

Agriculture Issues for Extractive Industry Development

Resources Planning & Development Unit, NSW DPI

This Factsheet sets out the relevant agricultural issues for consent authorities to consider when assessing a proposal to develop rural land for extractive industries.

The factsheet may also help applicants, consultants and the general public to identify important agricultural issues to be addressed.

Consent authorities must address a wide range of issues when assessing a development proposal. This factsheet focuses on agricultural issues of interest to the NSW Department of Primary Industries.

Integrated Development proposals that trigger provisions of the *Fisheries Management Act 1994*, the *Mining Act 1992*, the *Water Management Act 2000*, and the *Mine Subsidence Compensation Act 1961* or applications requiring specific referral or approval under other legislation should still be routinely referred to the relevant sections of the Department of Trade and Investment.

Applications for Extractive Industries may also require the applicant, or Council to seek specialist technical advice from an independent consultant with relevant expertise.

All Development Application (DA) enquiries (other than for State Significant Development and State Significant Infrastructure) should be directed to the relevant local council in the first instance.



Badgery's Creek Quarry and surrounding farmland. D Barnes

Agricultural Planning Principles

Consent authorities are encouraged to consider the following principles when planning for sustainable agriculture and extractive industries:

- Extractive industry developments are consistent with strategic plans and zone objectives.
- Extractive industry developments are designed and managed to minimise environmental impacts.
- Land use conflicts are minimised, amenity values are protected and the expectations of local communities are managed.
- Rehabilitation is undertaken progressively and any permanent changes to productive capacity are clearly justified.
- Proposals are clearly justified in a regional context and identify the merits and community benefit of the proposal.
- Development Applications duly consider the following potential impacts and identify suitable mitigation responses for:
 - Impacts on agricultural resources;
 - Transport and access changes;
 - Rehabilitation plans;
 - Consultation with rural stakeholders;
 - Mitigation and monitoring

Extractive industries are defined in the [Standard Instrument \(Local Environmental Plans\) Order 2006](#) and involve methods such as excavating, dredging, tunnelling or quarrying, but excludes mining or turf farming.

Specific development assessment recommendations are provided in the following sections of this guideline.

Development Assessment

The following checklists are provided to assist consent authorities (and applicants) to assess the merit of a rural based extractive industry proposal.

Cumulative impacts on agricultural resources and developments can result from the combined effects of developments over time and from multiple developments in a locality.

Effective consideration of both site specific and cumulative impacts is consequently critical for sustainable development.

Agricultural Resource Impacts

Check that the environmental assessment accurately:

- Describes the type of farming operations in the surrounding locality including relevant agricultural improvements (eg houses, sheds, cropping areas, improved pastures) and the existing water usage with particular focus on potential impacts from the proposed mining operation;
- Identifies the total area and location of the rural holding in which the proposal would be located (not just the specific lot) and the predominant agricultural enterprises of that holding;
- Identifies the location of the proposed extractive development and the area that would need to be removed from production whilst the mine is operational;
- Assesses the agricultural productivity of the land directly affected by the extraction/quarry activities as a benchmark for future rehabilitation goals and closure and tabulate the total area within each land category.

The Department of Environment and Heritage (OEH) Land Capability Assessment or Soil Landscape Mapping is acceptable. Site specific assessment should be undertaken rather than simply relying on broad scale indicative maps;

- Identifies potential impacts on rural enterprises and landholders, assess the relative risks and considers possible cumulative effects.

Aspects to consider include:

- Areas removed from agricultural use due to quarrying operations, infrastructure, plant or access requirements as well as the storage or processing of materials.
- Any areas to be excluded (temporally or permanently) from agricultural use in order to ensure a safe working environment and prevent injury to livestock and wildlife.

- Proposed hours of operation during construction and operation.
- Dust impacts on farm residences and farming operations (eg farming families, pastures & livestock, drinking water).
- Noise, blasting & vibration impacts on farm infrastructure, farm residences and farming operations.
- Visual factors & lighting impacts for farm residences and farming operations.
- Waste impacts for agricultural enterprises (eg. windblown waste, dirty water or effluent disposal).
- Weed, pest animal, biosecurity and bush fire hazards.
- Emergency incidents (such as spillages) and any removal proposals.

Water Resources

Water is a critical resource for rural landholders and a key source of conflict. Check that the environmental assessment:

- Identifies water resources and drainage patterns in the locality, including water quality and flows. This should include assessment of the significance of affected catchments for irrigation or other agriculture use.
- Calculates site water balances and then models any changes to ground and surface water flows as result of surface drainage diversions and groundwater depressurisation. This should include the predicted time for groundwater systems to restabilise and any other impacts on water users.
- Documents any likely changes to surface and ground water quality in relation to surrounding agricultural land uses.

This should identify any changes in acidity, salinity and turbidity, proposed erosion control and mitigation measures, and the predicted time duration over which such changes occur.



Maroota Sandstone Quarry, progressive rehabilitation in foreground. D Barnes

Transport and Access Changes

Farming activities rely on access to markets, industry services and infrastructure. Changes to the traffic on rural roads can consequently affect agricultural operations and businesses. Check that the proposal adequately documents:

- Proposed access to the site, transport routes and resultant impacts on existing road users. This should include consideration of Travelling Stock Reserves¹ (TSR) and the movement of livestock or farm vehicles along / across the affected roads.
- How farm access will be retained if road closures or realignments are required.

Rehabilitation Plans

Rehabilitation of the site must be to a standard that minimises any long-term impacts on surrounding land uses and optimises sustainable future land use. Check that the proposal adequately:

- Describes (and justifies) the proposed final land form for the site and compatibility of the final site with surrounding land uses.
- Demonstrates the proponent's capacity to rehabilitate disturbed lands and protect natural resources. Progressive rehabilitation is encouraged.
- Commits to preparing a rehabilitation plan that documents;
 - Design criteria, future landform and timelines for the rehabilitation program.
 - The relative post operational area and location of pasture and/or biodiversity conservation areas (preferably including diagrams or maps).

¹ Contact the Livestock Health and Pest Authority for further advice on TSRS

- Any final voids, water storages and un-rehabilitated areas.
- Opportunities to encourage sustainable agricultural production on land under the control of the extractive company during and post extraction.
- The standard of exclusion fencing, how long it will be required, maintenance schedules and proposals to remove when the site is stabilised.
- Measures to maintain the viability of topsoil over time and to re-use this resource for site rehabilitation.
- Appropriate and enduring erosion control structures and practices.
- Proposed pasture types to be re-established (predominant species) and sowing methods.
- Weed management proposals in accordance with existing State, regional or local weed management plans or strategies.
- Specific monitoring proposals and timeframes, and what actions will be taken to ensure that any necessary remedial actions identified by monitoring are completed in a timely and effective manner.
- Who will be responsible for undertaking any further remediation after operations cease or the operations go into care and maintenance mode, and for further consultation with adjoining landowners.

Consultation

Effective consultation with the adjoining land owners and users is important to clarify potential issues and minimise the risk of conflict. Check that the proposal documents consultation with:

- Mineral and Energy Division (DTIRIS), (DPI) and gains relevant approvals,
- Fisheries NSW – Conservation unit, Crown Lands – Catchment & Lands Division and NSW Office of Water (DPI), if relevant.
- Other relevant government agencies
- Landholders and rural community groups, including any leasehold or access agreements with landholders
- Any commitments for further consultation.

Mitigation and Monitoring

Extractive Industry proposals in rural areas should document proven, practical measures to minimise

and mitigate potential impacts on agricultural resources and land use.

The environmental impact assessment should include, but not be limited to, the identification of specific measures, plans or strategies to:

- Minimise dust generation and movement.
- Protect water resources, mitigate any erosion and sedimentation and ensure the continued reliability of surface and ground water supplies for licensed extraction.

If surrounding ground water bores are likely to be dewatered or dams are at risk of being drained, timely monitoring and fast responses are required to ensure animal welfare.

- Ensure the procedures outlined in Rehabilitation / Environmental Management plans are adopted and satisfy rehabilitation objectives.
- Identify ground water monitoring requirements during and post mining operations to satisfactorily demonstrate that groundwater levels, flow paths and water quality meet the specified / agreed standards at critical points in time.
- Identify objective criteria and performance indicators including agricultural productivity measures relevant to the base line productivity assessments conducted prior to commencing operations.

For instance, extractive operations that disturb and rehabilitate more than 30 ha of cleared grazing lands might be required to assess the pasture productivity or stocking capacity of rehabilitated grazing areas.

- Compensatory measures to offset any impacts that cannot be adequately avoided.
- Contingency plans for responding to major risks, such as bushfires or flooding or significant equipment failure that might affect natural resources or agricultural land uses.

Strategic Planning

Councils are encouraged to develop rural land use strategies that:

- Identify the communities desired planning outcomes for rural lands.
- Consider the key resources and most important locations for sustainable primary industries development.
- Set out the opportunities to best minimise land use conflicts and promote sustainable development of rural resources.

Additional Information

The NSW DPI website www.dpi.nsw.gov.au has additional publications on extractive industries and agricultural land use planning. See in particular:

- www.dpi.nsw.gov.au/environment/landuse-planning
- [Land Use Conflict Risk Assessment \(LUCRA\) guideline](#)
- [Agricultural Land Classification](#)

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