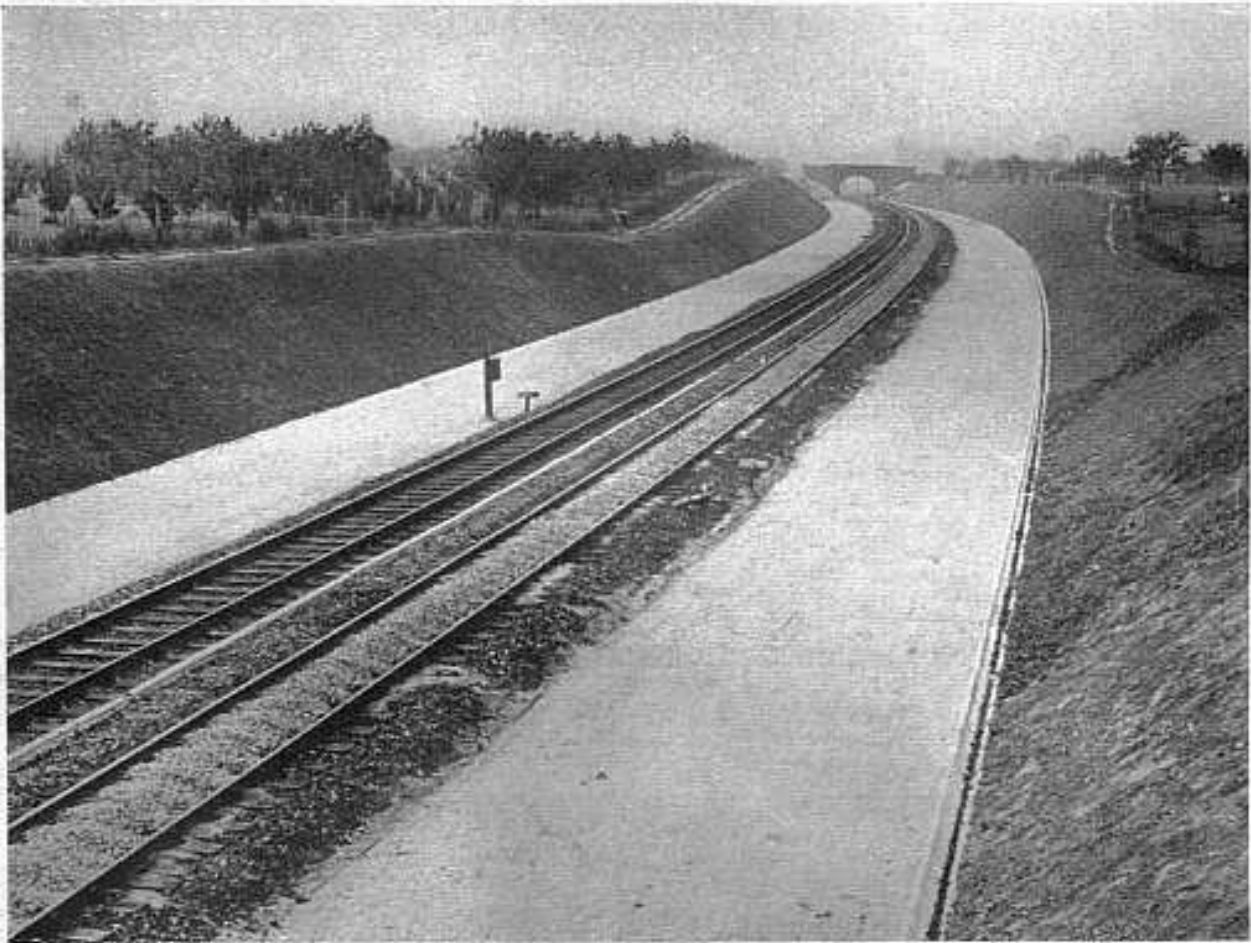


Rainham-Newington Widening, Southern Region



Section of the Kent Coast main line between Rainham and Newington after completion of earthworks and before the laying of passing loops

WORK is now well advanced on a widening scheme between Rainham and Newington to provide up and down running loops, approximately $2\frac{1}{4}$ miles in length, in connection with the extension of the Southern Region third-rail electrified system to the Kent Coast.

Electrification at present extends to Gillingham on this line and to Sevenoaks on the main line to Dover *via* Tonbridge. Extension of electrification from Gillingham to Ramsgate and to Dover *via* Faversham, and of the Sheerness branch, is envisaged as the first stage of the programme, and from Sevenoaks to the coast (with some branch and connecting lines) as Stage 2.

Quadrupling is in progress in the electrified suburban area for some five miles between Bickley Junction and Swanley, where the Maidstone East line diverges. From Swanley to Rainham,

through Chatham and Gillingham, the railway is to remain double track. The loops between Rainham and Newington will enable stopping trains to be by-passed by fast trains when the electric service, with an increased number of trains which will be operated at standard timings, is brought into operation.

The work includes the excavation of some 94,000 cu. yd. of material from the cuttings (which is being used for widening the embankments), the reconstruction or widening of eight bridges, and the construction of new platforms and footbridge at Newington Station.

The work of excavating the cuttings is being carried out by drag-line excavators, and new cutting slopes of $1\frac{1}{2}$ to 1 are being formed. To ensure an even finish, the last 6 in. of the new surface is being removed manually. The top soil, which was removed before the main excavations, is being redressed on the new slopes to a



Newington Station from the London end



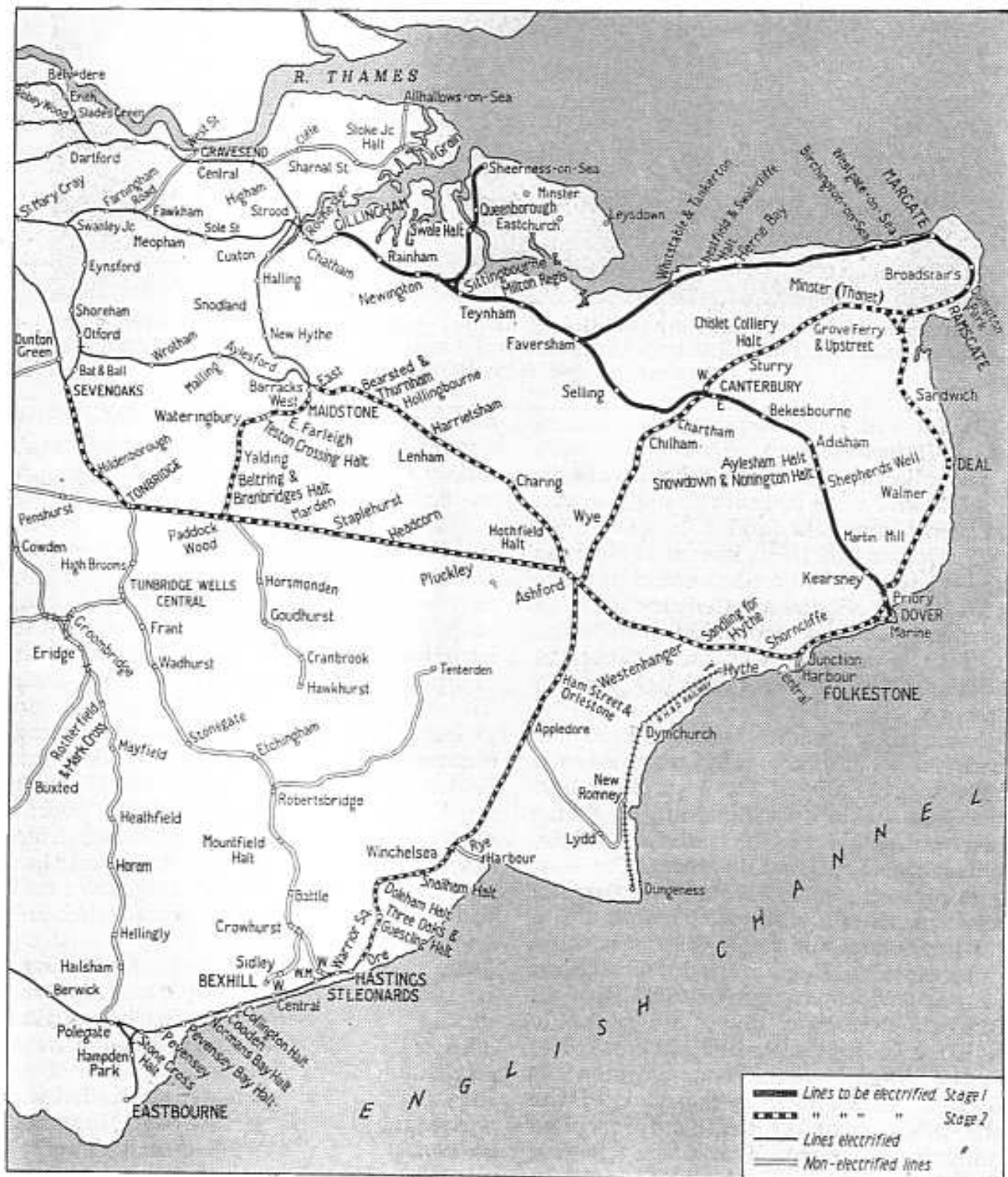
Bridge 179, carrying Quay Lane, being demolished by explosives on November 10. It will be replaced by a new bridge spanning three tracks

depth of 4 in. and sown with grass seed.

The spoil recovered from the cuttings is being moved by lorries to the adjacent embankments. This form of transport was considered most suitable as the main Dover Road runs parallel to the railway, and provides easy access to all parts of the scheme. The new embankments are being constructed by spreading the spoil in 9 in. layers, each layer being compressed

hard before the next is laid. The top soil is being removed to a depth of 6 in. at the base of the widenings and to a depth of 4 in. on the old embankment slopes. This is being replaced on the new embankment slopes to a depth of 7 in., sown with grass seed, and forming a slope of $1\frac{1}{2}$ to 1.

The widened formation has a cross-



Map showing the two stages of the extension of electrification in Kent

Rainham-Newington Widening, S.R.

fall of 1 in 40 outwards and is blanketed with a graded quarry dust brought from Mount Sorrel, Leicestershire, mechanically compacted to a thickness varying from 6 to 11 in.

The work necessitates the widening or complete reconstruction of eight bridges. These are overbridges 179, Quay Lane, recently demolished, and 180 Wakeleys Bridge, demolished and now in the course of reconstruction; and underbridges 181, Oak Lane, 183, Old Barn Bridge, 186, Solomons Bridge, 187, Breach Lane, 188, Cremers Bridge, and 189, Knights Bridge. At Breach Lane the road has to be lowered 3 ft. and the existing abutments under-pinned, to conform to the Ministry of Transport minimum height of 16 ft.

At Newington Station the platforms and footbridge will be demolished to

yield space for the new loops. New platforms will be constructed in a set-back position at the London end of the station, and a new footbridge provided for access to the down side. The existing station buildings are being retained until the effect of the improved services on the station can be estimated.

The goods yard at Newington has been resited and the yard lines relocated to join the main line some 100 yd. westward. The yard points will be moved again to connect with the loop line when it is constructed.