM7 2QL (together with any assignees and successors in title).



Appendix 1

Land Ownership Details (If different from Developer, For Legal Requirements)			
Land Ownership	<input type="checkbox"/> Developer	<input type="checkbox"/> Adopted	<input type="checkbox"/> Third Party
Identifying Drawing			
Contact			
Address			
Tel no.		Mobile no.	
Email			
Third Party Landowner Details (If Applicable, For Legal Requirements)			
Contact			
Address			
Tel no.		Mobile no.	
Email			
Landowner/Third Party Solicitor Details (For Legal Requirements) please add additional sheets if applicable			
Company			
Contact			
Address			
Tel		Mobile no.	
Email			
Principal Designer			
Company			
Contact			
Address			
Tel		Mobile no.	
Email			



- Site Layout in .dwg format including all meter positions
- Ground investigation report
- Floor Plans of units with internal meter rooms
- Details of any site constraints
- Section 38 plans / Adoption plans
- Abnormal Load Details (Lifts/Motors/Landlords)

We will require the following information at later stages in the process, which we will request when required, if this information is available now or becomes available before our request please forward this information to us.

- Postal Addresses
- Build sequence
- Sales Units – Locations and Dates

