Application for funding under the Community Infrastructure Fund II

for the

Greenwich and Woolwich Foot Tunnels

6th May 2008

The Tunnels

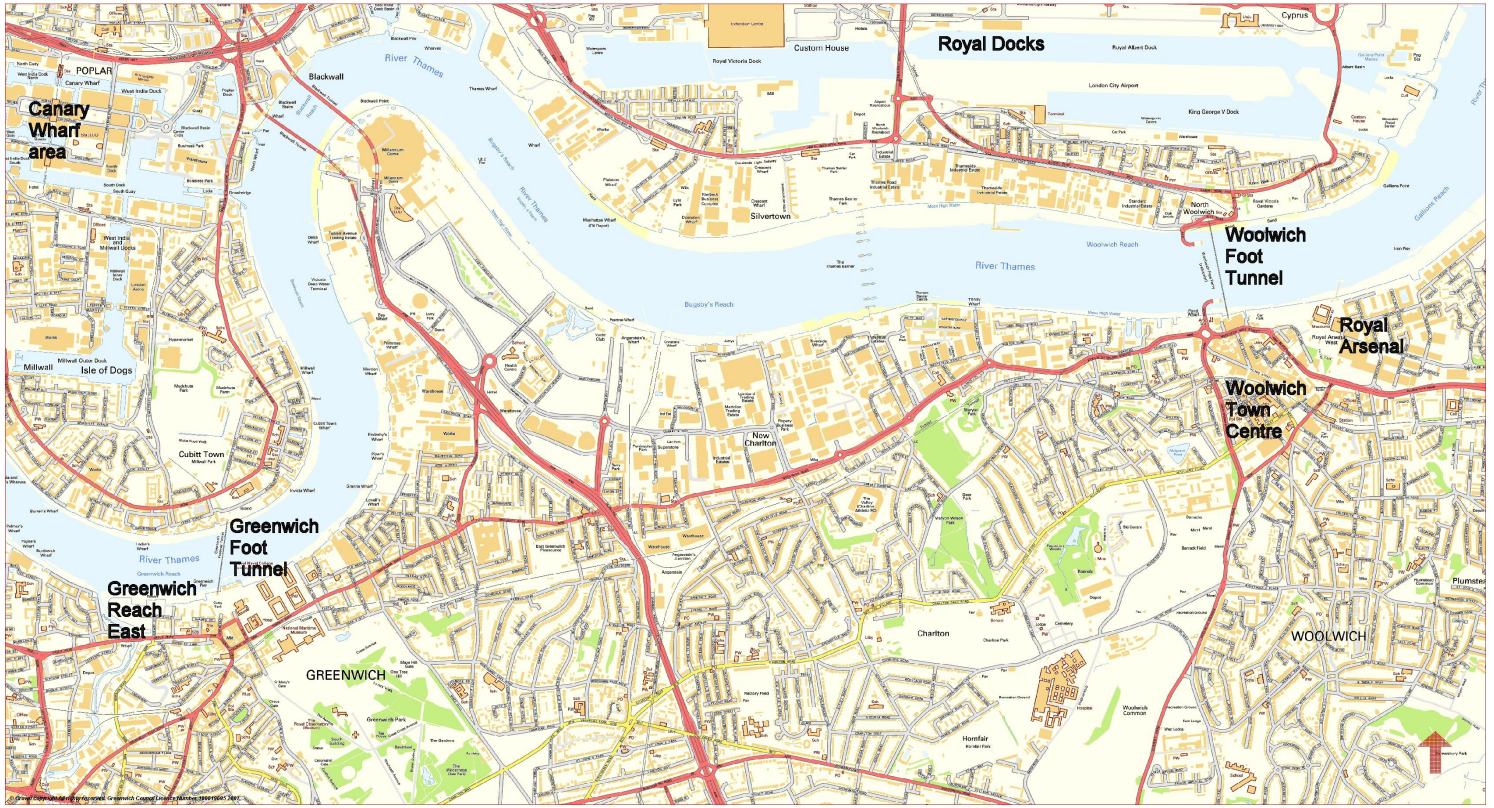
Greenwich foot tunnel was opened in 1902 to link Greenwich Town Centre in the borough of Greenwich to the Isle of Dogs in the borough of Tower Hamlets. The tunnel is approximately 391 metres long and has vertical shafts at each end to connect to the surface. Each shaft has a central lift with stairs between the lift and the outer walls.

The tunnel is largely unchanged since it was constructed, although the lifts have been changed on more than one occasion, as have the pumps and lighting.

The tunnel forms part of the National Trail Thames Path walking route and also part of the National and London Cycle Networks. The area to the south of the tunnel is a World Heritage Site and receives thousands of tourists each year.

The Woolwich foot tunnel was opened in 1912 and links Woolwich in the Borough of Greenwich to North Woolwich in the borough of Newham. The tunnel is approximately 504 metres long and is similar in design to the Greenwich tunnel.

Location map



Strategic importance

The River Thames forms a considerable barrier to movement in the area east of Central London, with relatively few crossing points to the east of Tower Bridge. Vehicle crossings include the Rotherhithe Tunnel, Blackwall Tunnels, Woolwich Ferry and Dartford Crossings. Public transport crossings are the East London Line, Jubilee Line crossings and the existing and proposed DLR crossings at Greenwich and Woolwich respectively.

The tunnels at Greenwich and Woolwich are the only two pedestrian and cycle tunnels under the Thames.

Without using a motor vehicle, the options for crossing the river are restricted to using the ferry or public transport. Overnight, when public transport is not operating or is at a much reduced service, the only available crossings are the foot tunnels (see note). These tunnels also provide a vital alternative when there is a failure of a public transport route, particularly the DLR. The tunnels also provided a vital link when the public transport system was shut down during the 7th July bombings. Whilst the river buses did provide some additional cross river services, the capacity of each boat is in the low hundreds. With thousands of people crossing the river each day, the boats do not have the capacity to transport these numbers.

Thousands of tourists visit Greenwich each year, a proportion of which use the foot tunnel as part of their journey. A pleasant experience, including their time in the tunnel, will help to encourage more tourism, thus benefiting the area.

Note: Whilst it is possible to walk through the Rotherhithe tunnel, the footways are particularly narrow leaving pedestrians vulnerable being so close to the traffic. The narrow footways, which are only 1.2 metres wide, also mean that pedestrians find it difficult to pass each other safely. In addition, the fumes from the traffic make it unsuitable for regular use. For this reason this tunnel is not considered a viable pedestrian link, and fewer than about 10 people walk through the tunnel each day.

Housing and business development

The foot tunnels sit within the Thames Gateway development area where thousands of new jobs and houses are being created. North of the Greenwich tunnel is Canary Wharf which is still expanding to provide additional jobs. As an example, a single approved development just to the north of 1 Canada Square is for 370,000 sq m of development with a planned 17,000 jobs.

South of the Thames at Greenwich there are plans for a further 2340 housing units. These are –

Greenwich Reach East development will have 1000 units
Bardsley Lane development 100

Creekside East development 600
Creekside West development 600
Mumford Mills development 40

At Woolwich, the Town Centre will have at least a further 5000 housing units. These are -
Royal Arsenal development 2500
Tesco development 1000
Callis Yard development 160
Woolwich Quarter 1000
Sainsbury development 500
Woolwich Triangle site 100.

North of the Woolwich tunnel, the Royal Docks is expanding as both a business and residential area. A £1.5B development of 24 hectares at Silvertown was given the go ahead last year. This will include 5000 new homes, 7,800 sq m of office space, 7,600 sq m of other workspace along with restaurants, bars, and community facilities.

The development at Royal Albert Basin is expected to produce 3000 new jobs and 2000 homes.

Minoco Wharf will see 1500 homes and 1700 jobs provided on the old oil site in Silvertown.

Royal Business Park will, on completion, have 148,000 sq m of offices and 9,000 sq m of retail space.

Public transport is at or near capacity in these areas and the provision of improved pedestrian and cycle routes are vital to the area. Even with the extension of the Docklands Light Railway to Woolwich, the tunnels will be vitally important particularly during the night and maintenance closures when the railways do not run. Pedestrian and cycle usage is expected to increase significantly as the areas adjacent to them are developed over the next few years.

Olympic and Paralympic Games 2012

The Olympic Games are centred on the Olympic Park in Stratford in Northeast London, but with other venues being used for particular sports. Greenwich borough hosts 4 locations:-

O2 (dome) for Gymnastics and Basketball
Football Academy for Gymnastics and Badminton
Greenwich Park for Equestrian
Woolwich Barracks for Shooting

The stated aim of this "green" Olympics is "prioritising walking, cycling and the use of public transport to and within the Olympic Park and venues" (www.number10.gov.uk/output/Page10813.asp)

The foot tunnels lie between the Olympic Park and the Greenwich venues. Whilst the DLR will be used by many of the spectators travelling to and between venues, cyclists are not able to use the DLR. Failures of the DLR due to breakdown and security issues, mean that the foot tunnels will be a vital link during these games. A reliable lift system and secure tunnel system needs to be in place to provide this vital link.

Current problems

As the tunnels age, maintenance becomes a greater issue as the years go on. Water ingress is now becoming more of a problem and is likely to increase exponentially over time. This ingress can remove material from around the tunnel and shafts, and cause additional corrosion of the structure, so needs to be controlled.

The lifts have reached the end of their useful lives, yet are vital to make the use of the tunnel a pleasant experience and to comply with disabilities legislation. The motors and control gear are situated within the glass domes above the entrance portals. The lift suffers an increasing number of outages due to overheating in summer, and sub zero temperatures in winter. In addition, the mechanism for the lifts is not only failing due to age, but it has an additional problem in that components are no longer available and need to be manufactured on an individual basis as failures occur. This not only leads to long delays in procurement of replacement parts, but also incurs higher costs than would otherwise be expected.

Project description

Both the foot tunnels are approximately 100 years old and have never seen a comprehensive refurbishment. The structures need to be checked for corrosion and thus safety. The lifts, pumps and lighting systems are reaching the end of their lifes and need to be replaced. The lifts do not operate 24 hours a day, and often break down. Whilst this is an inconvenience to able bodied users who can use the stairs, less able users could be considered to be discriminated against under the Disability Discrimination Act.

The project will renovate the tunnels to enable them to be used for many years to come. The lifts are to be made operable by the public and available 24 hours a day. This will require significant improvements in monitoring, with a new CCTV monitoring room near to the Greenwich tunnel, which will monitor both tunnels. Consideration was given to integrating the new tunnel cameras and help points into the existing Greenwich Council CCTV suite in Woolwich. However, this CCTV suite does not have spare capacity to take on the additional responsibilities of monitoring the tunnels.

Legal Structure for delivery

The tunnels are already in existence so there are few legal procedures to be met to carry out the works. Committee approval be needed in all three authorities prior to the commencement of the work. Alterations to the foot tunnel, including the entrance

structures, lifts, cladding etc will be the subject of listed building consent. As the tunnels are within two London boroughs each, a total of 3 authorities will be involved in gaining consent. As the authorities cannot give consent for buildings which they own and control, English Heritage will give the listed building consent.

Partners

The tunnels are run and maintained by the London borough of Greenwich in conjunction with the respective authority to the north of the river.

Funding

Due to the large sums of money involved, the funding for this scheme is solely from the CIF 2 round. Negotiations are taking place with the other two boroughs to see if additional funding from S106 agreements can be fed into the project, thus removing some of the financial risks of the scheme.

Interests and major assets

The tunnels are owned by the respective boroughs in which the entrances lie. Greenwich Council has a 50% interest in both the Greenwich and Woolwich tunnels, with Tower Hamlets having a 50% interest in the Greenwich tunnel and Newham 50% in the Woolwich tunnel.

Project team – responsibilities etc

The project team will be led by Mr Jeff Horsman CEng MICE MIStructE. It is proposed that the contract is let to a single contractor to give a single point of contact and ensure accountability. Various other aspects of the work may be subcontracted out to companies who are specialist in the respective fields.

Dates – start and completion etc

The project will be completed before the rehearsals for the 2012 Olympic and Paralympic games.

Approach to procurement

The works will be let to a single contractor who will be likely to sub let contracts to specialist contractors. The work will be advertised in the Official Journal of the European Union to seek interested contractors. A tender will then be sought within the procurement rules of the Council. The timescale for implementation prior to the 2012 Olympics means that the OJEU advertisement is being prepared now and will be published before the announcement of CIF2 funding bid results. Waiting for approval

of the funding of this scheme before advertising will give insufficient time for scheme implementation.

Stakeholders – identification and consultation

The stakeholders are the relevant boroughs and English Heritage.

Milestones – to trigger CIF payments

The work to refurbish the tunnels will need to be carried out over an elongated timetable in order to keep the tunnels open as much as possible. It is felt that work should be carried out during the day, when alternative routes are available via the DLR. At night, when no other nearby crossings are available, the tunnels will need to be cleared and made suitable for pedestrians and cyclists. This will increase the timescale for this work. A programme of works, including milestones, will be drawn up prior to works starting, with CIF payments sought on a quarterly basis in line with the milestones.

Expenditure profile

It is anticipated that 35% of the expenditure is incurred in 2009, 50% in 2010 and the remaining 15% in 2011.

Total bid

The total bid is costed at £11,535,100.00

Non housing outputs and indirect outputs

The proposals will ensure that the tunnels meet the requirements of the Disability Discrimination Act.
The tunnels will also support the provision of employment by providing a reliable river crossing available to all, regardless of income. It will enhance access to jobs without the need to spend limited disposable income on public transport, particularly benefiting the low paid.

The scheme will ensure the continuation of an alternative river crossing which encourages walking and cycling thus promoting health and fitness.

Assumptions and constraints

It is assumed that a detailed examination of the tunnels does not reveal damage or deterioration which necessitates additional structural work to ensure the integrity of the structure.

It is assumed that the cost of labour does not increase beyond the current assumptions on the run up to the Olympic Games.

Risks

The risks to this scheme are cost overruns due to unexpected events or due to much higher manpower costs on the run up to the Olympics. These risks will be bourn by the contractor.

Distribution of cost/programme risk responsibilities

The risk will be down to the three boroughs to manage between them.

Arrangements for evaluating the scheme to ensure benefits materialise

Yearly pedestrian and cycle surveys will be carried out to quantify the usage of the tunnel. A sample of users will be surveyed to ensure that their experience of using the tunnels is satisfactory. Opportunity will be given to those surveyed to suggest further improvements, and these will assessed to see if further works would be cost effective.

Scheme contacts

Mr CEng, MICE, MIStructE
Principle Engineer
Greenwich Council

Principal Transport Planner
Greenwich Council

Appendixes

Appendix A Financial appraisal

Appendix B Feasibility Report for Refurbishment

Appendix A

Financial appraisal

Appendix B

Feasibility Report for Refurbishment