



AUS-SPEC

Infrastructure Specifications

0173 Environmental management

0173 ENVIRONMENTAL MANAGEMENT (AUS-SPEC)

IMPORTANT: This document has been adapted from the NATSPEC suite of specification templates for use in the Cessnock City Council area by both Council and industry. NATSPEC regularly updates the base templates (currently in April and October each year), and Council may incorporate changes into its version of AUS-SPEC from time to time. To assist in highlighting any changes made by Council to the NATSPEC templates, the following conventions are used.

- See ANNEXURE M at the end of this document which contains (where practical) Cessnock City Council customisations (also known as 'office master' text). References to the Annexure are to also be inserted at relevant clauses in the main body of the document.
- Where content is added to the main body of the document, it is to be shown **in brown text like this**.
- Where content is deleted or excluded from the main body of the document, it is to be shown ~~struck through like this~~. Such clauses are to have no effect.

Where there is a conflict between main body text and Cessnock City Council specific clauses, Council's specific clauses shall prevail.

1 GENERAL

1.1 RESPONSIBILITIES

General

Requirement: Provide environmental management system, as documented.

Management and control plans

Implementation: To **the requirements of any DA consent conditions or REF recommendations, and approved management plans.**

Management and control measures

Implementation: To **the requirements of any DA consent conditions or REF recommendations, and the documented management and control measures.**

1.2 CROSS REFERENCES

General

Requirement: This worksection is not a self-contained specification. In addition to the requirements of this worksection, conform to the following:

- *0136 General requirements (Construction).*
- *0152 Schedule of rates (Construction).*
- *1102 Control of erosion and sedimentation (Construction).*
- **Cessnock City Council Project Management Framework (projects managed by Cessnock City Council)**

1.3 INTERPRETATION

Abbreviations

General: For the purposes of this worksection the following abbreviations apply:

- EIA: Environmental impact assessment.
- EMP: Environmental management plan.
- **REF: Review of Environmental Factors.**

Definitions

General: For the purposes of this worksection the following definitions apply:

- Clearances: A formal certificate, approval or condition issued by a statutory authority allowing work in a particular area.

- Contamination of land: The presence of a substance in, on or under the land that is designated hazardous material and/or is at a concentration above that which is normally found in that locality, and presents a risk of harm to human health or to the environment.
- Environment: ~~The physical factors of the surroundings of human beings including the land, waters, atmosphere, climate, sound, odours, tastes; and the biological factors of animals; and plants and the social factor of aesthetics.~~ The New South Wales *Protection of the Environment Administration Act 1991* defines the environment as the components of the earth including land, air and water, any layer of the atmosphere, organic or inorganic matter and any living organism and human-made or modified structures and areas.
- Environmental audit: A review of environmental management practices, in particular the evaluation of a site for environmental liability.
- Environmental impact assessment / statement (EIA / EIS): A method for predicting environmental impacts of a proposed development including strategies for minimising identified impacts. Usually used specifically in reference to State Significant Development proposals (see Environmental Planning & Assessment Act 1979).
- Environmental management plan (EMP): A project or site specific plan describing the management of the environmental issues and considerations for the activity being undertaken. This applies to the design, construction and operation of the buildings, external works and infrastructure.
- Organic waste: Includes all food wastes, vegetative wastes from land clearing and pruning operations, biosolids produced from the treatment of liquid wastes, garden wastes and forestry waste (bark and saw dust) and paper and cardboard products.
- Pollution incident: An incident or set of circumstances during or as a consequence of which there is, or is likely to be, a leak, spill or other escape of a substance as a result of which pollution has occurred, is occurring or is likely to occur.
- Urban green infrastructure elements: Individual components of an urban green infrastructure network, for example grasslands, green walls, green facades, green roofs, raingardens, bioswales, tree pits, street trees, vegetated verge and medians, recreation reserves and public parks.
- Review of Environmental Factors: An environmental assessment by or on behalf of authorities as a prerequisite to undertaking works under Part 5 of the *Environmental Planning & Assessment Act 1979*.
- Weed: An invasive plant that degrades natural areas, reduces the sustainability or affects the health of people and animals.

1.4 SUBMISSIONS

Plan

Requirement: Prior to commencing works, submit the following for concurrence. This is a HOLD POINT:

- Environmental management plan (also see Clause 3) including control plans where applicable to site conditions, any DA consent requirements or REF recommendations, such as:

Control plans:

- . Erosion and sediment control plan.
- . Waste management control plan.
- . Ground contamination control plan.
- . Weed management control plan.
- . Air quality control plan.
- . Water quality control plan.
- . Noise and vibration control plan.
- . Flora and flora control plan.
- . Cultural and aboriginal heritage control plan.

Subcontractors

Weed management personnel: Submit details of the following:

- Subcontractors: Names and contact details for proposed subcontractors and evidence of experience in treatment of weed infestations.
- Chemical treatments: Name and qualifications of handlers and treatment type and application date.

1.5 INSPECTIONS

Notice

Inspection: Give notice so that inspection may be made of the following:

- Unexpected finds.
- Non-conforming items.
- Completed removal or rectification of non-conforming items.

2 ENVIRONMENTAL ADMINISTRATION, MONITORING AND REPORTING

2.1 PROCEDURAL AND PERSONNEL

Legislative environmental control requirements

Requirement: In accordance with any Development approval (DA) and/or Environmental impact statement (EIS) conditions.

Requirement: In accordance with any Review of Environmental Factors (REF) recommendations.

Community liaison

General: ~~Notify residents of construction activities that will affect access to, or disrupt the use of, their properties.~~ Refer to Cessnock City Council Community Engagement Strategy (Projects Managed by Cessnock City Council)

Notice: Minimum 5 working days, unless the work is of an urgent nature with safety implications.

Notification content:

- Description of the work.
- Reason for the work.
- Expected duration.
- Changes to traffic arrangements and property access.
- 24-hour contact number of the representative responsible.

Emergency response

Refer to Cessnock City Council Project Management Framework (projects managed by Cessnock City Council)

Emergency response personnel: Provide staff names and contact details.

Response procedure: To be prepared by the Contractor unless noted otherwise.

Response time: To be prepared by the Contractor unless noted otherwise.

Complaints

Reporting: Within 1 working day of receiving a complaint about an environmental impact, including pollution incidents, submit a written report to Council, the Superintendent and the Principal Certifier (if not Council) detailing the complaint and remedial action taken.

Register: Keep a register of all complaints and action taken.

Unexpected finds

Requirement: Give notice to Council and Heritage NSW if advised to do so in relation to potential artefacts close off affected site area with barrier tapes and warning signs to prevent access.

Unexpected finds include asbestos and other hazardous or volatile contaminants, archaeological finds and items of heritage value.

2.2 MONITORING

Internal monitoring

Approval authority: As required by any DA consent conditions or REF recommendations.

Monitoring and measurement: Monitor and measure on a regular basis the operations that may have a significant environmental impact.

Documentation: Provide descriptions of the following:

- Environmental monitoring: Implementation and recording procedures.
- For all control measures to be implemented: Non-conformance control and corrective action procedures.

Conformance: Maintain procedures for periodically evaluating conformance with legal requirements.

Records: Maintain records of results of environmental monitoring, including the effectiveness of any remedial action taken.

Internal monitoring personnel: Provide staff names and contact details.

Machinery and equipment: Provide details of proposed plant.

Review timing: Undertake reviews of the EMP and control measures at the following stages:

- When there is a change in the project, e.g. scope.
- Following significant environmental impacts or pollution incidents.
- When improved performance is required to reduce a specific environmental impact.
- At completion of environmental audits.
- At the end of the project.

Control of records: Maintain procedures for identification, storage, protection, retrieval, retention and disposal of records.

Internal audit: Maintain procedures for periodic EMS audits and as follows:

- Determine if the EMS conforms to the planned EMS, including the requirements of the AS/NZS ISO 14001 (2016), and has **been** properly implemented and maintained.
- Provide information on the results of the audits to the superintendent.

2.3 REPORTING

General

Requirement: Prepare environmental management reports that record the progress of the following:

- Performance against statutory requirements.
- Performance against the EMP, environmental objective and policy, and ecologically sustainable development outcomes and targets.
- Summary of monitoring, inspection and audits.
- Summary of reports required to meet the statutory requirements.
- Summary of environmental impacts, pollution incidents, non-conformance and complaints.
- Summary of corrective actions where required.
- Unexpected finds.

Reporting frequency: As determined by the Superintendent, and consistent with any DA consent conditions.

2.4 CONTROL OF NON-CONFORMING WORKS

Non-conformance

Non-conformity, corrective and preventive action: Maintain procedures for dealing with actual and potential non-conformities by taking corrective and preventive action. Implement and record any changes in the documented procedures resulting from corrective and prevention action.

Detection and reporting: Report any works that depart from the documented requirements.

Progress: Do not cover up non-conforming works until corrective action has been accepted/approved and implemented.

Conformance: Verify that reworked/replaced works conform to the documented requirements.

3 ENVIRONMENTAL MANAGEMENT

3.1 ENVIRONMENTAL MANAGEMENT PLAN

Control plan

EMP: Prepare an environmental management plan with the following details:

- Project description, including site location, construction activities, and project schedule.
- EMP context, describing how the EMP fits into the overall project planning process.
- EMP objective and environmental policy.
- Risk assessment.
- **Plans and maps.**
- **Plant and equipment to be used.**

- **Operating hours.**
- Assignment of responsibility for environmental controls, including hierarchy of management.
- Conditions of approvals, licences and permits to meet statutory requirements.
- Reporting requirements.
- Environmental training plan and procedures: Include in the plan, a program to familiarise staff with the EMP and/or management controls, environmentally sensitive areas and responsibilities.
- Environmental audit program and corrective action procedures.
- Emergency response procedures including response time.
- Control plans, as required.
- Details of operational control measures to reduce risk of environmental impacts on the following:
 - . Heritage.
 - . Visual values.
 - . Endangered species.
 - . Habitat.
- Locations of, and environmental controls for, environmentally sensitive areas.
- Details of environmental protection for each activity.
- Details of urban green infrastructure elements and specific targets to SA HB 214 (2023).
- Communication procedures.
- Other items necessary to protect the surrounding environment.

Activities staging: Address the phases of activity, as appropriate:

- Before construction and site establishment.
- During construction, **including sub-stages for larger projects..**
- After construction, including rehabilitation activities and site and landscaping maintenance.

3.2 EROSION AND SEDIMENTATION

Control plan

Requirement: To *1102 Control of erosion and sedimentation (Construction)*.

3.3 WASTE MANAGEMENT

Control plan

Plan: Prepare a waste management plan and identify major waste streams that will be generated during the contract, including the following:

- Organic waste.
- **VENM (Virgin Excavated natural material) and ENM (Excavated Natural Material)**
- Construction waste, including:
 - . Spoil.
 - . Demolition waste.
 - . Asphalt or bitumen.
 - . Concrete.
 - . Metal.
 - . **Hazardous materials including paint.**
 - . **Office waste.**
 - . **Kitchen waste.**
- For each waste stream indicate:
 - . How and where the waste will be re-used, recycled, stockpiled or disposed of.
 - . How the waste will be transported between the site and point of re-use, recycling, stockpiling, treating or disposal and who will be responsible.

Reference: Refer to Austroads AGPT04E (2022) for the use of different recycled materials to IPWEA PN 13 (2023) for circular economy and the use of recycled materials in infrastructure assets.

Refer to

ARRB Best Practice Expert Advice on the Use of Recycled Materials in Road and Rail Infrastructure:

Part A Technical Review and Assessment (2022),
ARRB Best Practice Expert Advice on the Use of Recycled Materials in Road and Rail Infrastructure:
Part B Sustainability Impacts Report (2022) and *factsheets* available from www.arrb.com.au.

Waste stream: Submit details of location, labelling and protection of stock piles for the identified waste stream.

Control measures

Requirement: Minimise solid waste generated by construction activities and dispose of the solid waste.

Major waste streams that will be generated during the works:

- Vegetation waste.
- Construction waste, including:
 - . Spoil.
 - . Demolition waste.
 - . Asphalt or bitumen.
 - . Concrete.
 - . Metal.
 - . Hazardous materials including paint.
 - . Office waste.
 - . Kitchen waste.

Covers: Use tarpaulins to prevent the loss of materials onto public roads.

Storage method: Provide details of location, labelling and protection of separate skips for the identified waste stream.

Disposal of materials

Spoil: Remove cleared and grubbed material from the site and dispose of legally **to an approved or exempt receiving site**.

Waste storage: **As required by DA consent conditions.**

Surplus material: **As required by DA consent conditions.**

Mulch

Seed free aerial vegetative matter: Using a chipper, reduce to pieces not larger than 75 x 50 x 15 mm and stockpile for re-use as mulch.

Material not permitted: Leaf matter and tree loppings from privet, camphor laurel, coral tree, poplar, willow and noxious weeds.

Mulching cleared vegetation: Submit details of provisions.

3.4 GROUND CONTAMINATION

Control plan

Plan: Prepare a ground contamination control plan for land suspected of being contaminated or the presence of acid sulfate soil is **found suspected**, in conformance with the state Environmental Protection Authority (EPA) and the relevant state planning guidelines. Include the following details:

- Preliminary investigation.
- Detailed investigation.
- **Ground contamination:**
 - o **Contaminant**
 - o **Acid sulfate soils**
- Site Remedial Action Plan (RAP).
- Stockpile sites.
- Site auditing and reporting procedures.
- Record of maintenance procedures, including record of remediation work, certificates issued and restrictions placed on the site.

3.5 WEED MANAGEMENT

Control plan

Plan: Prepare a weed management control plan with the following details:

- Weed species.
- Weed infestation zones within the work site and the investigation period.
- Treatment of infestation, including treatment type and application rate.
- Cleaning methods for vehicles and machinery, including cleaning bay location and treatment date.
- Subcontractors: Names and contact details for proposed subcontractors and evidence of experience in treatment of weed infestations and name and qualifications of chemical treatment handlers.

3.6 AIR QUALITY

Control plan

Plan: Prepare an air quality control plan to protect adjoining owners, residents and the public from emissions of dust and exhaust gases. Include the following details:

- Dust control.
- **Prohibition: Do not light fires.**
- Exhaust gases emission control.

3.7 WATER QUALITY

Control plan

Plan: Prepare a water quality control plan to keep earthworks free of water and to reduce impacts on groundwater and surface water. Include the following details:

- Dewatering system.
- Washout prevention.
- Cross connection prevention **between stormwater and the public sewerage system.**
- **Provide and maintain slopes, crowns and drains for excavations and embankments, to make sure there is free drainage.**
- **Construct, including placing of fill, masonry, concrete and services, on ground where free water has been removed.**
- **Prevent water flow over freshly laid work.**
- Water disposal.
- **Provide protection of ingress to stormwater pits, pipes and drainage system, waterways**
- **Provide scour protect to prevent maintain slopes and earthworks**

3.8 NOISE CONTROL AND VIBRATION

Control plan

Plan: Prepare a noise and vibration control plan to protect adjoining owners, residents and the public from noise and vibration impacts. Include the following details:

- Noise control and vibration: To the recommendations of AS 2436 (2010).
- Maximum noise level at the site boundary.
 - **Noise control: Avoid excessive noise and long periods of elevated noise that are reasonably anticipated to annoy or adversely affect the adjacent community.**
- Vibration assessment.
- Vibration control.
 - **Limits on ground vibration: Make sure ground vibration levels transmitted from operating items of plant near buildings do not exceed levels that are close to the lower level of human perception inside the premises or cause structural damage to the buildings and other structures.**

Noise suppression: Minimise noise nuisance with measures including the following:

- Noisy equipment enclosure.
- Noise attenuation screens.
- Maintain plant in good working order.
- Effective residential class silencers to all engine exhausts.
- Fit engine covers to all plant. Monitoring: Provide the following:
 - Baseline condition measurements before commencement of the works.
 - Progressive monitoring during the works to confirm conformance with approval conditions.

3.9 FLORA AND FAUNA

Control plan

Plan: Prepare a flora and fauna control plan to protect native flora and fauna on site and prevent introduction of pest species. Include the following details:

- Native flora and fauna assessment.
- Flora and fauna to be protected
- Pest species assessment.
- Trees to be removed: Inspect to establish if nesting native fauna are present. If present, give notice.
- Tree pruning: To AS 4373.
- Provision of alternative habitat: consider placement of material such as felled tree trunks and excavated rocks.

3.10 SITE CONTROL AND PROTECTION MEASURES

Vehicular and equipment contamination precautions

Covers: Use tarpaulins to prevent the dropping of materials on public roads.

Washing: Wash the underside of all vehicles leaving the site as follows:

- Mud: Do not carry onto other areas, including adjacent paved streets.
- Weeds: If those designated by the local authority are present on the site, make sure seeds are not carried onto other areas, including adjacent paved streets.

Wheel wash/shaker bay

Facilities: Provide a designated site access point with wheel wash/shaker bay. Consider the following:

- Surface: Crushed concrete or rock of between 100 mm and 200 mm approximate diameter.
- Services: High pressure hose water supply.
- Location: Locate the shaker bay and provide berms to drain to grassed areas of the site and allow infiltration to the subsurface.

3.11 CULTURAL AND ABORIGINAL HERITAGE

Control plan

Plan: Prepare a cultural heritage management plan to protect and prevent damage or loss of items of cultural heritage or Aboriginal sites and artefacts. Include the following details:

- Cultural heritage assessment.
- Aboriginal heritage assessment.
- Protection plan.
- Identification measures.
- Unexpected finds.
- Training: Make sure all personnel working on the site receive training on their responsibilities regarding cultural heritage and are made aware of any sites/areas that must be avoided. Provide a site map showing heritage sites/areas and make available to relevant personnel during the works.

Clearance: Obtain clearances from the authorities as required by the DA consent conditions or REF recommendations.

Notice: If any item is suspected to be an artefact of heritage value, relic or material which is Aboriginal or belonging to early settlement, give notice.

Action: Stop construction work that might affect the item and protect the item from damage or disturbance.

4 ANNEXURE A

4.1 ANNEXURE - SUMMARY OF HOLD AND WITNESS POINTS

For private developments, certain Hold and Witness Points where specifically noted below require representatives of both the Superintendent and the Principal Certifier (e.g. Council) to authorise release.

Clause and description	Type	Submission/Inspection details	Submission/Notice times	Process held
SUBMISSIONS Control plans Environmental management	H	Approval of EMP	10 days before site commencement	Site commencement
INSPECTIONS Notice Unexpected finds	H	Unexpected finds	3 days	Removal
INSPECTIONS Notice Non-conformance	H	Non-conforming items	2 days	Removal
INSPECTIONS Notice Non-conformance	W	Completion of removal or rectification	2 days	-
Note: H = Hold Point, W = Witness Point				

4.2 ANNEXURE – PAY ITEMS

This schedule applies to Council projects. For private development works use of this schedule is optional, at the Superintendent's discretion.

Pay items	Unit of measurement	Schedule rate scope
0173.1 Environmental management system documents and records	Lump Sum	All costs associated with the preparation and submission of the environmental management plan and the maintenance of the records during the course of the contract.
0173.2 Environmental management verification and control	Lump Sum	All costs for inspections, conformance surveys and testing required to verify that all aspects of the works conform to the Environmental management provisions of the contract.

4.3 ANNEXTURE - REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 2436	2010	Guide to noise and vibration control on construction, demolition and maintenance sites
AS 4373	2007	Pruning of amenity trees
AS/NZS ISO 14001	2016	Environmental management systems - Requirements with guidance for use
SA HB 214	2023	Urban green infrastructure — Planning and decision framework
Cessnock City Council		Development Engineering Handbook

5 ANNEXURE M – CESSNOCK CITY COUNCIL SPECIFIC CLAUSES

M1.	Variations to or non-conformances with Council's AUS-SPEC are to be evaluated with reference to the procedure in Council's <i>Development Engineering Handbook</i> . Acceptance is to be obtained in writing from: <ul style="list-style-type: none"> a) an authorised representative of Council's Director of Infrastructure and Engineering Services. 	Variation procedure
M2.	This specification applies in addition to any development consent (DA) conditions. If there is any inconsistency, the conditions of consent shall prevail.	DA Conditions
M3.	Refer to the Cessnock City Council Development Engineering Handbook for final inspection, works-as-executed and handover requirements.	Completion

6 AMENDMENT HISTORY

0	15/01/2024	First Published
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