

Method Statement for Cadent Gas Mains Replacement Work – IMG221101 Farringdon to Abbey Orchard

LBC Tree Officer: Nick Bell

CMO Environmental Advisor: Brad Worrell

Summary

Due to an enforcement policy issued by the Health and Safety Executive (HSE), Cadent Gas have been commissioned to abandon and replace the 48inch cast iron London Medium Pressure (LMP) Main with a new PE service in London Borough of Camden – Route Extent – Theobalds Road, Southampton Row Junction, Vernon Place, Bloomsbury Way, Shaftesbury Avenue (Grape Street).

Having reviewed the project, have been identified that the line of the gas main is within the canopies of trees located within the Shaftesbury Conservation Area. The location is within junction at Shaftesbury and at junction Grape Street.

Therefore, it may be necessary for Cadent to excavate within the RPZ of the trees located within the Conservation Area.

Plan of the affected trees which are located within the Shaftesbury Avenue Conservation Area can be found in Appendix 1.

Site Control Measures

Cadent work to NJUG Volume 4 Standards and therefore the following measures have been put in place to minimise the impact on the tree:

Prohibited Zone of a Tree RPZ (0-1m MMP from Trunk):

- Where an excavation is required within the Prohibited Zone, this will be completed via **hand-dig** and supervised by an Arborist.
- In the event where a root >25mm diameter is found and Cadent Operations may impact on the root, works will cease immediately and consultation with an Arborist will take place. Roots will only be severed if the Arborist confirms that the severance is unlikely to impact on the trees health and stability.
- If the severance of roots <25mm diameter is required, this will be cut back using a sharp tool to leave the smallest wound.
- If possible, clumps of roots <25mm diameter (including fibrous roots) will be retained in situ without damage. Care will be taken to protect the bark around the roots.
- In an attempt to protect any roots against desiccation and temperature change, any exposed roots location in a trench which is to be left open overnight, will be wrapped with dry sacking. The sacking will be removed prior to backfilling.
- There will be no storage of plant, soil, fuel or machinery within the Prohibited Zone.

Precautionary Zone of a Tree RPZ (1m from Trunk – 4 x Tree Circumference):

- Where an excavation is required within the Precautionary Zone, this will be completed by either **hand-dig, a blow-out air lance or vacuum excavator**.
- In the event where a root >25mm diameter is found and Cadent Operations may impact on the root, works will cease immediately and consultation with an Arborist will take place. Roots will only be severed if the Arborist confirms that the severance is unlikely to impact on the trees health and stability.

- If the severance of roots <25mm diameter is required, this will be cut back using a sharp tool to leave the smallest wound.
- If possible, clumps of roots <25mm diameter (including fibrous roots) will be retained in situ without damage. Care will be taken to protect the bark around the roots.
- In an attempt to protect any roots against desiccation and temperature change, any exposed roots location in a trench which is to be left open overnight, will be wrapped with dry sacking. The sacking will be removed prior to backfilling.
- There will be no storage of plant, soil, fuel or machinery within the Precautionary Zone.

Permitted Zone of a Tree RPZ

- Where an excavation is required within the Permitted Zone, this will be completed with by either **hand-dig, a blow-out air lance or vacuum excavator**.
- In the event where a root >25mm diameter is found and Cadent Operations may impact on the root, works will cease immediately and consultation with an Arborist will take place. Roots will only be severed if the Arborist confirms that the severance is unlikely to impact on the trees health and stability.
- If the severance of roots <25mm diameter is required, this will be cut back using a sharp tool to leave the smallest wound.
- If possible, clumps of roots <25mm diameter (including fibrous roots) will be retained in situ without damage. Care will be taken to protect the bark around the roots.
- In an attempt to protect any roots against desiccation and temperature change, any exposed roots location in a trench which is to be left open overnight, will be wrapped with dry sacking. The sacking will be removed prior to backfilling.

Please note the following:

- As per Cadent Operating Procedures, there will be no cutting down, topping or looping of third party trees without prior approval from the stakeholder. Any vegetation clearance taking place between 1st March – 30th September must have Bird Nesting check completed by an authorised ecologist.
- In the event in which a Nesting Bird is found within an excavation, plant or machinery or if Protected Species are found on site, works will cease immediately and the incident reported to the CMO Incident Line.
- In the event of an environmental incident on site, works will cease immediately and the incident reported to the CMO Incident Line.

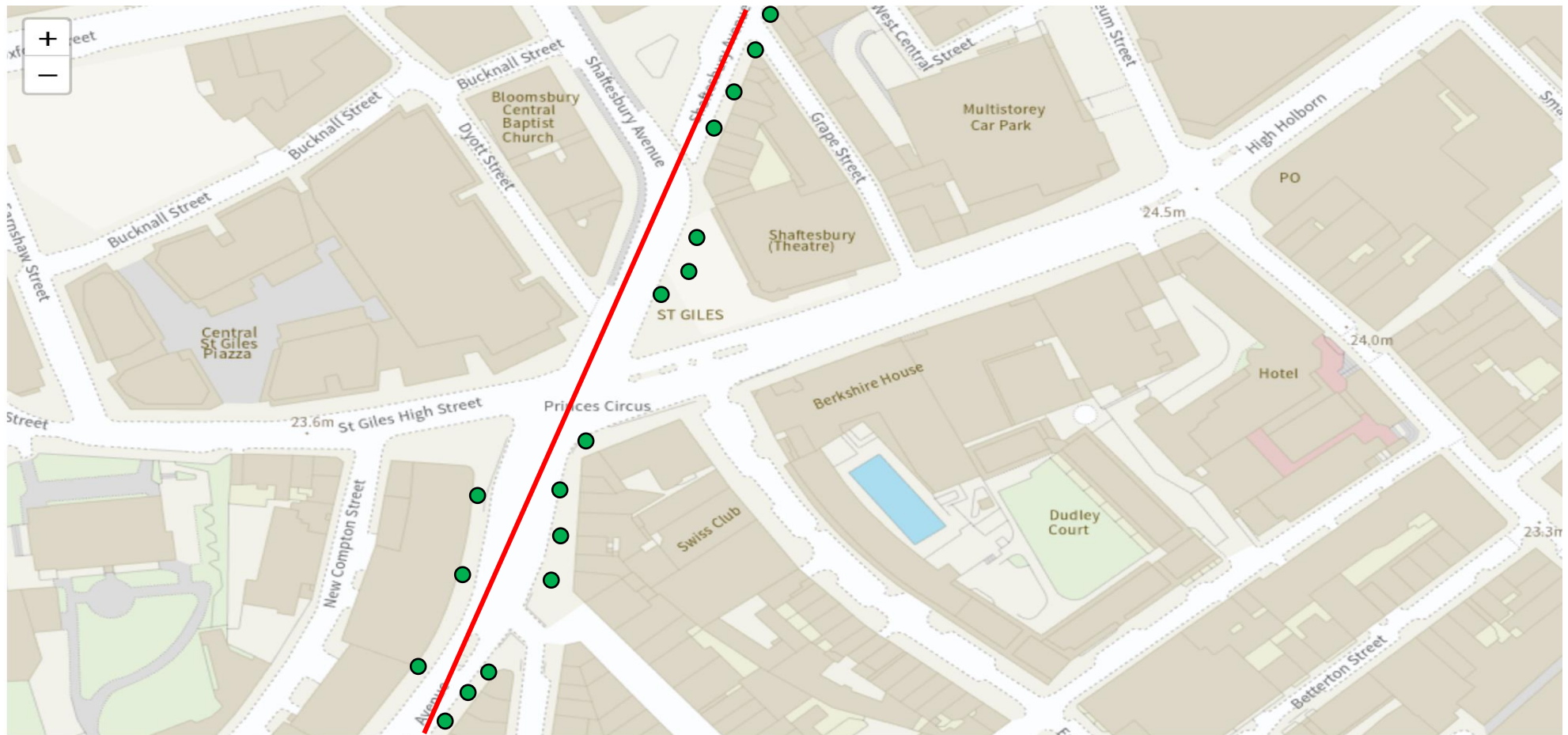
Appendix 1 – Affected Trees

Tree to be affected by gas mains replacement works are highlighted below. This purely consists of severing roots to access the existing gas mains which are located within the public highway/footpath and lay new gas service. No above-ground works (ie. pruning/felling) will take place to any trees.

● = Trees Affected Protected by Conservation Area Status

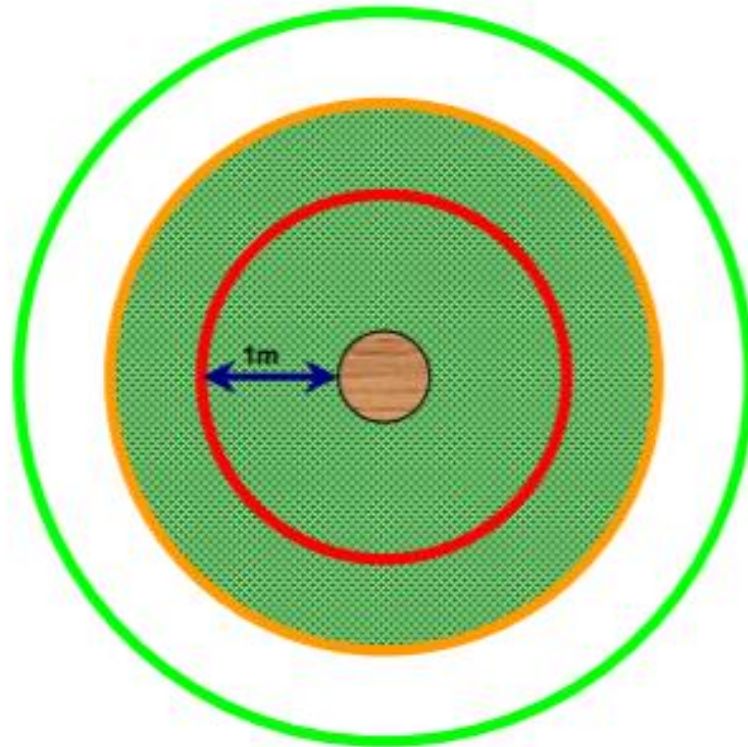
— = Location of Existing Gas Main

Shaftesbury Avenue, London



NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

FIGURE 1 – Tree Protection Zone



Key



Trunk of tree



Canopy or branch spread



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with the local authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with the local authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of the precautionary zone. Excavation works may be undertaken within this zone, however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

For Cadent Reference Only: - AMEND TO KLT RISK ASSESSMENT. BW TO SENT TO LC ONCE RECIEVED

Site: IMGA221101 Farringdon to Abbey Orchard		Activity Working near to mature trees & those with TPO's		Author: S. Goodier	Signature	Date: 31.05.2022
Risk Assessment No. ERA003	Review Date 01.05.23	Revision No. 2	Name	Signature	Date TBC	
Persons Exposed:		Employees: CMO	Other Workers: X	Public/Visitors: X	Vulnerable Persons:	

5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5
	1	2	3	4	5

Likelihood

- Rating 1 = Very unlikely
- Rating 2 = Unlikely
- Rating 3 = Likely
- Rating 4 = Very likely
- Rating 5 = Almost certain

Severity

- Rating 1 = No environmental impact
- Rating 2 = Minor impact
- Rating 3 = Significant impact
- Rating 4 = Extreme impact
- Rating 5 = Catastrophic, game changing

Likelihood



Acceptable



Further review



Unacceptable Risk

Risk = Likelihood x Severity

IMPACT	1		2		3		4		5		6		7		8		9	
	Factors of Harm		Risk Multiple of columns 1 x 2	CONTROL MEASURES		Factors of Harm		Residual risk Multiple of columns 5 x 6	Control measures implemented by (name)		Control Frequency Check Rate							
	Likelihood	Severity				Likelihood	Severity											
Damage to Trees Breach of TPO's	3	3	9	<ul style="list-style-type: none"> Make sure that all TPO's have been identified on site prior to starting work. For any Protected Trees there are 3 zones to be aware of: Prohibited zone - 1m from the trunk, no excavation of any kind must <u>not</u> be undertaken unless full consultation with local authority Tree Officer has been undertaken and authorised. Materials, Plant and spoil must <u>not</u> be stored within this zone. Precautionary zone – 4x tree circumference: Where excavation must be undertaken, Vac Ex must be used, mechanical plant is prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. 		1	3	3	Team Leader and Operatives		Throughout the project							

				<p>Consult with Local Authority Tree Officer if in any doubt.</p> <ul style="list-style-type: none"> <i>Permitted zone</i> – outside the precautionary zone Excavation works may be undertaken, however caution must still be applied. Any exposed roots must be protected using hessian sacking 					
<p>Damage to Hedgerows Disruption to nesting wildlife</p>	3	3	9	<ul style="list-style-type: none"> Be aware that some hedgerows are protected under regulations – To avoid removing hedgerows without permission of local authority (normally >20m in length, on special conservation areas, or considered 'important'). This does not apply to garden hedges, be aware of bird nesting season (March to August). Avoid trimming hedgerows between March and end of September. Leave ground cover under hedges in winter for birds. 	1	3	3	Team Leader and Operatives	1 st March to 30 September 20021
<p>Limited Access</p>	3	3	9	<ul style="list-style-type: none"> Where physical barriers stand, i.e. traffic bollards the use of a small vac ex may be possible. If possible and Royal Parks permit the use, ensure that damage to grassed areas from tracked equipment is kept to a minimum. 	1	3	3	Vac Ex operator and digging team	During excavation periods