



Whiteball Tunnel Cat III Check Network Rail

Location: United Kingdom

Date: 2018

Structure: Railway Tunnel

Length: 1000m

Cross-Section: Height = 6m, Width = 6m

Client: Ramboll Ltd

Owner: Network Rail



Figure 1. Courtesy of Ramboll.

Cat III Check Services:

Whiteball Tunnel is located between Tiverton Parkway Station and Norton Fitzwarren Junction on the Great Western Main Line. The tunnel is 1000 m in length and was originally built to accommodate two tracks of Brunel's broad gauge. The existing brickwork of the tunnel lining is deteriorating with water ingress noted in some sections. To remedy this ongoing deterioration of the brickwork lining, and to prevent loose brick fall, an SCL lining with steel reinforcement arches is installed. The support structure must be sufficient to retain loose brickwork. Drainage measures were incorporated to channel water to the invert and avoid water pressure build up behind the SCL lining

Gall Zeidler Consultants (GZ) have been appointed as the independent checker (CAT III Checker) of the design of remedial works. Checks included reviewing the design philosophy and the load bearing capacity of the SCL lining. Design assumptions were reviewed. Checks also included the shear capacity of the spider plates which provide supports on either side of the SCL.



Figure 2. Courtesy of Ramboll.