



A cable swathe during construction with a single cable trench open

Undergrounding – what could it look like? (*Information from National Grid's website*)

Land disruption is greater laying underground cables than pylons – soil excavation can be some 14 times more than pylon installation.

A cable swathe likely to be around 65 metres wide

Vegetation has to be cleared along and to the side of trenches to allow for construction and works access.

An illustration from National Grid's website for the traditional method of cable installation.

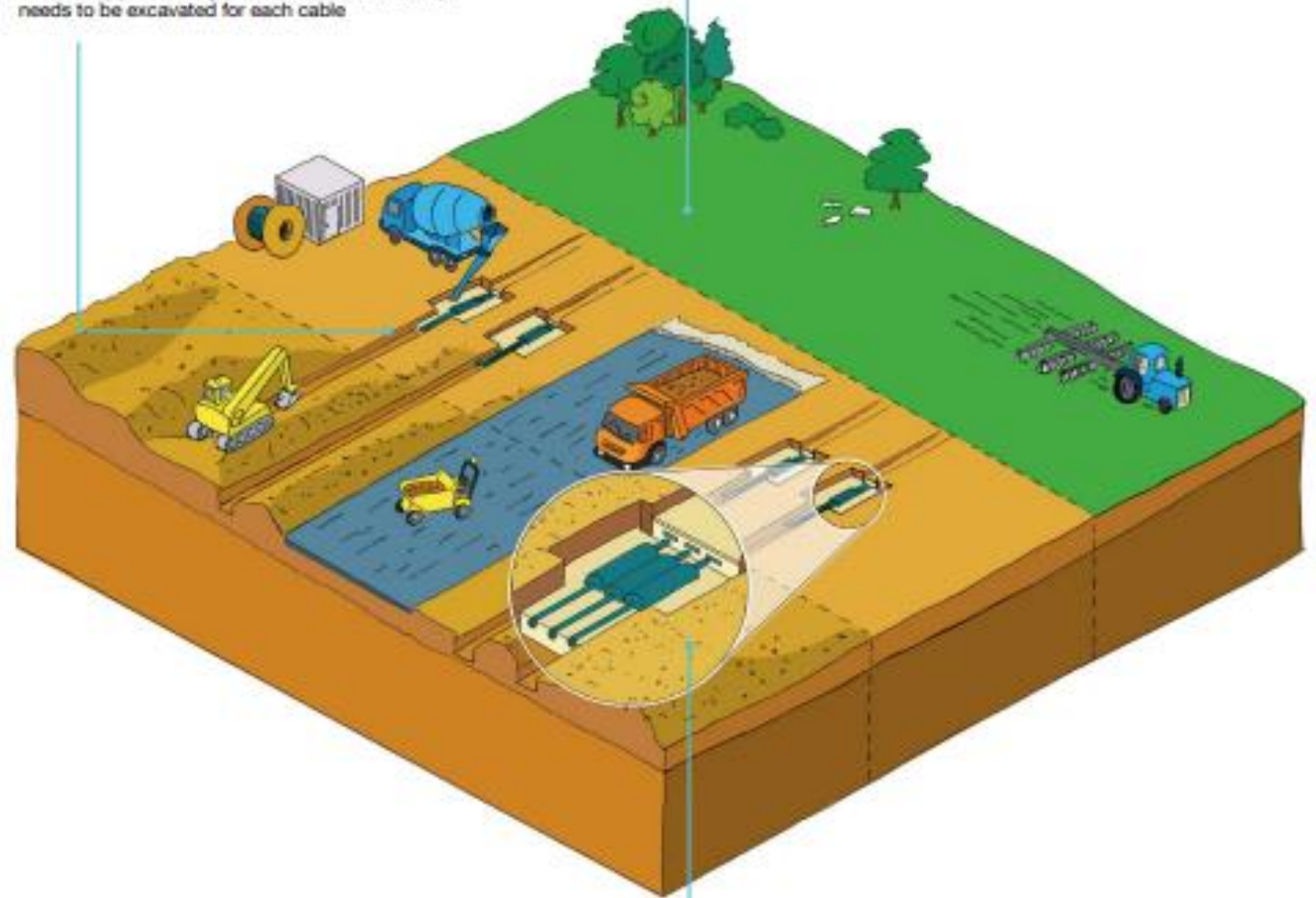
A 'Sealing End Compound' is needed where a section of cable is terminated and the circuit continues to an overhead line.

These enable the transition from cable conductor to the overhead line conductor

For a 400kV double circuit connection we would need to excavate four trenches each containing three cables

A trench approximately 1.5m wide and 1.2m deep needs to be excavated for each cable

Once land is reinstated, land-use restrictions may apply to avoid risk of cables being disturbed or damaged



During construction the working width of the land needed is typically 40-65m

Joining bays are needed where one section of cable joins the next

## Undergrounding Impact

The sealing end compound is generally around 30m x 80m; houses the support structures for the cable terminations/ sealing ends, post insulators, earth switches and a terminal tower.

As the forces acting on a terminal tower are not balanced, they need to be heavy in construction.



*Kingswell, (Aberdeen) compound*



*Sealing End Compound in Oxford*



*A typical sealing end compound for a directly buried cable*

Careful siting and screening in the form of trees/earth mounds can be beneficial but the visual impact of terminal towers is significant.

For most installations, joints are required at intervals along the route. For directly buried cables, joints will be approximately every 500 – 1,000 metres.

Joint Bays are required, which can be up to 40m in length and 5m in width.



*Cable joint bay on a directly buried cable*



*Cable drum offloading cable on site*