

State Planning Policy – state interest guidance material

Energy and water supply

July 2017



Queensland
Government

The State of Queensland, July 2017. Published by the Department of Infrastructure, Local Government and Planning, 1 William Street, Brisbane Qld 4000, Australia.



Licence: This work is licensed under the Creative Commons CC BY 4.0 Australia licence. To view a copy of the licence, visit <http://creativecommons.org/licenses/by/4.0/>. Enquiries about this licence or any copyright issues can be directed to the department by email to info@dilgp.qld.gov.au or in writing to PO Box 15009, City East Qld 4002.

Attribution: The State of Queensland, Department of Infrastructure, Local Government and Planning.

The Queensland Government supports and encourages the dissemination and exchange of information. However, copyright protects this publication. The State of Queensland has no objection to this material being reproduced, made available online or electronically but only if it is recognised as the owner of the copyright and this material remains unaltered.



The Queensland Government is committed to providing accessible services to Queenslanders of all cultural and linguistic backgrounds. If you have difficulty understanding this publication and need a translator, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone the Queensland Department of Infrastructure, Local Government and Planning on 13 QGOV (13 74 68).

Disclaimer: While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained within. To the best of our knowledge, the content was correct at the time of publishing.

Any references to legislation are not an interpretation of the law. They are to be used as a guide only. The information in this publication is general and does not take into account individual circumstances or situations. Where appropriate, independent legal advice should be sought.

An electronic copy of this report is available on the Department of Infrastructure, Local Government and Planning's website at www.dilgp.qld.gov.au.

Contents

Using the SPP state interest guidance material	1
Part 1: Understanding the state interest.....	3
Part 2: Integrating the state interest policies	6
Part 3: Mapping	11
Part 4: Applying assessment benchmarks	12
Part 5: Example planning scheme provisions.....	13
Part 6: Supporting information	24

Using the SPP state interest guidance material

The Queensland Government established the State Planning Policy (SPP) to define the matters of state interest in land-use planning and development. State interests in the SPP consist of a state interest statement, state interest policies and, where applicable, assessment benchmarks.

This guidance material has been prepared to support the implementation of the SPP and the interpretation of the Energy and water supply state interest. Although the SPP broadly applies to a range of activities undertaken by state and local governments, the guidance material is particularly focused on assisting local governments when making or amending a local planning instrument and when applying the assessment benchmarks (to the extent relevant).

The SPP does not prioritise one state interest over another, providing flexibility for decision-makers to respond to specific regional and local circumstances. This allows for the state interests to be considered in their entirety rather than as individual or separate priorities. State interests are to be considered in the context of the guiding principles in the SPP, which promote an outcome focused, integrated, efficient, positive and accountable planning system.

The SPP guidance material is intended to be read in conjunction with the SPP and the relevant state interest. The SPP guidance material is not statutory in its effect and does not contain any new policy. It is not mandatory for local governments to use the guidance material but it is provided to assist with the interpretation and application of the state interest policies and the assessment benchmarks contained in the SPP.



The SPP guidance material is structured as follows:

Part 1: Understanding the state interest – This section briefly explains why a particular matter is a matter of state interest, describes the purpose of the relevant state interest statement and defines the core concepts associated with the state interest.

Part 2: Integrating the state interest policies – This section provides background and further explanation for each of the state interest policies defined in the SPP. It also provides examples and options regarding how to appropriately integrate each state interest policy into a local planning instrument.

Part 3: Mapping – This section identifies and explains the mapping layers contained in the SPP Interactive Mapping System (IMS) relevant to a particular state interest. It also clarifies how a local government can locally refine state mapping in certain instances and outlines where online mapping for the state interest can be accessed (if relevant).

Part 4: Applying assessment benchmarks – In accordance with the Planning Regulation, an assessment manager or referral agency must have regard to the SPP when assessing a development application. For some state interests, there are also specific assessment benchmarks that must be used by a local government for development assessment. This section outlines the development applications to which the assessment benchmarks apply and how a development application may demonstrate compliance with these benchmarks, to the extent that these are relevant. The assessment benchmarks contained in this section will apply to assessable development in addition to any assessment benchmarks contained in a local planning instrument, to the extent of any inconsistency.

Part 5: Example planning scheme provisions – This section provides example planning scheme provisions that a local government may choose to adopt, or to adapt, when making or amending a local planning instrument. It is important to note that the example planning scheme provisions provided may only be in relation to a particular aspect of a state interest, rather than addressing all of the particular state interest policy requirements.

Part 6: Supporting information – This section provides a list of technical resources that a local government may wish to refer to when making or amending a planning scheme. This section also provides a glossary of terms and acronyms used throughout the SPP guidance material.

Where text in this guidance material is in a coloured text box, it is an excerpt from the SPP and is either the state interest statement, state interest policy or the assessment benchmarks applicable to the *Energy and water supply* state interest.

Any queries related to the SPP guidance material or the SPP should be sent to SPP@dilgp.qld.gov.au.

Part 1: Understanding the state interest

State interest statement

The timely, safe, affordable and reliable provision and operation of electricity and water supply infrastructure is supported and renewable energy development is enabled.



Background

A strong and resilient network of electricity and water supply underpins the standard of living and economic development in Queensland. The reliability and operational integrity of major electricity infrastructure and bulk water supply infrastructure must be maintained. It is also important that electricity and water are able to be supplied to consumers when needed and at an affordable price. Delivering a reliable and affordable energy and water supply depends upon a network of infrastructure that is planned, constructed and maintained in a timely and cost-efficient way.

Queensland is rich in renewable energy resources and the Queensland Government is committed to increasing the uptake of renewable energy to drive jobs, investment and emissions reduction. The planning system has a role to play in enabling this renewable energy development.

Planning can also play a role in reducing the impacts of energy and water supply infrastructure. Depending on the type and function of the infrastructure, the issues that may be of concern include: visual amenity, noise, public safety, routine and emergency maintenance and access and easement-related restrictions (such as temporary traffic interruptions). Effective integration of infrastructure networks in planning schemes can help avoid or lessen these problems.

Core concepts

Major electricity infrastructure

Major electricity infrastructure consists of powerlines (transmission and distribution lines) and their supporting infrastructure (e.g. towers), easements and corridors, and substations. Transmission lines transfer electricity from power generation sources to the transmission grid and bulk supply substations or switchyards. Then major distribution lines take electricity to zone substations for supply to the low voltage network. Powerlink is the main transmission entity in Queensland, and Energex and Ergon Energy are the main distribution entities.

Major electricity corridors traverse a wide variety of land holdings and landscapes. Electric lines generally consist of overhead lines and some underground lines with voltages over 66 kiloVolts (kV). Due to the very high construction cost of underground cabling, electricity providers prefer overhead lines, although sometimes underground cabling is used where overhead line construction is not possible. Structures for overhead lines vary and include steel towers, steel poles, timber poles and concrete poles, some of which have stays.

Substations provide many functions within the electricity grid, including transforming electricity from a higher to a lower voltage (referred to as stepping down the voltage). Substations may be established in a wide range of forms and sizes, including:

- high voltage yard, such as switchyards, which involve a switching function rather than transformation, and transition yards, which involve a transition from overhead to underground or vice versa
- bulk supply substations – generally transforming 275 kV to 132 kV, and 110 kV to 66 kV or 33kV
- direct transformation substations – which may transform bulk supply (e.g. 110 kV) to distribution level (e.g. 11 kV)
- zone substations – transforming either 132kV, 110kV, 66 kV or 33 kV to 22kV or 11kV.

Most substations in suburban and rural areas have a combination of outdoor and indoor components. Transmission substations are generally provided outdoors. Some substations may be enclosed within the large buildings they directly serve (for example in major centres). Under the Planning Regulation 2017, pole-mounted substations, transformers or voltage regulators, or pad-mounted substations are excluded from the definition of a substation site (avoiding triggering referral of development near small-scale facilities).¹

Minor electricity infrastructure is not dealt with in the SPP, as it is exempt from regulation by a planning scheme under the Planning Regulation 2017. Minor electricity infrastructure is generally concerned with supply directly to customers.

Bulk water supply infrastructure

Bulk water supply infrastructure is infrastructure shown on the SPP Interactive Mapping System as containing or consisting of:

- pipelines and channels
- pump station facilities and reservoir facilities
- water quality facilities and water treatment plants
- bulk water storage infrastructure
- facilities for extracting groundwater.

Pipelines carry raw (untreated) water required for irrigation or other uses or treated water for drinking.

Channels are usually open artificial channels (which can be earthen, concrete or clay-lined) associated with water required for irrigation.

Pump station facilities refer to any facility that houses a pump.

Reservoir facilities refer to bulk water stored in a storage tank (including concrete, steel, and poly tanks). A reservoir facility may hold raw or treated water.

Water quality facilities ensure the quality of treated water in the supply network is maintained at an acceptable standard. Activities at these facilities include the measurement of water quality and dosing of chemicals.

Water treatment plants remove contaminants in raw water to produce drinking water.

¹ Substation is defined in schedule 24 of the Planning Regulation 2017. In addition, schedule 6 of the Planning Regulation makes pole- or pad-mounted substations exempt from regulation under a planning scheme (provided they are less than 66 kV).

Bulk water storage infrastructure refers to structures associated with dams and weirs. Dam structures can include lake and lagoon walls, balancing storages or off-stream storages, while weir structures can include structures for intakes, diversions, barrages and anabranches.

Facilities for extracting groundwater refers to major bores and bore fields used to supply drinking water.

Renewable energy

Renewable energy is energy obtainable from natural resources that can be constantly replenished. Renewable energy sources include bioenergy, geothermal energy, hydro energy, ocean energy, solar energy and wind energy.

A renewable energy facility refers to the use of premises for the generation of electricity or energy from a renewable energy source, but does not include the use of premises to generate electricity or energy that is to be used only on the premises. A renewable energy facility is defined in schedule 3 of the Planning regulation 2017.

Part 2: Integrating the state interest policies

When making or amending a local planning instrument, each local government is required to consider all state interests in the SPP and appropriately integrate those state interests applicable to their local area.

Appropriately integrating a state interest requires all state interest policies to be considered by a local government, but it does not necessarily mean a local government must address each and every state interest policy when making or amending a local planning instrument. For example, if a local government needs to balance competing state interests in a local planning instrument, it may not be possible to address all policies for a particular state interest.

This balancing of state interests may mean that the planning scheme preferences one state interest policy over another. This outcome will be considered as part of the state interest review and ministerial approval means the approach taken by the local government in balancing the state interest policies is endorsed by the state.

This section provides examples for how to appropriately integrate each state interest policy for the Energy and water supply state interest.

State interest policy (1)

Existing and approved future major electricity infrastructure locations and corridors (including easements and electricity substations), and bulk water supply infrastructure locations and corridors (including easements) are protected from development that would compromise the corridor integrity, and the efficient delivery and functioning of the infrastructure.

Background

It is important to identify and protect existing and future major electricity and bulk water supply infrastructure to ensure these services continue to provide communities with necessary electricity and water well into the future.

How to appropriately integrate the policy

- 1.1 Where major electricity and bulk water supply infrastructure, including its associated corridors and easements, cross local government boundaries, consult state government agencies (including government-owned corporations) and adjoining local governments early in the planning scheme formulation process in order to identify and protect existing and future infrastructure.

Where new urban growth areas (both infill and greenfield) are proposed, engage early with relevant state government agencies and utility providers regarding infrastructure capacity and requirements.

- 1.2 Ensure the strategic intent and relevant themes within the strategic framework of a planning scheme recognise the importance of protecting major electricity infrastructure and bulk water supply infrastructure to ensure ongoing safe and efficient operation.

- 1.3 Ensure the planning scheme reflects the importance of energy and water supply corridors, including associated plant, equipment and easements, particularly those that cross local government boundaries.
- 1.4 Identify existing and approved major electricity infrastructure and bulk water supply infrastructure locations and corridors on strategic framework maps.
- 1.5 Where appropriate, existing and approved future major electricity infrastructure and bulk water supply infrastructure is zoned to reflect the nature of the infrastructure, (for example, a special purpose zone). The zoning of this land can be used to reinforce community expectations that the land is committed to this purpose. Alternatively, corridors may remain in another zoning designation (for example, rural) provided planning scheme provisions adequately protect the infrastructure.
- 1.6 Identify existing and approved major electricity infrastructure bulk water supply infrastructure locations and corridors on zoning or overlay maps (if used). In the mapping, differentiation should be made between utility providers (see SPP IMS for mapping for different utility providers).

State interest policy (2)

Major electricity infrastructure and bulk water supply infrastructure such as pump stations, water quality facilities and electricity substations, are protected from encroachment by sensitive land uses where practicable.

Background

In some cases, electricity and bulk water infrastructure may have operational features that conflict with sensitive land uses² and other incompatible uses. Some examples include visual amenity, noise and public safety concerns. These concerns can give rise to 'reverse amenity' issues where operational impediments are placed on the infrastructure to avoid or minimise potential impacts on sensitive land uses. It is therefore important to minimise encroachment by sensitive land uses and other incompatible development through appropriate planning measures. This ensures the continued supply of services and acceptable standards of living for these communities, and minimises expensive retrofitting of infrastructure.

How to appropriately integrate the policy

- 2.1 Ensure the strategic intent and relevant themes within the strategic framework of a planning scheme recognise the importance of protecting major electricity infrastructure and bulk water supply infrastructure from encroachment by sensitive land uses and other incompatible development to ensure their ongoing safe and efficient operation.
- 2.2 Where buffers and setbacks are implemented, the planning scheme's strategic framework recognises and protects this buffer area from development that would compromise the integrity or purpose of the buffer/setback.
- 2.3 Ensure that land close to major electricity infrastructure and bulk water supply infrastructure is zoned for compatible types of development.

² **Sensitive land use** is defined in Schedule 24 of the Planning Regulation 2017.

- 2.4 Intensification of sensitive uses adjacent to major electricity and bulk water supply infrastructure should be avoided. Where new development is to occur, an effective approach to managing the interface should be set out in the relevant code(s). For example, an overlay code could contain provisions for major electricity and bulk water supply infrastructure (see example Major Electricity and Bulk Water Supply Infrastructure code in part E).
- 2.5 Buffers and setbacks can be an effective way of providing separation between the operational areas of infrastructure and sensitive land uses. This separation may ensure that significant infrastructure is able to operate safely and efficiently while minimising the potential for adverse impacts on surrounding development. Zoning, local area plans and overlays should establish development assessment requirements that help maintain the buffer area in its intended form.

State interest policy (3)

Development of major electricity infrastructure and bulk water supply infrastructure avoids or otherwise minimises adverse impacts on surrounding land uses and the natural environment.

Background

New major electricity and bulk water supply infrastructure may be required to meet future energy and water supply demands and meet agreed levels of service. In planning for new infrastructure, the potential adverse impacts of the infrastructure on the natural environment (such as the clearing of native vegetation or the removal of soils) and surrounding land uses (such as reduced visual amenity, noise and public safety concerns) should be considered and avoided or otherwise minimised where possible.

How to appropriately integrate the policy

- 3.1 Ensure the strategic intent and relevant themes within the strategic framework of a planning scheme ensure major electricity infrastructure and bulk water supply infrastructure is located, designed and operated to avoid or otherwise minimise adverse impacts on surrounding land uses and the natural environment.
- 3.2 Minimise the potential for adverse impacts on surrounding land uses and on the natural environment through the appropriate location and design of infrastructure and through the use of buffers and setbacks. Where buffers and setbacks cannot be implemented (due to encroachment of existing sensitive land uses), the potential for adverse impacts should be minimised by implementing design measures and locating plant and operational areas within the site.
- 3.3 For major electricity infrastructure that is a substation, identify appropriate levels of assessment for a substation in each zone. For example, a substation could be accepted development in a special purpose zone, code assessable in an industrial zone, and impact assessable in a residential zone.

State interest policy (4)

The development and supply of renewable energy at the regional, local and individual scale is enabled in appropriate locations.

Background

Planning schemes play an important role in identifying and protecting appropriate sites for renewable energy development. Regional plans will also play a significant role, especially for renewable energy hubs or zones.

How to appropriately integrate the policy

- 4.1 Consult adjoining local governments early in the planning scheme formulation process to identify and protect any regionally significant renewable energy zones or hubs and corridors.
- 4.2 Engage with relevant government agencies and utility providers to determine infrastructure capacity constraints (such as the capacity of the electricity network), and discuss what options exist (if any) for seeking alternative locations for development, or what (if any) additional infrastructure would be required to support development.
- 4.3 Ensure the strategic intent and relevant themes within the strategic framework of a planning scheme recognise the importance of renewable energy development.
- 4.4 Support the integration of large-scale renewable energy development and supporting technologies – including energy storage facilities – within the existing network by:
 - considering grid connection requirements
 - network capacity
 - identifying areas near major electricity infrastructure (including substations).

The following mapping may assist:

- major electricity infrastructure mapped in the SPP IMS
 - mapping layers available through the Australian Renewable Energy Agency (ARENA) Australian Renewable Energy Mapping Infrastructure (AREMI) site (including mapping of substation distribution capacity and distances to major transmission lines and substations).
- 4.5 Ensure renewable energy development is supported by other infrastructure required to operate the facility and supply resources to the facility by locating development near supporting infrastructure such as bulk water supply infrastructure, roads, and processing and distribution centres for certain resources. The SPP IMS and AREMI sites include mapping layers showing supporting infrastructure (e.g. bulk water supply infrastructure, state transport infrastructure), may assist.
 - 4.6 Identify suitable locations for renewable energy development that have limited existing constraints (e.g. ALC Class A land and Class B land, endangered vegetation, vegetation that provides essential habitats for protected wildlife) and land-use constraints (e.g. access and land tenure constraints). The SPP IMS and AREMI sites include mapped matters of environmental significance that may assist.

- 4.7 Identify key areas of renewable energy resource availability. The AREMI site includes mapping layers for different renewable energy resources and topography that may assist may assist.
- 4.8 Identify areas where electricity infrastructure and other supporting infrastructure could support the co-location of clusters of renewable energy developments in renewable energy zones or hubs.
- 4.9 Ensure renewable energy facilities avoid or otherwise minimise adverse impacts on surrounding land uses and the natural environment by ensuring appropriate location, siting, design and operation.

Part 3: Mapping

To support the SPP, wherever possible and to the extent relevant, matters of state interest are spatially represented as layers included in the SPP IMS. The mapping is necessary to help local government, the community and industry understand and interpret where and how state interest policies and assessment benchmarks included in the SPP apply.

Several mapping layers contained in the SPP IMS are prepared by entities other than the Department of Infrastructure, Local Government and Planning and may serve an additional purpose outside the Queensland planning system. Where relevant, the SPP IMS represents the single point of truth for the spatial representation of the state interests expressed in the SPP.

Appendix 1 of the SPP identifies three categories of mapping layers provided or referred to in the SPP IMS that are intended to be used in one of the following ways:

- Category 1** – State mapping layers that must be appropriately integrated in a local planning instrument in a way that achieves the relevant state interest policy.
- Category 2** – State mapping layers that must be appropriately integrated, and can be locally refined by a local government in a local planning instrument in a way that achieves the relevant state interest policy.
- Category 3** – State mapping layers that are provided for local government information purposes only.

The SPP IMS is located at: <https://planning.dilgp.qld.gov.au/maps> Any queries related to the SPP mapping should be sent to mappingenquiries@dilgp.qld.gov.au.

This section provides clarity regarding the mapping layers on the SPP IMS relevant to the Energy and water supply state interest.

Mapping layers

Major Electricity Infrastructure	
Purpose	Identification of major electricity infrastructure locations and corridors.
Mapping category	Category 1
Data custodian	Powerlink, Ergon, Energex
Head of power	SPP

Bulk Water Supply Infrastructure	
Purpose	Identification of bulk water supply infrastructure locations and corridors.
Mapping category	Category 1
Data custodian	Seqwater, Sunwater (Regional Queensland)
Head of power	SPP

Part 4: Applying assessment benchmarks

The SPP does not contain any specific assessment benchmarks for the Energy and water supply state interest.

However, for the purposes of development assessment, the assessment manager must have regard to the SPP (including the Energy and water supply state interest statement and policies) in accordance with the Planning Regulation 2017, where the planning scheme has not appropriately integrated the state interest. The SPP applies as a matter to have regard to where the assessment manager considers these matters are relevant to the proposed development and only to the extent of any inconsistency with the planning scheme.

Part 5: Example planning scheme provisions

Example planning scheme provisions for the Energy and water supply state interest are provided below. Local governments may choose to adopt or otherwise adapt these when making or amending a planning scheme.

The example planning scheme provisions should not be seen as the only way to appropriately reflect the Energy and water supply state interest. It is not intended that a local government would use these example provisions verbatim.

Where a local government seeks to adopt the example planning scheme provisions, variations will be required to reflect the local circumstances, opportunities and aspirations of each local government area.

Strategic outcomes

Major electricity and bulk water supply infrastructure is:

- identified and protected to ensure the efficient delivery and functioning of the infrastructure
- protected from encroachment from sensitive or other incompatible development
- located, designed and operated to avoid or otherwise minimise adverse impacts on surrounding land uses and the natural environment.

The development and supply of renewable energy at the regional, local and individual scale is enabled.

Example code: Major electricity and bulk water supply infrastructure

Application

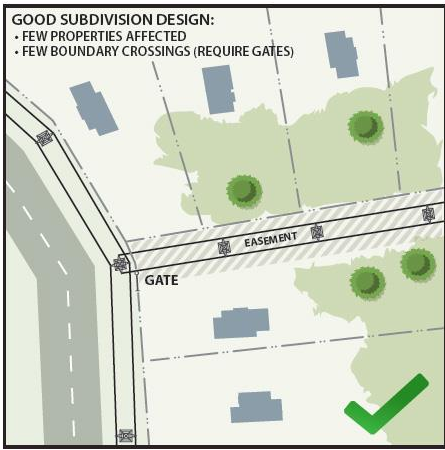

The following content could appear in a Major Electricity and Bulk Water Supply Infrastructure Overlay code, within a Regional Infrastructure Overlay code containing provisions for other types of regional infrastructure, or within zone or use codes, as appropriate.

Purpose

The purpose of this code is to ensure:

1. Approved future major electricity or bulk water supply infrastructure locations and corridors are protected from encroachment by sensitive land uses or incompatible development
2. Development includes setbacks and buffers to major electricity and bulk water supply infrastructure locations and easements to avoid safety risks to people or property and to minimise noise and visual impacts
3. Development does not compromise or interfere with the physical integrity and operation, maintenance and expansion of existing major electricity or bulk water supply infrastructure.

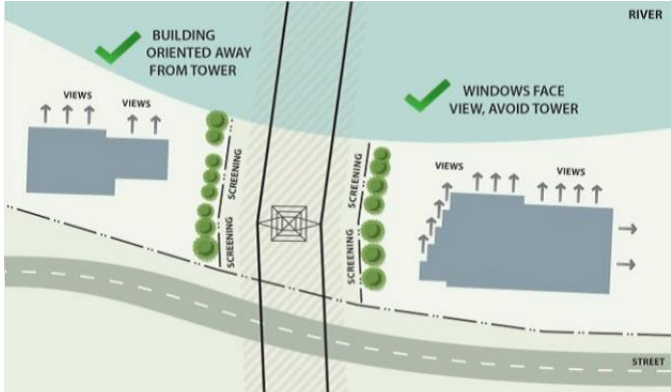
Table 1: Assessment benchmarks for assessable development

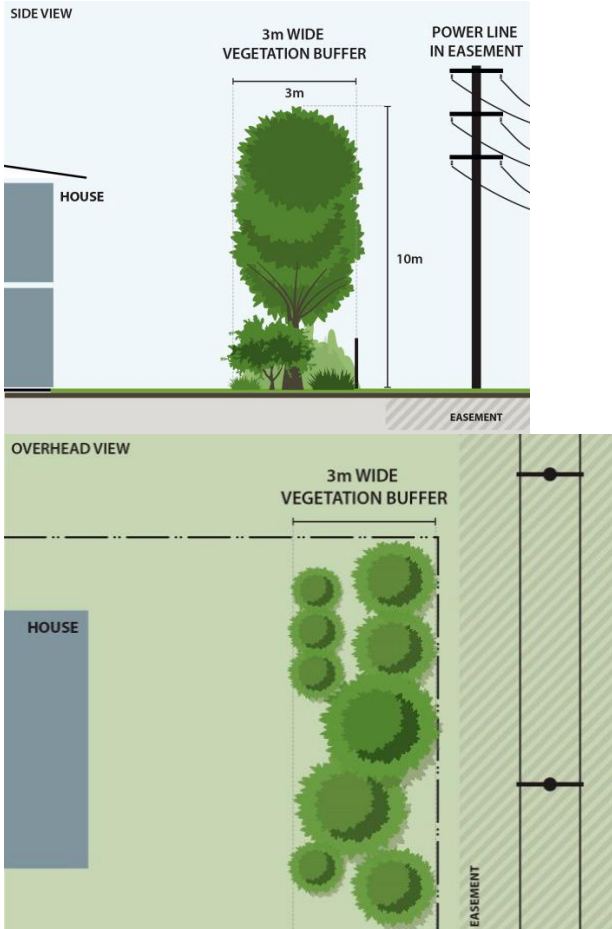
Performance outcomes	Acceptable outcomes
General	
Access	
PO1 Development does not create a barrier to existing access points to major electricity and bulk water supply infrastructure.	AO1 Development does not limit access with: <ol style="list-style-type: none"> fences constructed along the boundaries of, or traversing, existing or proposed infrastructure easements (other than as required to limit public access from the development to the infrastructure for public safety) storage of equipment or materials within or along the boundaries of existing or proposed infrastructure easements construction of buildings within or along the boundaries of existing or proposed infrastructure easements.
PO2 Major electricity or bulk water supply infrastructure that is linear infrastructure (e.g. powerlines or pipelines) within private land is protected by easements in favour of the responsible utility provider.	AO2 Existing easements are maintained and where none currently exist, new easements are created that are sufficient for the provider's requirements.
PO3 When reconfiguring a lot occupied by major electricity or bulk water supply infrastructure, the operational reliability and integrity of the infrastructure is protected by: <ol style="list-style-type: none"> maintaining the level of access via existing easements; or creating a new easement. 	<p>No acceptable outcome is provided.</p> <p>Note: The images below provide one example on how to maintain access to an existing easement by ensuring that additional lots are not created within the easement. When creating an easement, utility providers must be consulted to ensure their requirements are satisfied.</p> <div data-bbox="772 1128 1219 1576"> <p>GOOD SUBDIVISION DESIGN:</p> <ul style="list-style-type: none"> FEW PROPERTIES AFFECTED FEW BOUNDARY CROSSINGS (REQUIRE GATES)  </div> <div data-bbox="772 1608 1219 2047"> <p>POOR SUBDIVISION DESIGN:</p> <ul style="list-style-type: none"> MANY PROPERTIES AFFECTED MANY BOUNDARY CROSSINGS AND GATES  </div>

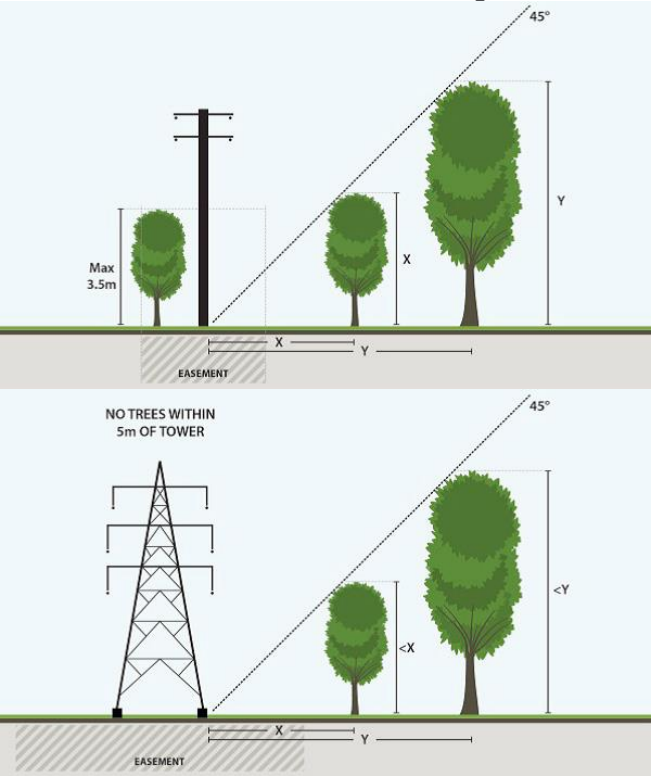
Performance outcomes	Acceptable outcomes
PO4 When reconfiguring a lot occupied by major electricity or bulk water supply infrastructure, the reconfiguration does not intensify development within an easement in a way that would impede access to the infrastructure by the responsible utility provider.	AO4 The number of lots within an easement is not increased.
Design and landscaping	
PO5 Reconfiguration for a new development area integrates major electricity and bulk water supply infrastructure within the overall layout. In particular, the layout: <ul style="list-style-type: none"> (a) ensures land of sufficient size and suitability to accommodate the existing and future infrastructure network (b) minimises the visual impact of infrastructure (c) provides for an interface or relationship with surrounding land uses that minimises the potential for nuisance (including noise), health and safety concerns. 	No acceptable outcome is provided. Note: Applicants should consult with the relevant transmission or distribution entity early in the master planning process to determine major electricity infrastructure requirements.
PO6 Development within a major electricity or bulk water supply infrastructure corridor incorporates the corridor into a useable public open space network wherever possible.	No acceptable outcome is provided.
PO7 Development does not increase flooding, drainage or erosion conditions that would impact on the major electricity or bulk water supply infrastructure. Note: The figures below illustrate the concept.	No acceptable outcome is provided.




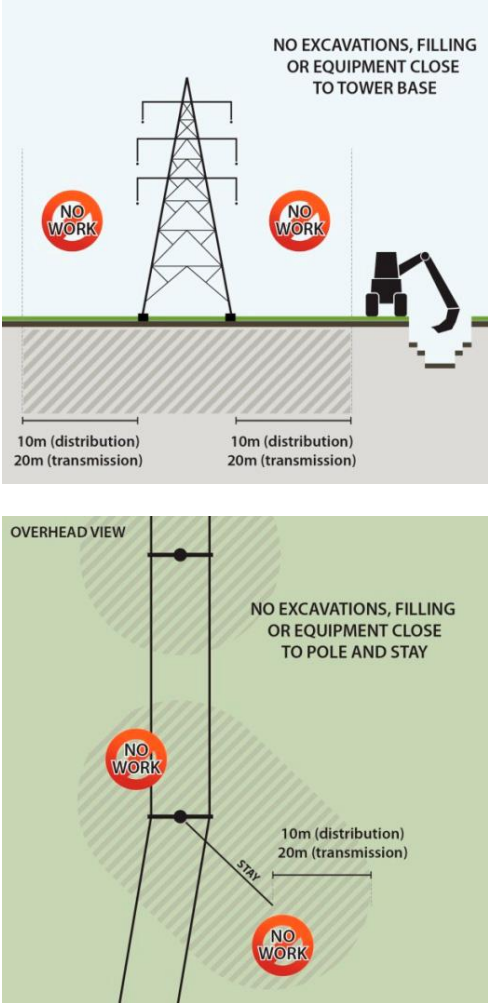
Performance outcomes		Acceptable outcomes	
Bulk Water Supply Infrastructure			
PO8 Development is set back from bulk water supply infrastructure to: (a) avoid safety risks to people and property (b) minimise noise and visual impacts to people and property (c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.		AO8 Development is setback in accordance with Table X 'Recommended separation distances from bulk water supply infrastructure'.	
PO9 Vegetation planted near pipelines does not pose any risk to the physical integrity and operation of the pipeline.		AO9 Planting near pipelines complies with the current Seqwater Network Consent Guidelines.	
Major Electricity Infrastructure			
Setbacks			
PO10 Development of a sensitive land use (other than a Class 10 building or structure) is set back from the major electricity infrastructure to: (a) avoid safety risks to people and property (b) minimise noise and visual impacts to people and property (c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure are not compromised.		AO10.1 Sensitive land uses (other than Class 10 buildings or structures) are not located within an easement for major electricity infrastructure. AND AO10.2 Sensitive land uses (other than Class 10 buildings or structures) maintain a setback of at least: (a) 10 metres from any distribution substation. (b) 50 metres from a transmission substation. (c) 30 metres from a transmission line easement.	
PO11 Development of a Class 10 building or structure is set back from the major electricity infrastructure to: (a) avoid safety risks to people and property (b) ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.		AO11.1 Class 10 buildings or structures: (a) are not located within an easement for a distribution line, or (b) are only located within an easement for a distribution line where: <ul style="list-style-type: none">development is not a swimming pool;development maintains a safe clearance from the powerlines in accordance with Electrical Safety Regulation 2013; ordevelopment is not located in a vacant easement for a future powerline or in a vacant section of a double width easement. Editor's Note: Applicants should contact the relevant transmission or distribution entity for further information on whether an easement is either a vacant easement for a future powerline or a double width easement with a vacant section. AND AO11.2 Class 10a buildings or structures and Class 10b structures (excluding swimming pools) maintain a setback from the fencing of any substation of at least 4 metres. AND	

Performance outcomes	Acceptable outcomes
	<p>AO11.3 Class 10b structures that are swimming pools maintain a setback from any substation of a distance of at least 30 metres.</p>
<p>PO12 Development of major hazard facilities, extractive industries, explosives storage facilities or development involving explosive blasting is setback from the major electricity infrastructure to:</p> <ul style="list-style-type: none"> (a) avoid safety risks to people and property (b) minimise noise and visual impacts to people and property (c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure are not compromised. 	<p>No acceptable outcome is prescribed.</p>
<p>PO13 Development other than:</p> <ul style="list-style-type: none"> • a sensitive land use • a class 10 building or structure • major hazard facilities • extractive industries • development involving explosive blasting • explosives storage facilities. <p>Is set back from the major electricity infrastructure to:</p> <ul style="list-style-type: none"> (a) avoid safety risks to people and property (b) minimise noise and visual impacts to people and property (c) ensure the physical integrity and operation, maintenance and expansion of the infrastructure are not compromised. 	<p>AO13.1 Development is not located within an easement for major electricity infrastructure.</p> <p>AND</p> <p>AO13.2 Development maintains a setback of at least 10 metres from any distribution substation and 50 metres from any transmission substation.</p>
Design and landscaping	
<p>PO14 Residential buildings, other than where they are separated from the infrastructure by a road, are oriented to avoid direct overlooking of major electricity infrastructure.</p>	<p>AO14.1 Windows and balconies of residential buildings do not face easements and infrastructure sites.</p> <p>AND</p> <p>AO14.2 Side views from residential buildings to infrastructure are screened by devices attached to the building. Editor's note: The figure below provides an illustration of buildings oriented away from infrastructure.</p> 

Performance outcomes	Acceptable outcomes
<p>PO15 Development maintains a safe clearance from all powerlines.</p>	<p>AO15 Development maintains the clearances required under Schedules 4 and 5 of the Electrical Safety Regulations 2013 or the current relevant standards.</p>
<p>PO16 Development (other than reconfiguring a lot) includes landscaping that minimises the visual impacts of major electricity infrastructure.</p>	<p>AO16.1 A minimum 3 metre wide densely planted landscaped buffer is provided along the boundary of a lot adjoining a lot or easement containing major electricity infrastructure (other than a substation), including provisions for advanced trees and shrubs that will grow to a minimum height of 10 metres.</p> <p>AND</p> <p>AO16.2 A minimum 2 metre wide densely planted landscaping buffer is provided along the boundary of a lot adjoining a lot or easement containing a substation, including provision for advanced trees and shrubs that will grow to a height which blocks direct views from habitable rooms to a substation and won't encroach into statutory electrical clearance distances.</p> <p><i>Note: The figures below provide an example but are not drawn to scale. Applicants may find guidance in Powerlink's Screening your home from powerlines: A guide to planning trees and shrubs outside easements to screen powerlines. Applicants should also note that vegetation will need to maintain statutory clearances (for further guidance, refer to Ergon's Standard for Vegetation Management and Standard for Vegetation Clearance Profile).</i></p> 

Performance outcomes	Acceptable outcomes
PO17 Development (other than reconfiguring a lot) that includes landscaping does not limit access to the major electricity infrastructure with the landscaping treatments.	No acceptable outcome is provided.
PO18 Development that involves reconfiguring a lot results in a lot of sufficient size to provide adequate landscaped buffers along the lot boundaries to screen and soften the visual impact of major electricity infrastructure.	AO18 The future development of a reconfigured site shall be capable of providing a minimum 5 metre wide densely planted landscaped buffer, which is able to sustain advanced trees and shrubs capable of growing to a minimum height of 10 metres.
PO19 Vegetation planted near major electricity infrastructure does not pose any risk to the physical integrity and operation of the infrastructure.	AO19.1 Where vegetation is planted within an easement of an overhead powerline or, where there is no easement, it should not be planted: <ul style="list-style-type: none"> (a) within 5 metres either side of the area directly below the conductors (b) within 20 metres of a powerline structure, pole or stay (c) if it has a mature height of more than 3.5 metres. <p>AND</p> AO19.2 Vegetation planted within an underground powerline easement does not have a mature root system greater than 150 mm in depth and is not located within 1 metre of the area directly above the powerline cable. <p>AND</p> AO19.3 Vegetation adjoining easements complies with the clearance dimensions illustrated in the figures below.  <p>AND</p>

Performance outcomes	Acceptable outcomes
<p>PO20 Where major electricity infrastructure is located within public open space, the dimensions and characteristics of the open space area are sufficient to accommodate the electricity easement on site, in combination with compatible recreational facilities and landscaping that ensure:</p> <ul style="list-style-type: none"> (a) it has an open and expansive character, with landscaping design that helps break up the linear and vertical dominance of the infrastructure (b) landscaping is located outside the easement area and screens and softens the appearance of poles, towers or other structures (c) recreational facilities and landscaping are compatible with the electricity infrastructure, having regard to safety, height, the conductivity of materials and access to the electricity infrastructure by the transmission or distribution entity (d) the design is such that the function of the open space for recreation purposes is maintained. 	<p>AO19.4 Planting complies with (as relevant to the infrastructure concerned) either:</p> <ul style="list-style-type: none"> (a) Energex's Safe Tree Guidelines; (b) Ergon's Plant Smart brochures; or (c) Powerlink's Screening your home from powerlines information <p>No acceptable outcome is prescribed.</p> <p>Note: The figures below provide examples of a well-integrated transmission corridor.</p> 
Earthworks	
<p>PO21 Any earthworks are undertaken in a way that:</p> <ul style="list-style-type: none"> (a) ensures stability of the land on or adjoining major electricity infrastructure (b) does not otherwise impact on the safety and reliability of the major electricity infrastructure (c) does not restrict the placement or use of the electricity provider's equipment. 	<p>AO21.1 No earthworks are undertaken within:</p> <ul style="list-style-type: none"> (a) 20 metres of a transmission tower, pole or stay for overhead transmission infrastructure (b) 10 metres of a tower, pole or stay for overhead distribution infrastructure (c) 50 metres of a property boundary shared with a substation site for transmission substations (d) 10 metres of a property boundary shared with a substation site for distribution substations. <p>Note: The figures below illustrate the concept.</p>

Performance outcomes	Acceptable outcomes
	 <p>AND</p> <p>AO21.2 No earthworks are undertaken, or other loading or displacement of earth caused, within the easement of an underground powerline.</p> <p>AND</p> <p>AO21.3 Earthworks that alter levels along boundaries of, or within, existing or proposed easements do not alter the levels by more than 100 mm.</p>
Services	
<p>PO22 Other services and infrastructure works (which may include stormwater, sewerage or water) do not impact on the safety and reliability of major electricity infrastructure.</p>	<p>AO22.1 Underground services are not located within:</p> <ul style="list-style-type: none"> • 20 metres of a tower, pole or stay for transmission infrastructure; • 10 metres of a tower, pole or stay for distribution infrastructure; • a vacant major electricity infrastructure easement; or • 10 metres of a substation property boundary. <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p>AO22.2 No valve pits occur within 60 metres of a tower, pole or stay for transmission infrastructure, or 10 metres of a tower, pole or stay for distribution infrastructure.</p> <p>AND</p> <p>AO22.3 Pipelines with cathodic protection systems comply with part 13 of Electrical Safety Regulation 2013 or the current relevant standard.</p> <p>AND</p> <p>AO22.4 Underground services traversing an easement cross at angles between 60 and 90 degrees to the overhead or underground lines.</p> <p>AND</p> <p>AO22.5 Trenches for services are backfilled to be compacted in 150 mm layers to at least 95% modified dry density compaction ratio.</p> <p>AND</p> <p>AO22.6 Trenches under construction are not left open overnight.</p>

Separation distances from bulk water supply infrastructure

Local governments and applicants should discuss appropriate separation distances from bulk water supply infrastructure with the relevant utility providers. To assist in determining separation distances, bulk water supply infrastructure is mapped in the SPP IMS and the following recommended distances are provided.

Table 2: Recommended separation distances from bulk water supply infrastructure

Bulk water supply infrastructure – asset type	Type of development	Recommended minimum separation distance
Pipelines and channels ⁽¹⁾	Buildings/Structures/Earthworks	20 m from edge of pipe
	Blasting ^(2,3)	200 m from edge of pipe
Water treatment plants and water quality facilities	Sensitive Land Use	250 m from building footprint
	Buildings/Structure/Earthworks	20 m from building footprint
	Blasting ^(2,3)	200 m from building footprint
Reservoir facilities	Buildings/Structures/Earthworks	20 m from building footprint
	Blasting ^(2,3)	200 m from building footprint

Bulk water supply infrastructure – asset type	Type of development		Recommended minimum separation distance
Pump stations	Sensitive Land Use		100 m from building footprint
	Buildings/Structures/Earthworks		20 m from building footprint
	Blasting ^(2,3)		200 m from building footprint
Dam structures and weirs ⁽⁴⁾	Earthworks	Dam/Weir Height ⁽⁵⁾	
		0 m to 5 m	50 m from the toe of the dam/weir
		5 m to 10 m	100 m from the toe of the dam/weir
		10 m to 15 m	150 m from the toe of the dam/weir
		15 m to 20 m	200 m from the toe of the dam/weir
		> 20 m	500 m from the toe of the dam/weir
	Blasting ^(2,3)		500 m from dam wall/earth embankment/weir footprint

- ¹ Channels are included in the pipelines and channels layer SPP IMS but are not differentiated from pipelines. Where an applicant identifies the bulk water supply infrastructure is a channel rather than a pipe, applicants should contact the utility provider to discuss appropriate separation distances.
- ² Refers to any type of development involving blasting <500 kg charge mass per delay, use of explosives, piling, and other vibratory/compaction machinery (over 20t centrifugal force) during construction and/or operation. For blasting over 500 kg, applicants are to contact the asset owner as a greater separation zone may apply.
- ³ It is recommended that blasting provisions be included in an extractive industry code (or similar).
- ⁴ For dam structures and weirs, applicants should contact the utility provider to determine the toe of the dam/weir.
- ⁵ Dam/weir height is to be taken at the maximum section of the dam/weir (from dam/weir crest to dam/weir toe).

Part 6: Supporting information

Australian Renewable Energy Agency (ARENA) Australian Renewable Energy Mapping Infrastructure (AREMI): <http://nationalmap.gov.au/renewables/>

Energy industry guidelines on electricity infrastructure: planning scheme making and development approval process – contact Energex, Ergon or Powerlink.

Energex's Safe tree guidelines: <https://www.energex.com.au/about-us/our-commitment/to-the-environment/vegetation/safetree-program>

Ergon's Plant smart brochures: <https://www.ergon.com.au/network/safety/home-safety/trees-and-powerlines/plant-smart>

Powerlink's Screening your home from powerlines information:
https://www.powerlink.com.au/Landholders_and_Property/Property_and_Easements/Screening_your_home.aspx

Seqwater Network consent guidelines:
<http://www.seqwater.com.au/sites/default/files/PDF%20Documents/Publications/Seqwater%20Consent%20Guidelines%20June%202014.pdf>

State Planning Policy
PO Box 15009
City East Qld 4002
tel 13 QGOV (13 74 68)
email SPP@dilgp.qld.gov.au

www.dilgp.qld.gov.au