

Substation Civils Re-Opener New Cross – Offsite Tunnel Works Enhanced Project Investment Paper

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Reference Number	N/A		

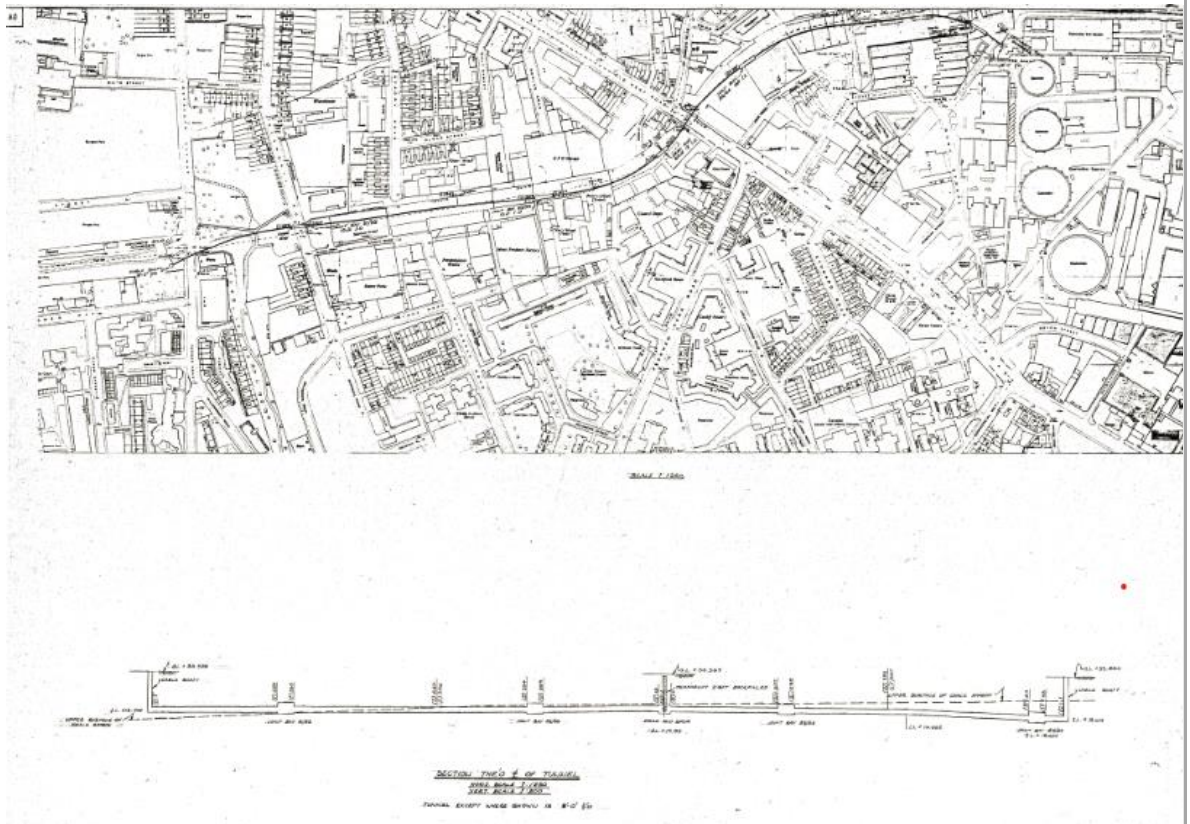
1. Scheme Summary by Regulatory Category

Unique Identifier	Site	Asset	RIIO Financial Category	Output Year	Total Costs (£m)
N/A	New Cross 275 kV substation to Trafalgar Park	New Cross - Trafalgar Park tunnel.	Civils	2023	■

2. Project Summary

Driver Detail	<p>The offsite tunnel at New Cross is in excess of 50 years old and this project proposes mid-life refurbishment.</p> <p>The tunnel runs from New Cross Substation to Trafalgar Park, a distance of approximately 1000 metres. It is predominantly 8 feet in diameter, with some joint bays widened to 15 feet. Two 275kV circuits run through the tunnel and are critical to the power transmission system in the local area. It is necessary to undertake this work to ensure degradation of the tunnel does not put these supplies at potential risk.</p>
Project Overview	<p>The tunnel runs from New Cross Substation to Trafalgar Park, a distance of approximately 1000 metres. It is predominantly 8 feet in diameter, with some joint bays widened to 15 feet.</p> <p>The proposed works include leak sealing to minimise leakage / pumping, improvements to the tunnel drainage system and treatment/replacement of corroded steelwork and access/egress improvements. A detailed inspection report was produced by Donaldson Associates (now Cowi) and this was used as the basis of a schedule of remedial works.</p>
Plant Status Link:	

Plan and longitudinal section of tunnel



Other Options Rejected.

1. The first option to 'do nothing' is rejected as the tunnel will continue to deteriorate and thus put the cables at risk.
2. Do minimal maintenance to cover the most critical leaks, maintain the drainage channels free of debris to avoid localised flooding and survey the tunnel every 2-3 years to monitor its condition. This is the most inexpensive option, but it will have very limited effect in improving the condition of the tunnel long term.
3. Fill and seal all the joints with signs of water ingress. This solution has a significant cost but it is believed it would minimise the water ingress significantly and allow the tunnel to be surveyed every 3 to 5 years. However, there would still be water ingress from the back of the troughs and the water may find new pathways into the tunnel.
4. Grout the whole tunnel. This would be the most expensive solution but it will minimise substantially the water ingress throughout. Once the tunnel is grouted it should be surveyed every 5 to 10 years.

The bulk of the work is leak sealing, and several options have been considered as outlined below. Option (3) has been chosen as the offering the most cost-effective benefits.

3. Supporting Documents

Please list any other relevant documents that are key to the Gatekeeper's decision

Ref	Document Title	Document Description
A		
B		
C		

4. Project Summary

Programme	The works are expected to commence in early 2023. A tender exercise has already been completed., with this tunnel being tendered within a group consisting of the cross site tunnels at New Cross and the cross site tunnels at St Johns Wood. A duration of around 9 months is anticipated.		
Outage Requirements & Ops Resource	No outages are likely to be required		
Land & consents	No additional consents are required		
Key Risks and Hazards	The works are almost entirely underground, and as such are in a confined space, and thus represents the greatest hazard. There are escape shafts at various points along the tunnel, and two principal access shafts, one at each end. A cable fault would affect the program as works would have to be suspended whilst the fault was rectified.		
Design to Be Resolved	The design was concluded prior to tendering. Small changes may occur during the delivery of the works but no major issues are expected.		
Development Strategy	Not used for ET Minor Schemes		
Assets In Ellipse:			
Contract Strategy	This work has been tendered via the Minor Civils Framework		
Delivery Vehicle	Delivered via the Minor Civils Framework	Delivery Vehicle Engaged?	yes

5. Delivery & Procurement Strategy

Procurement Strategy	Tendered from a prior design/specification via the Minor Civils Framework
Bundled Schemes	Tendered with the New Cross, cross site tunnel refurbishment project and the St Johns Wood cross site tunnels refurbishment project
Material sourcing	n/a

6. Key Risks and Opportunities

Programme Risks	Over run of works at St Johns Wood Over run of London Power Tunnels 2 tunnel boring in the vicinity of this tunnel Third party piling works potentially being carried out in the vicinity of this tunnel
NG Project Risks	Potential cost increases due to abnormal inflationary pressure on certain construction materials
Envisaged Contractor Project Risks	Over run of works at St Johns Wood
Opportunities	Tendered with the New Cross cross site tunnel refurbishment project and the St Johns Wood cross site tunnels refurbishment project to realise economies of scale.

7. Baseline Cost Estimates

All costs in this section are base costs (pre-out-turned), to 2 decimal places

Base Year	2018/19							
Base Cost totals (£m)	Plant Status No.	Costs incurred to date (£m)	Design Costs (£m)	Contractor Prelims (£m)	Contractor Construction Cost (£m)	Contractor Temporary Works (£m)	Contingency (£m)	Total Project Cost (£m)
		■	■	■	■	■	■	■
Notes:	Please state any notes that are relevant to the base cost data							

8. Interacting Projects

Project Number	Project title	Driver Number	Delivery Date (ACL)
33146	New Cross cross site tunnel refurbishment		31/12/2023

9. Sustainability

Sustainability Action Plan:

What were the most significant opportunities implemented within the scheme?

10. Outage Bookings

This section identifies outages relating to the works.

Outage Number	Description	Outage Start	Outage Finish	ERTS
	n/a			

11. Declarations

Approval	Name	Signature	Date	Declaration
1 Commercial and Portfolio Manager	Sheena Froggatt		23/08/22	The Investment Team Manager has determined that this scheme is in line with overall business goals and objectives.
2. Asset Management Lead	Damien Culley		22/08/22	The Asset Management Lead has determined that this scheme is in line with overall business goals and objectives.