



City of Westminster

# Cabinet Member Report

<b>Date</b>	<b>9 February 2017</b>
<b>Classification</b>	<b>For General Release</b>
<b>Title of report</b>	<b>Strand Underpass Ceiling Repairs</b>
<b>Report of</b>	<b>Stuart Love - Executive Director for City Management and Communities</b>
<b>Decision maker</b>	<b>Councillor Nickie Aiken - Leader of Westminster City Council</b>
<b>Wards involved</b>	<b>St James</b>
<b>Policy Context:</b>	<b>The planned programmes support the City for All, objective in delivering a well-managed, high quality streetscape whilst protecting and enhancing Westminster's unique heritage</b>
<b>Financial summary</b>	<b>The estimated cost of the works to reinstate the ceiling in the Strand Road Underpass identified in this report is £855,000 including risk and contingencies.</b>  <b>Council funding of £855,000 for these works exists within the approved capital programme for Bridges &amp; Structures in City Management and Communities.</b>
<b>Report author and telephone</b>	<b>Andy Foster – Asset Manager Bridges &amp; Structures (Extn 2541) Email: afoster1@westminster.gov.uk</b>

## **1. Executive Summary**

- 1.1 The Strand Road Underpass takes traffic in one direction only travelling over Waterloo Bridge from Lambeth into the underpass and under the Strand/Aldwych on to the Kingsway. The underpass is on the Strategic Route Network (SRN) and serves to relieve congestion at the Strand/Aldwych junction and on Waterloo Bridge.
- 1.2 A principal Inspection carried out on the structure as part of its routine inspection regime identified water ingress through the ceiling panels suspended from the main tunnel structure.
- 1.3 Further investigations were carried out and revealed that due to excessive ingress of water into the tunnel over a prolonged period of time the suspended ceiling was at risk of collapse. A decision was taken to make the tunnel safe by removing a 90metre section of the suspended ceiling to mitigate the risk of collapsing.
- 1.4 The excessive water ingress into the tunnel is no longer an issue, financial approval is therefore sought in this report to reinstate the ceiling in the Strand road underpass.
- 1.5 This decision is being made by the Leader of the City Council in the absence of the Cabinet Member who would normally have the decision making responsibility.

## **2. Recommendations**

- 2.1 It is recommended that approval be given for capital expenditure to reinstate the defective section of suspended ceiling in the Strand Road Underpass. Funding for these works exists within the City Management and Communities Capital Programme for 'Tunnel Improvements' and Planned Preventative Maintenance.

## **3. Reasons for Decision**

- 3.1 The ceiling is an essential component of the underpass. It helps to provide a uniform light reflectance in the tunnel and also has important fire protection properties.
- 3.2 The replacement ceiling has been re-designed such that if significant water ingress into the tunnel were to occur again, the water would be managed more effectively.

## 4. Background information

- 4.1 The Strand Road Underpass takes traffic in one direction only travelling over Waterloo Bridge from Lambeth into the underpass and under the Strand/Aldwych. The underpass is a strategically important asset helping to relieve traffic congestion at the Strand/Aldwych junction.
- 4.2 A principal Inspection carried out on the structure as part of its routine inspection regime identified that excessive water ingress into the tunnel had taken place which had adversely impacted on the ceiling panels suspended from the main tunnel structure. The tunnel is designed to accept some water ingress through a system of drainage channels and pipes which direct water towards a sump in the tunnel from where it is pumped into the Thames Water drainage system. When that water ingress becomes excessive, for example when a nearby water main bursts, then problems can occur.
- 4.3 Further investigations were carried out which included removing the suspended ceiling panels to inspect the space between the panels and the main tunnel structure. This inspection revealed that water ingress far greater than would normally be expected had entered the tunnel and collected in a butyl rubber liner fixed to the roof of the tunnel structure causing the liner to bulge severely with the weight of water collected in it. The hanger system for the ceiling (which fixes into the roof of the main tunnel structure) has also been compromised, especially the vertical tie rods – these were either corroded or ‘forced’ out of fixings in the tunnel roof by the weight of water collected in the butyl liner.
- 4.4 To avoid the risk of the butyl rubber liner bursting under the pressure of the water collected, a decision was taken to remove a 90metre length of the suspended ceiling and undertake a controlled release of the collected water. The lighting for this section of the tunnel was temporarily relocated.
- 4.6 The water ingress problems were investigated further, this included checking for potential water leaks with Thames Water and checking the surface water drainage in the area. Establishing the source of water ingress into an underground structure can be very difficult to determine. Water can often travel significant distances over a period of time making the source very difficult to establish, water ingress into the tunnel however is now under control and back to ‘normal’ conditions. It is possible that a repaired water main within the surrounding area was the original source but it has not been possible to determine this for sure.
- 4.7 The replacement ceiling has been redesigned to better cope with any excessive water ingress should it occur again in the future. As with most underground structures, there is always a risk that greater than expected volumes of water will enter the structure due to extenuating circumstances. The best (and most common) way to deal with this is to accept it but manage it by directing it towards the main tunnel drainage system i.e. the sump and the pumps.

- 4.8 The replacement ceiling meets current fire protection standards and allow the tunnel lighting units to be fixed back into their original position The replacement ceiling also has a series of inspection hatches built into it, this will make inspections in the space above the ceiling easier and enable to the inspector to spot excessive water ingress problems much earlier and before serious problems arise.

## 5. Traffic Management

- 5.1 Extensive discussion have taken place with various stakeholders including Transport for London and the 'Special Events' team on the timing and methodology of the ceiling work and traffic management options to minimise the impact on the travelling public in the area whilst the work takes place.
- 5.2 As the carriageway in the Strand Underpass is a single carriageway road taking traffic in one direction only off Waterloo Bridge onto the Kingsway, the work has to be carried out whilst the tunnel is closed.
- 5.3 The possibility of keeping the tunnel open during peak traffic hours and only closing it during off-peak hours to carry out the work was considered but rejected. The main reason for rejecting is because of the significant amount of time that would be needed every day to bring in and remove materials and also the work to disconnect and reconnect the tunnel lighting (the lights are integral with the new ceiling). The time taken to account for these activities would take up a significant proportion of the working window available making resulting in the scheme becoming very expensive and elongating the programme prohibitively.
- 5.4 It has been agreed with the relevant traffic management authorities that the most appropriate traffic management regime to accommodate the works is to close the Underpass for up to 8 weeks from the 6<sup>th</sup> February 2017. The appropriate notices are in place to allow this work to commence on this date (subject to the approval of this report from the Cabinet Member for City Management and Customer Services).

## 6. Financial implications

- 6.1 The total cost for replacing the defective ceiling in the Strand Underpass is £855,000 and will be fully met from within the council's approved capital programme. A breakdown of these costs is provided in the table below.

Description	Cost
Feasibility	£ 26,000
Design	£ 60,000
Implementation	£650,000
Client Costs & Compliance & Audit	£52,000
Risk & Contingency	£67,000

<b>Total</b>	<b>£855,000</b>
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6.2 A budget of £750,000 exists within the approved capital programme for 'Tunnel Improvements'. Additionally, £105,000 of the £615,000 budget for Planned Preventative Maintenance (Bridges and Structures) will be utilised for this project.

## **7. Legal implications**

7.1 By virtue of the Highways Act 1980 the Council, in its capacity as local highway authority, is responsible for the upkeep and maintenance of bridges within its ownership

## **8. Ward member consultation**

8.1 Ward Members will be provided with an overview of this Cabinet Member Report to appraise them of the impending issues and recommendations.

**If you have any queries about this report or wish to inspect any of the background papers, please contact: Andy Foster, Asset Manager (Bridges & Structures) – email [afoster1@westminster.gov.uk](mailto:afoster1@westminster.gov.uk)**

## **Background Papers**

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**For completion by the Leader of the Council**

**Declaration of Interest**

- I have no interest to declare in respect of this report

Signed..... Date .....

**Councillor Nickie Aiken, Leader of Westminster City Council**

- I have to declare an interest

State nature of interest: .....

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Signed..... Date .....

**Councillor Nickie Aiken, Leader of Westminster City Council**

(N.B.: If you have an interest you should seek advice as to whether it is appropriate to make a decision in relation to this matter.)

For the reasons set out above, I agree the recommendation(s) in the report entitled:

**“Strand Underpass Ceiling Repairs”**

Signed.....Date.....

**Councillor Nickie Aiken, Leader of Westminster City Council**

If you have any additional comment which you would want actioned in connection with your decision you should discuss this with the report author and then set out your comment below before the report and this pro-forma is returned to the Secretariat for processing.

Additional comment: .....

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NOTE: If you do not wish to approve the recommendations, or wish to make an alternative decision, it is important that you consult the report author, the Director of Law, the Chief Operating Officer and, if there are staffing implications, the Director of Human Resources (or their representatives) so that (1) you can be made aware of any further relevant considerations that you should take into account before making the decision and (2) your reasons for the decision can be properly identified and recorded, as required by law.

NOTE TO CABINET MEMBER: Your decision will now be published and copied to the Members of the relevant Policy & Scrutiny Committee. If the decision falls within the criteria for call-in, it will not be implemented until five working days have elapsed from publication to allow the Policy and Scrutiny Committee to decide whether it wishes to call the matter in.