

Galway County Council

N6 Galway City Ring Road

Design Development of Galway
Racecourse Tunnel

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Ove Arup & Partners Ireland Ltd

Arup
Corporate House
City East Business Park
Ballybrit
Galway
H91 K5YD
Ireland
www.arup.com

ARUP

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1 Galway Racecourse Tunnel

1.1 Location

Galway Racecourse is located on the east of Galway City in the Ballybrit area between the existing N6 Bothar na dTreabh and the IDA Parkmore Industrial Estate with the main entrance served off the existing Parkmore Road. Galway Racecourse is surrounded largely by commercial and industrial premises within a mixture of agricultural and industrial zoned lands.

The building and lands occupied by Brooks Timber and Building Supplies Ltd (“Brooks”) is located immediately north of Galway Racecourse shown outlined in red in **Figure 1** below and is accessed off Racecourse Avenue. Brooks is a tenant on this site with just over 7 years left to run on its lease. As is seen from this figure, the equine facilities are located to the east, and the facilities for people are located to the west.



Figure 1 Site Location – Galway Racecourse & Brooks

1.2 Design Development

At Phase 2 Route Selection, route options were developed with six impacting on Galway Racecourse to some degree and two of these six impacting Brooks to a lesser degree (Pink and Green Route Option). The Pink Route Option included an 850m tunnel through Galway Racecourse as set out in **Table 7.2.2.32, page 458** of the Route

Selection Report, which is appendix A.2.1 of the Request for Further Information Response. The Pink Route Option was selected as the emerging preferred route corridor (EPRC) in this particular area as shown on **Figure 2** below. The EPRC was displayed to the public in May 2015. At all times, and during all public consultations, this was described as a corridor, and the route can move within that corridor. The building occupied by Brooks was always within the EPRC.

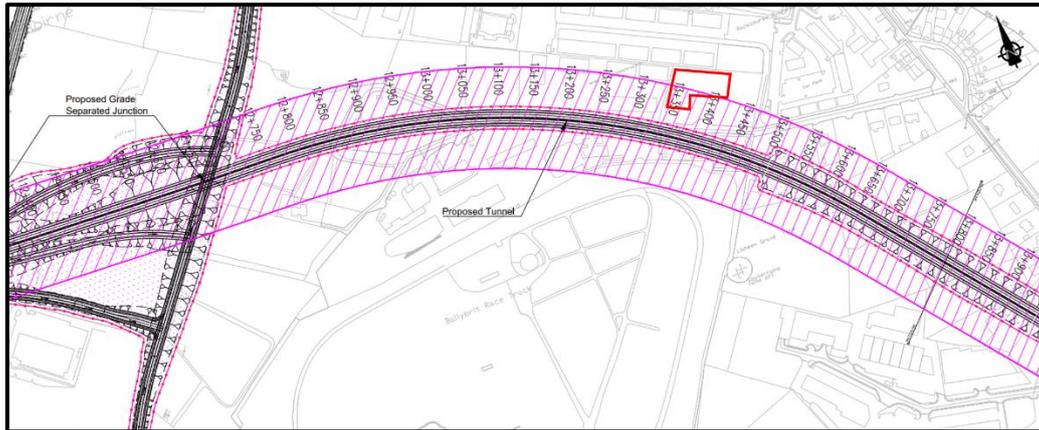


Figure 2 Emerging Preferred Route Corridor (with the Brooks builders providers building outlined in red)¹

The design of the EPRC was advanced over the next year. A peer review with Galway County Council, Transport Infrastructure Ireland (TII) tunnels team and TII's external tunnel review team from UK was held on 24 August 2016. This review considered the long-term operational and maintenance issues with and requirements associated with this 850m cut and cover tunnel in addition to the capital cost of its construction. The expert team highlighted the significant scale and associated construction works and maintenance requirements of a tunnel that is 850m long tunnel, which include construction impacts, the period of construction, construction costs, , the stricter requirements for fire suppression, smoke ventilation and emergency escape planning as well as operational costs, maintenance costs, and the ongoing maintenance regime, including the closure of the road on a regular basis every three months to clean down the tunnel. These are significant impacts. The key outcome from this peer review was to consider options to shorten this tunnel so that it becomes a much more sustainable option. Additionally, the construction of a longer tunnel would entail much higher carbon emissions due to the volumes of concrete and steel used in its construction. The ongoing operation of

¹ Reference Route Selection Report - Figure 7.3.5.9 included as Appendix A.2.1. of the RFI Response

such a long tunnel would also generate higher carbon emissions than an open cut.

After further design iterations and assessment, it was concluded that a shorter tunnel length of 230m and realignment to the north into the open fields was possible and was preferable to the previous design in terms of overall safety, sustainability and long-term operational requirements and costs of the proposed tunnel. At 230m length, it is no longer classified as a tunnel per the standard in EU Directive 2004/54/EC, which in turn significantly reduced the design requirements. See **Figure 3**.

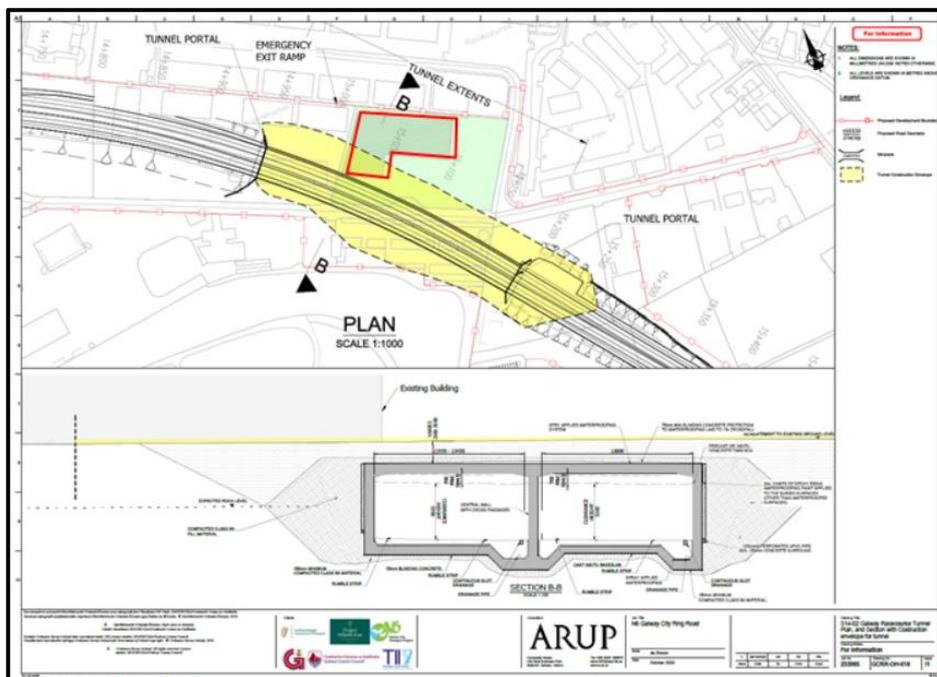


Figure 3 Proposed 230m Galway Racecourse Tunnel

The resulting benefits of the shorter tunnel are set out in Section 4.8.8 Chapter 4 of the EIAR and some of those are shown on the slides.

As with all repositioning and realigning, the impacts on landowners will change, with benefits and disbenefits for the landowners. In this instance, this design change had significant advantages in terms of reduced impacts to buildings and services to the west of the racecourse enclosure, such as avoiding demolition of the administration building and entry kiosk, avoiding a bored well and treatment system for the main drinking water supply and also reducing the overall construction time. However, it still impacted significantly on Galway Racecourse with the acquisition of 5.1 ha, of which 1.76ha is in this area.

This design change resulted in more significant impacts to lands to the north which resulted in the demolition of four industrial unfinished

buildings (plot ref. 708 of area 1.14 ha), demolition of one industrial unfinished building (plot ref. 711 of area of 0.259 ha) and the acquisition of plot 713, area of 1.106 ha and demolition of the building of which Brooks is the tenant. The building on those lands from which Brooks carries on its business was previously to be retained but is now a direct impact and to be demolished.

The sequence of construction of the tunnel is presented in **Appendix A.7.4 of the EIAR**. The design report for the tunnel is presented in **Appendix A.7.3 of the Design Report** which is Appendix 10.1 of the RFI Response.

The construction envelope for the tunnel is 20m either side of the tunnel segment as shown in Figure 3, within which blasting, excavation, removal of material, placement of tunnel segments and backfilling occurs. Therefore, the construction envelope required to excavate and construct the tunnel very significantly impacts the Brooks building and results in the necessary demolition of over 50% of the building, which includes the trade store, the sales office, the offices and the canteen.

From an engineering perspective, it would represent a significant safety risk to leave the remainder of this building (comprising the warehouse and stores) as an open sided warehouse for the duration of the construction works for 3 years. It would require very significant works to secure it from the elements, and protect it during the subsequent 3 years construction period, and therefore, the entirety of the warehouse must be demolished. The demolition of the building would clearly make the site unviable as a builder's suppliers during the length of the construction period (likely to be 3 years).

Therefore, the construction of the tunnel necessitated the demolition of the Brooks building and this plot was permanently acquired. Unlike the situation where 7.5 acres could be returned at Lackagh Quarry, in this case the building is to be demolished and the plot is to be significantly and permanently altered, and so this is necessary as a permanent acquisition.

1.3 Mitigation for Galway Racecourse

Across the proposed road development where the permanent acquisition of lands is required for the proposed road development, consideration is given to the use of such lands for mitigation purposes such as for material deposition within the scheme, the creation of habitat areas, drainage features and landscaping, all of which adds to the whole sustainability of the project. In this case, consideration was given as to whether these lands could be used in order to mitigate the impacts of the proposed road development on the Galway Racecourse.

Once it became clear that the buildings on site had to be demolished and acquired for the construction of the tunnel, consideration was given to the use of this site for the replacement stables. Alternative sites for relocating the stables were assessed including sites in the infield of the racecourse and to the west of the two racecourse stands, as well as consideration of sites to the north and east of the racecourse. Michael Sadlier was retained as an equine expert to carry out an assessment of the impact of the Scheme on the Racecourse and to suggest mitigation measures. He advised that the only feasible position for the replacement stables was northeast of the current location as they must be as close as possible to the existing stable location. To attempt to move them elsewhere would necessitate a total rebuild of the racecourse's existing facilities.

1.4 Conclusion

The demolition of the building on plot 713, on which Brooks is a tenant with currently 7 years to run, is necessary for the construction of the proposed tunnel in the first instance. Construction of the tunnel in this plot would be ongoing for a period of 3 years in total, during which time the operation of a commercial business on plot 713 would not be possible. Given that the acquisition of plot 713 was fully acquired as it will be in a significantly altered state, consideration was given to the use of this plot for mitigation purposes and the replacement stables for the racecourse were positioned in this plot.