



# Queensland Environmental Protocol for Field Development and Constraints Analysis

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# Document Status


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## Revision History

Revision	Release Date	Document Status	Revision Comments	Author
0	10/10/2017	Issued for Use	New document	H. Wood
1	11/1/2019	Issued for Use	Incorporating Project Atlas Dulacca snail requirements	H. Wood
2	27/10/2022	Issued for Use	Incorporating Atlas Stage 3 requirements	M. Harris

## Document Approval

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<b>Approved by</b>	Larissa Dudley Environment and Approvals Manager	<b>Signed</b>		<b>Date</b> 15/11/12
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## 1 Definitions

**Biodiversity values** – environmentally sensitive areas, prescribed environmental matters and wetlands.

**Constraints checklist** – used for quality assurance purposes to ensure all relevant environmental constraints are considered as early in the infrastructure siting process as possible.

**Constraints maps** – created and updated by the Technical Officer, the maps will assist in initial environmental desktop constraints analysis for proposed infrastructure locations. Information includes (as required):

- Aerial imagery;
- Flood plains;
- Elevation data (Lidar and/or contours);
- Ecological and watercourse/wetland constraints;
- Areas of Regional Planning Interest (e.g. Strategic Cropping Land);
- Existing infrastructure;
- Native title;
- Cultural heritage;
- Sensitive receptors; and
- Landholder status.

**Ecology Survey Report** – report detailing the findings of the ecological surveys undertaken as part of the environmental site assessment.

**Invasive plant** – as defined under the *Biosecurity Act 2014* (QLD).

**MNES** – matter of national environmental significance under the *Environmental Protection and Biodiversity Protection Act 1999* (Cth).

**MSES** – matter of state environmental significance under the *Environmental Offset Act 2014* (Qld).

**Significant disturbance to land** – defined in Schedule 12 of the *Environmental Protection Regulation 2008* (Qld) as land that has been disturbed and human intervention is needed to rehabilitate it to a condition required under the relevant environmental authority, or to the condition it was in immediately before the disturbance.

**Site-specific environmental conditions and maps** – conditions and restrictions (and associated maps) governing how construction activities on site should be carried out to ensure compliance with Environmental Authority conditions and regulatory requirements.

**Strategic cropping area** – an area of regional interest defined under the *Regional Planning Interests Act 2014* (Qld).

## 2 Purpose

The Environmental Protocol for Field Development and Constraints Analysis (the **Protocol**) aims to ensure that infrastructure siting:

- Considers biodiversity values and environmental constraints when selecting preferential locations, aligning with planning principles to avoid, minimise, mitigate and then manage potential environmental impacts;
- Is compliant with Environmental Authority (**EA**) conditions and State and Federal regulatory requirements;
- Identifies any additional external environmental approvals required and that those are secured prior to the commencement of construction activities;

- Avoids important populations of the threatened Dulacca Woodland snail (*Adclarkia dulacca*), if it is found to occur within proposed disturbance areas in the Atlas tenements, and limits the potential to fragment or isolate populations should they occur within the disturbance area or adjacent areas; and
- Minimises impacts upon the threatened Ooline (*Cadellia pentastylis*) if found to occur within proposed disturbance areas in the Atlas tenements.

The Protocol also recognises that, in addition to environmental constraints, landholder, engineering and cultural heritage constraints must be considered during infrastructure siting. These constraints are assessed through processes aligned with this Protocol.

### 3 Scope

This Protocol applies to site selection and approvals for across all Senex's infrastructure projects where construction will involve significant disturbance to land. This includes but is not limited to:

- Well lease pads;
- Access tracks;
- Compression facilities;
- Dams and water management facilities;
- Pipelines;
- Seismic surveys;
- Camps and associated laydowns and hardstand areas; and
- Borrow pits.

The Protocol is triggered by the initiation of a work program by the Project Infrastructure Development Team and involves the steps described in Section 5 and as shown in Figure 1.

### 4 Protocol steps

#### 4.1 Desktop environmental constraints analysis

Upon development of a work program a desktop constraints analysis will be completed. This analysis involves review of GIS mapping layers relating to the proposed infrastructure location(s). The GIS mapping layers generally comprise publicly available State and Federal Government data supplemented by site-specific GIS data gathered during survey activities.

The desktop constraints analysis results in the production of constraints map(s) for internal review.

Depending on the specific nature of any environmental or other constraint(s) identified during the desktop assessment, the proposed infrastructure location may be revised and the new location selected to avoid or minimise the impacts on the constraining environmental values where possible. The constraints maps and associated analysis checklist are retained on file for quality assurance purposes.

#### 4.2 Site surveys

Once a preferred infrastructure location is defined through the desktop constraints analysis and consultative process, site surveys are undertaken to confirm the suitability of the location. This includes, in general chronological order:

- Discussions with landholders to identify on-ground constraints (e.g. stock routes) and to confirm preferred location(s);
- Survey of infrastructure locations by engineering staff to confirm constructability;
- Environmental surveys of infrastructure locations to ground-truth mapped constraints including protected vegetation, fauna habitat, watercourses, prescribed environmental matters to trigger environmental offsets, invasive weeds, areas of regional interest etc.

- Cultural heritage clearance of infrastructure locations.

Outcomes of 1 and 2 above refine the scope of the environmental survey. The primary environmental survey undertaken is ecological ground-truthing to confirm the likelihood of habitat for protected fauna, the occurrence of protected flora, regional ecosystems and ecological communities, prescribed environmental matters, and validation of mapped watercourses. The survey will be based on field methods to collect data using the Queensland Biodiversity Values Field Assessment Form (SENEX-CORP-EN-FRM-008).

Where required, additional species specific targeted field based surveys will be undertaken by suitably experienced ecologists within areas identified as potential habitat to further understand the impact of the project on a species. Surveys will be required for Nature Conservation Act Flora trigger plants in a trigger area. Because the Dulacca snail is a relatively immobile species that occupies small niche habitat, survey effort will include turning of logs/debris where disturbance is proposed within or adjacent to potential Dulacca snail habitat in the Atlas tenements. Species specific surveys for species such as Koala or Yakka skink may also be undertaken to assist managing the site for a particular species.

The results are documented in a report based on the report template (SENEX-CORP-EN-TEM-001 Biodiversity Values Report Template).

Should site surveys locate constraints not identified through the desktop environmental constraints analysis, infrastructure locations may be modified or revised, returning to step 1 above.

#### **4.3 Post-survey environmental constraints analysis**

The results of the site surveys are used to further refine the proposed infrastructure locations. The environmental survey results and in particular the content of the Ecological Survey Report is used to:

- Identify areas within the disturbance footprint or directly adjacent supporting potential habitat for threatened species or significant species and avoid the field validated habitat where possible.
- Where there is evidence of threatened or significant species occurrence, identify if there is flexibility in the design to avoid important populations, and limit the potential for fragmentation and isolation of populations, should they occur within the disturbance area or adjacent areas. Important populations of the Dulacca snail will be avoided within Project Atlas, where they occur.
- Define limited or no-access areas (e.g. to protect mature habitat trees, areas of declared weed infestation etc);
- Determine whether any secondary approvals (e.g. protected plant clearing permits) need to be secured prior to commencing construction activities;
- Determine whether any environmental offsets at the State or Federal level will be triggered against environmental offset approvals;
- Determine other construction-related environmental requirements such as design considerations for watercourse crossings that constitute waterway barrier works and requirements to address strategic cropping areas.

Key environmental restrictions for infrastructure siting or construction activities arising from the environmental surveys and desktop constraints analysis feed into the Preliminary Access to Work documentation to allow Conduct and Compensation Agreements to be negotiated with relevant landholder(s). Any additional approvals required are then sought.

#### **4.4 Environmental constraints reporting**

Once any additional approvals are secured, an Environmental Constraints Report is prepared formally documenting:

- That infrastructure siting complies with relevant environmental approval conditions including planning considerations and disturbance/clearing limits;

- That infrastructure siting complies with requirements of relevant regulations and secondary approvals;
- The estimated disturbance area for any MNES or MSES to be debited from the approved disturbance limit in the relevant approval;
- Identifies where environmental offsets will be triggered and the estimated disturbance area to be debited from the relevant offset plan; and
- Site-specific or construction-related environmental considerations.

The report includes a list of Site-specific Environmental Conditions and associated maps that are included in the final Access to Work documentation, issued upon sign-off by the Project Manager to relevant staff and contractors prior to commencing construction. The Environmental Constraints Report is used to demonstrate compliance with relevant regulations, as part of the overarching Senex Environmental Compliance Management System. The disturbance data in the report is used to update the land disturbance GIS layer that manages aspects for total disturbed area and environmental offsets required for external environmental annual reporting.

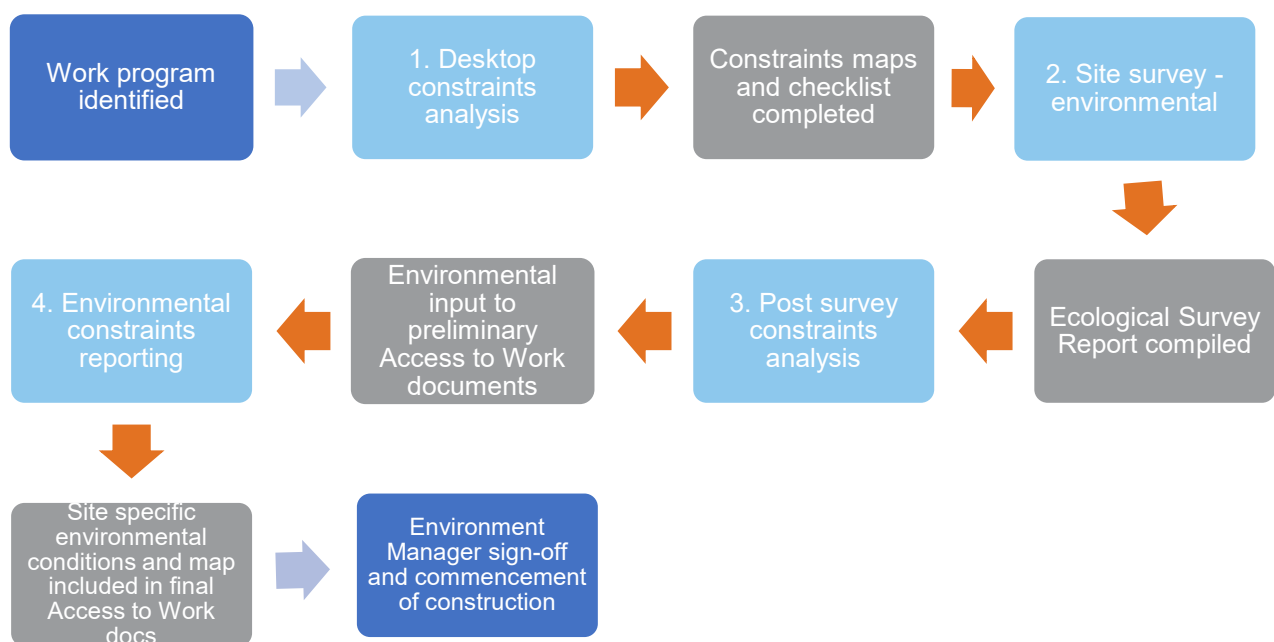


Figure1 Key steps in the Protocol

## 5 Delivery

Key deliverables, timing and roles and responsibilities are detailed in Table 1 below.

Table 1 Deliverables, roles and responsibilities

Step	Deliverable	Timing (estimate)	Role (WSGP)
1. Desktop environmental constraints analysis	Constraints mapping and completed checklist.	2 weeks	Senex Environmental Adviser
2. Site surveys - environmental	Ecology Survey Report (or similar for other environmental considerations.	4 weeks (from completion of landholder discussions and constructability surveys)	Undertaken by Senex and/ or third party ecologist (consultant)

3. Post-survey environmental constraints analysis	Key environmental restrictions included in preliminary Access to Work documentation for CCA negotiation.	2 weeks	Senex Environmental Advisor
4. Environmental constraints reporting	Environmental Constraints Report. Site-specific Environmental Conditions and associated maps for inclusion into final Access to Work documentation.	2 weeks	Senex Environmental Advisor and approved by the Environment Manager



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