

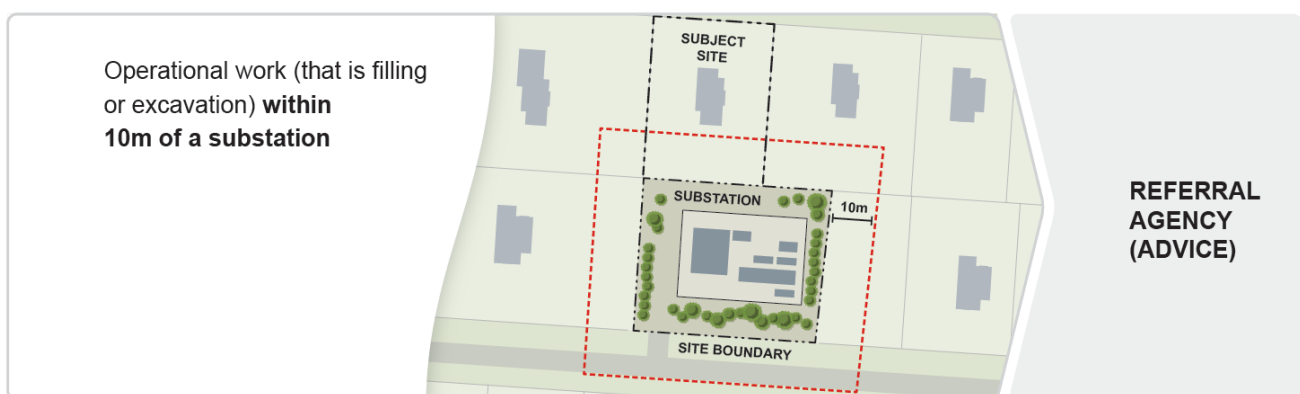
# Operational Works near a Substation

4 February 2019



Part of the Energy Queensland Group

Under the [Planning Regulation 2017](#), we are triggered as a Referral Agency if a development application involves operational works that include *'filling or excavation where the works are located completely or partly within 10 metres of a substation site'*.



## Operational works (excavation and filling)

Significant safety risks exist when working in and around electrical infrastructure. The 10 metre buffer in the regulations enables us to assess the risks from any nearby works and manage them to protect the ongoing operations of the network, and ensure the safety of the community and our people.

Operational works around substations can impact the controlled environment in which a substation operates. Substations provide a core function within the electricity network and any damage could cripple the local electricity supply, often to large areas. To avoid this, we must protect the sensitive electrical infrastructure within our substations from development to ensure the reliable and safe operation of the network.

Without the ability to protect our network assets, external risks could threaten the safe and efficient supply of electricity and also community safety.



**Excavation works close to substation boundaries can cause earth movement around compound foundations, compromise protective earth grids and cause high voltage cable damage or exposure. These can all impact on the performance and safe operation of a substation and can be time consuming and costly to rectify.**

**Our substations play an essential role in the supply of electricity to an area within our network. Any failure in substation operation could potentially affect power distribution to a large section of our network and impact thousands of customers.**

## Operational works (excavation and filling) within 10 metres of a substation

There are a number of considerations that must be taken into account when undertaking works within 10 metres of a substation:

### 1. Flooding/drainage

Excavation or filling work can result in the diversion of flood waters or overland flow onto adjoining properties if not properly managed.

Substations are designed and constructed to ensure protection from floods. The level of flood immunity is developed from the existing features and conditions of the site at the time of construction. New excavation and / or filling works on adjoining landholdings can completely change the flow of water in an area and make the substation vulnerable to flooding/overland flow.

### 2. Substation earth grids and cabling

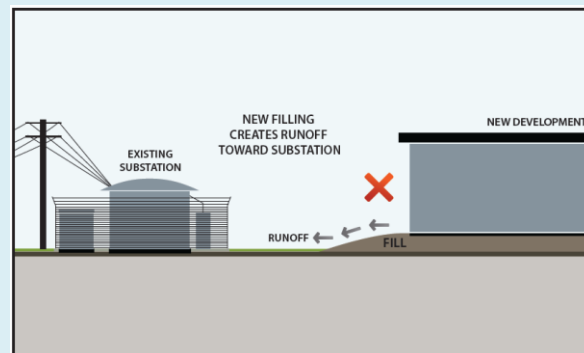
Excavations within 10 metres of substation boundaries can result in the shifting of loads and foundations as well as movement of the conduits that carry underground cabling. This load shifting and movement of underground cables can cause damage to substation equipment, which often results in network faults.

## Contact us

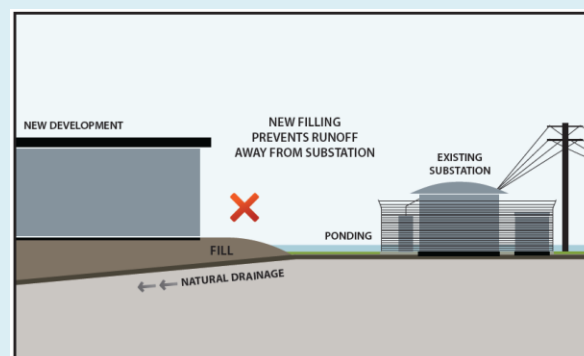
For more information about our Referral Agency, visit our website or contact us at:

- [www.ergon.com.au/referralagency](http://www.ergon.com.au/referralagency)
- 13 74 66 (7am to 5:30pm, Mon to Fri)
- [townplanning@ergon.com.au](mailto:townplanning@ergon.com.au)

And, for more information about working safely near powerlines, please see our [working safely near powerlines information](#)



Filling or excavation works could alter existing overland flow and flood paths if managed poorly. The works can impact on the continued safe operation of a substation by reducing its flood immunity.



Filling works on adjoining landholdings could cause pooling of water on substation sites which were previously flood free. Fill works can create 'dam walls', obstructing the natural/existing flow of water through a site. This can significantly impact on the safe operation of our electrical infrastructure.