



SPE ELECTRICAL



CASE STUDY 18: THAMESWEY

POWER SYSTEM STUDIES AND HV EARTHING

Client:	Thameswey
Industry:	Built Environment
Plant Type:	T&D
Project:	System Studies
Contract:	Lump Sum
Date:	2018

“SPE undertook a short circuit study and full protection co-ordination study and a full HV earthing study for Woking town centre, as part of the Victoria Square development.”

SPE was contracted by Thameswey to undertake two key scope areas of work to support the new Victoria Square development in Woking town centre.

SPE's first tranche of work was to carry a full review of the existing 11kV and 400V power distribution system and protection settings for the Woking town center as part of the Victoria Square development, using the ETAP modelling package. SPE developed an overall electrical model of the entire electrical network in ETAP from the main DNO incomers down to the largest outgoing LV circuit, and then run a series of short circuit studies to validate that all the switchgear is within the correct fault rating duty. Once completed, SPE then carried out a detailed protection coordination study to assess each of the main 11kV substations on the network for correct discrimination to ensure that the correct protection elements trip in order.

SPE's second tranche of work was to develop a detailed earthing model of the site using the CDEGS package, in order to correctly assess the Earth Potential Rise (EPR) at a number of sub stations, and the associated touch and step voltages. This involved creating a model using the MALZ package, and the using the TRALIN / SPLITS packages to determine the fault current return paths through a complex series of interconnecting cables.