Industry and Key Sites
Contact: David Mooney
Phone: (02) 9228 2040
Fax: (02) 9228 6466
Email: david.mooney@planning.nsw.gov.au

Mr Gregor Riese
OneSteel Recycling Pty Ltd
Locked Bag 3050
Artarmon NSW 1270

Dear Mr Reise

Secretary's environmental assessment requirements for the proposed Hexham Resource Recovery Facility (SSD 6829)

Thank you for your request for Secretary's environmental assessment requirements (SEARs) for the preparation of an Environmental Impact Statement (EIS) for the development described above.

The attached SEARs have been prepared in consultation with the relevant government agencies and Newcastle City Council (see attachment 2). They are based on the information you have provided to date. Please note that the Secretary may alter these SEARs at any time, and that you must consult further with the Secretary if you do not lodge a development application (DA) and EIS for the development within two years of the date of issue of these SEARs. The Department of Planning and Environment (the Department) will review your EIS carefully before putting it on public exhibition, and will require you to submit an amended EIS if it does not adequately address the SEARs.

I wish to emphasise the importance of effective and genuine community consultation and the need for proposals to proactively respond to the community's concerns. Accordingly a comprehensive, detailed and genuine community consultation and engagement process must be undertaken during preparation of the EIS. This process must ensure that the community is both informed of the proposal and is actively engaged in issues of concern to it. Sufficient information must be provided to the community so that it has a good understanding of what is being proposed and of the potential impacts.

Your proposal may require a separate approval under Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). If an *EPBC Act* approval is required, I would appreciate it if you would advise the Department accordingly, as the Commonwealth approval process may be integrated into the NSW approval process, and supplementary SEARs may need to be issued.

I would appreciate it if you would contact the Department at least two weeks before you intend to submit the DA and EIS for the development. This will enable the Department to determine the:

- applicable fee (see Division 1AA, Part 15 of the *Environmental Planning and Assessment Regulation 2000)*;

- consultation and public exhibition arrangements; and
- number of copies (hard-copy or CD-ROM) of the DA and EIS that will be required for exhibition purposes.

If you have any enquiries about these requirements, please contact David Mooney, Planning Services, at the Department on (02) 9228 2040.

Yours sincerely

C. Ritchie 19/12/14.

Chris Ritchie
Manager
Industry Assessments
as delegate of the Secretary

Secretary's Environmental Assessment Requirements

Section 78A(8A) of the *Environmental Planning and Assessment Act 1979*
Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*

State significant development

Application Number	SSD 6829
Development	The construction and operation of a resource recovery facility to process up to 75,000 tonnes per annum to of shredder flock waste, including a pyrolysis plant to recover oil from plastics.
Location	8 Sparke Street, Hexham (Lot 1 DP 1105761)
Applicant	OneSteel Recyling Pty Ltd
Date of Issue	December 2014.
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. The EIS must include: • a detailed description of the development including: – need for the proposed development; – justification for the proposed development; – likely staging of the development; – likely interactions between the development and existing, approved and proposed developments in the vicinity; and – plans of any proposed works. • consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments; • risk assessment of the potential environmental impacts of the development; identifying key issues for further assessment; • detailed assessment, where relevant, of the key issues below, and any other potential significant issues identified in the risk assessment, must include: – a description of the existing environment, using adequate baseline data; – consideration of potential cumulative impacts due to other development in the vicinity; and – measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment. • consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. The EIS must be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (CIV) of the proposal (as defined in clause 3 of the *Environmental Planning and*

	Assessment Regulation 2000), including details of all assumptions and components from which the CIV calculation is derived; • an estimate of the jobs that will be created by the development during the construction and operational phases of the development; and • certification that the information provided is accurate at the date of preparation.
Key Issues	The EIS must include an assessment of the potential impacts of the proposal (including cumulative impacts) and develop appropriate measures to avoid, mitigate, manage and/or offset these impacts. The EIS must address the following specific matters: • **strategic context** – including: – justification for the proposal and suitability of the site; and – demonstration that the proposal is generally consistent with all relevant planning strategies, environmental planning instruments, and justification for any inconsistencies. • **waste management** – including: – the source, quantity, composition and classes of waste that would be thermally treated at the facility; – the method of waste treatment, storage, usage and handling, including transport to and from the site and disposed; – demonstrate that waste used as a feedstock would be the residual from a resource recovery process that maximises the recovery of material; – a description of the procedures that would be implemented to control the inputs to the waste to energy generation plant, including contingency measures that would be implemented if inappropriate materials are identified; – the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2007* and draft *NSW Waste Avoidance and Resource Recovery Strategy 2013-2021*. • **air quality and odour** – including: – a description of all potential air emissions and odours and their sources, including construction, operational and transport sources; – a quantitative assessment of the potential air quality and odour impacts for the development, including cumulative, on surrounding landowners and sensitive receptors under the relevant Environmental Protection Authority guidelines; – construction and operational impacts, including dust generation from the transport of materials; – a human health risk assessment covering the inhalation of criteria pollutants and exposure (from all pathways i.e., inhalation, ingestion and dermal) to specific air toxics; – details of any pollution control equipment and other impact mitigation measures for fugitive and point source emissions; – demonstrate how the waste to energy facility would be operated in accordance with best practice measures to manage toxic air emissions with consideration of the European Union's *Industrial Emissions Directive Incineration Directive 2000*; – an examination of best practice management measures for the

	mitigation of toxic air emissions; – details of the proposed technology and a demonstration that it is technically fit for purpose; and – details of the proposed management and monitoring measures. • **soil and water** – including: – a detailed water balance for the development outlining the measures that would be implemented to minimise the use of water on site and measures to ensure an adequate and secure water supply is available for the proposal; – wastewater predictions, and the measures that would be implemented to treat, reuse and/or dispose of this water; – a map of the location of all wastewater management infrastructure; – a description of the surface and stormwater management system; – identification of all surface water features including watercourses, wetlands and floodplains transected by or adjacent to the proposed development; – an assessment of the potential impact of the development all identified water features; – consideration of the potential groundwater, salinity, contamination, flooding (including consideration of climate change) and acid sulfate soil impacts of the development; and – the proposed erosion and sediment controls to be implemented during construction. • **traffic and transport** – including: – details of traffic types and volumes likely to be generated during construction and operation; – an assessment of the predicted impacts of this traffic on the safety and capacity of the surrounding road network, including consideration of cumulative traffic impacts from other developments, using SIDRA or a similar traffic model; – a description of the measures that would be implemented to upgrade and/or maintain the surrounding road network over time; – details of key transport routes, site access, internal roadways, infrastructure works and parking; and – detailed plans of the proposed layout of the internal road network and parking on site in accordance with the relevant Australian standards. • **noise** – including: – description of all potential noise sources such as construction, operational, on and off-site traffic noise; – a quantitative noise impact assessment including a cumulative noise impact assessment in accordance with relevant Environment Protection Authority guidelines; and – details of noise mitigation and monitoring measures. • **hazards and risk** – including: – a preliminary risk screening completed in accordance with *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the

	development; and – should preliminary screening indicate that the project is "potentially hazardous", a Preliminary Hazard Analysis must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011). • **flora and fauna** – including: – details of the quantity and type of any vegetation to be cleared; – an assessment of impacts (direct or indirect) on threatened species, populations, ecological communities (including groundwater dependant ecosystems) and their habitat, critical habitat (including riparian habitat) and native vegetation in accordance with the *Framework for Biodiversity Assessment*; and – proposed measures to avoid, minimise, mitigate and offset any significant impacts in accordance with the *draft Biodiversity Offset Policy for Major Projects.* • **visual** – including: – an assessment of the proposed building height, scale, signage and lighting, particularly from nearby public receivers and significant vantage points of the broader public domain; – a detailed description (including photomontages) of the measures to be implemented to: o ensure the project has a high design quality and is well presented; o manage the bulk and scale of the buildings; o minimise the visual impact of the project, particularly from any nearby residential properties; and • **greenhouse gas** – including: – a quantitative assessment of the potential scope 1, 2 and 3 greenhouse gas emissions of the development, and a qualitative assessment of the potential impacts of these emissions on the environment; and – a detailed description of the measures that would be implemented on site to ensure that the development is energy efficient. • **Aboriginal heritage** – including: – an assessment of the potential impacts on Aboriginal cultural heritage values across the site; and – consultation undertaken in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010. • **non-Aboriginal heritage**; and • **bushfire.**
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the *Environmental Planning and Assessment Regulation 2000.* These documents should be included as part of the EIS rather than as separate documents.
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.

	In particular you must consult with: • Environmental Protection Authority; • Newcastle City Council • WorkCover NSW; • Department of Primary Industries; • NSW Roads and Maritime Services; • Office of Environment and Heritage; • Rural Fire Service; • Fire and Rescue NSW; and • local community and other stakeholders. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.
Further consultation after 2 years	If you do not lodge an EIS for the development within 2 years of the issue date of these SEARs, you must consult with the Secretary in relation to the requirements for lodgement.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, Attachment 1 contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this development.

ATTACHMENT 1
Technical and Policy Guidelines

The following guidelines may assist in the preparation of the Environmental Impact Statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:
http://www.planning.nsw.gov.au
http://www.bookshop.nsw.gov.au
http://www.publications.gov.au

Policies, Guidelines & Plans	
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include the following: 1. An existing site survey plan drawn at an appropriate scale illustrating: • the location of the land, boundary measurements, area (sq.m) and north point; • the existing levels of the land in relation to buildings and roads; • location and height of existing structures on the site; • location and height of adjacent buildings and private open space; and • all levels to be to Australian Height Datum (AHD). 2. A locality/context plan drawn at an appropriate scale should be submitted indicating: • watercourses including nearby rivers and creeks, and dams; • significant local features such as heritage items; • the location and uses of nearby buildings, shopping and employment areas, hospitals and schools; and • traffic and road patterns, pedestrian routes and public transport nodes. 3. An indication of the location of the site with respect to the relevant Land Zoning Map within the *Fairfield Local Environment Plan 2013*. 4. Drawings at an appropriate scale illustrating: • detailed plans, sections and elevations of the existing building, which clearly show all proposed internal and external alterations and additions.
Documents to be submitted	Documents to submit include: • 1 hard copy and 1 electronic copy of all the documents and plans for review prior to exhibition; and • Other copies as determined by the Department once the development application is lodged.

Policies, Guidelines & Plans

Aspect	Policy /Methodology
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2010
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW 2005 (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Odour	
	Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
	Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC)
Noise	
	NSW Industrial Noise Policy (EPA, 2000) and Industrial Noise Policy Application Notes
	NSW Road Noise Policy (EPA, 2011)
	Interim Construction Noise Guideline (DECC, 2009)
	Assessing Vibration: a Technical Guide (DEC, 2006)
	Environmental Criteria for Road Traffic Noise (EPA, 1999)
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
Soil and Water	
Soil	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC)
	National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC)
	Draft Guidelines for the Assessment & Management if Groundwater Contamination (DECC)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land (DOP)
Surface Water	National Water Quality Management Strategy: Water quality management - an outline of the policies (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Policies and principles - a reference document (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	State Water Management Outcomes Plan
	NSW Government Water Quality and River Flow Environmental Objectives (DECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)

	Managing Urban Stormwater: Soils & Construction (Landcom)
	Managing Urban Stormwater: Treatment Techniques (DECC)
	Managing Urban Stormwater: Source Control (DECC)
	Technical Guidelines: Bunding & Spill Management (DECC)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC)
	NSW State Groundwater Quality Protection Policy (DLWC)
	NSW State Groundwater Quantity Management Policy (DLWC) Draft
	Guidelines for the Assessment and Management of Groundwater Contamination (DECC)
Waste	
	Waste Avoidance and Resource Recovery Strategy 2007 (DECC)
	Waste Classification Guidelines (DECC 2009)
	Resource Recovery Exemptions http://www.epa.nsw.gov.au/waste/RRecoveryExemptions.htm
Biodiversity	
	NSW Biodiversity Offsets Policy for Major Projects (2014) and the Framework for Biodiversity Assessment http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf
	The NSW State Groundwater Dependent Ecosystem Policy (DLWC)
Visual	
	Control of Obtrusive Effects of Outdoor Lighting (Standards Australia, AS 4282)
	State Environmental Planning Policy No 64 - Advertising and Signage
Greenhouse Gas	
	AGO Factors and Methods Workbook (AGO)
	Guidelines for Energy Savings Action Plans (DEUS, 2005)
Hazards	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DUAP)
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis

Transport Roads & Maritime Services

24 December 2014

SF2014/098946
CR2014/005911
KM

NSW Department of Planning & Environment
Industry, Key Sites and Social Projects
GPO Box 39
SYDNEY NSW 2001

Attention: Mr David Mooney

ONESTEEL RECYCLING FACILITY, LOT 1 DP 1105761, SPARKE STREET, HEXHAM – SSD 6829 – REQUEST FOR INPUT FOR SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

Dear Mr Mooney

I refer to your email dated 24 November 2014 requesting the provision of key issues which Roads and Maritime Services considers should form part of the Secretary's Environmental Assessment Requirements (SEARs) for the subject proposal. I apologise for the delay in responding.

Transport for NSW and Roads and Maritime's primary interests are in the road network, traffic and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

Roads and Maritime has reviewed the preliminary information, prepared by ERM dated November 2014 and provides the following comments.

The Environmental Impact Statement (EIS) should refer to the following guidelines with regard to the traffic and transport impacts of the proposed development:

- RTA's *Guide to Traffic Generating Developments 2002*
    - Section 2 Traffic Impact Studies

A traffic and transport study shall be prepared in accordance with the RMS *Guide to Traffic Generating Developments 2002* and is to include, but not be limited to, the following:

- Identification of the relevant vehicular traffic routes and intersections for access to/from the subject site.
- Current traffic counts for the above traffic routes and intersections.

Roads and Maritime Services
59 Darby Street, Newcastle NSW 2300 | Locked Bag 2030 Newcastle NSW 2300 DX7813 Newcastle
T 02 4924 0688 | **F** 02 4924 0347 | **E** Development.Hunter@rms.nsw.gov.au **www.rms.nsw.gov.au | 13 22 13**

- The anticipated additional vehicular traffic generated (both light and heavy vehicles) from the construction and operational stages.

- Consideration of the traffic impacts on the existing intersections and the capacity of the local and classified road network including the Pacific Highway to safely and efficiently cater for the vehicular traffic generated by the proposed development during the construction and operational stages. The study shall also give consideration to the cumulative traffic impacts of other proposed and approved developments in the area.

- Traffic analysis of any major / relevant intersections, using SIDRA or similar traffic model, including:

    - Current traffic counts and 10 year traffic growth projections, allowing a 2% background growth on the classified road network
    - With and without development scenarios considered
    - 95th percentile back of queue lengths
    - Delays and level of service on all legs for the relevant intersections
    - Use of SIDRA or similar traffic model
    - Electronic input/output data files for RMS review

- Any other impacts on the regional and state road network including consideration of pedestrian, cyclist and public transport facilities and provision for service vehicles.

- Details of any measures proposed to manage and / or mitigate impacts as a result of the proposal identified in traffic and transport study.

It is recommended that the proponent discuss the project with Roads and Maritime prior to commencing the traffic and transport study.

If you require any further advice please contact Land Use Hunter on (02) 4924 0688.

Yours sincerely

Tim Browne
Manager Land Use Assessment
Hunter Region

Cc General Manager
Newcastle City Council

NSW EPA

Our reference: DOC14/284190-2
File: EF13/4596

Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Mr David Mooney

EMAIL AND STANDARD POST
8 December 2014

Dear Mr David Mooney

Secretary's Environment Assessment Requirements –
SSD 6829 - Proposed Resource Recovery Facility, Hexham – Newcastle LGA

I refer to your email dated 24 November 2014 requesting the Environment Protection Authority's (EPA) environmental assessment requirements for the proposed development.

The EPA has considered the details of the proposal and has identified the information it requires to assess the project **(Attachment 1).**

The key issues requiring assessment for the project are summarised below:

- The management, processing and storage of waste received at the Premises;
- Options for disposal and/or reuse of all recoverable waste and residual waste generated at the Premises;
- Impacts on water quality and site water management;
- Potential noise impacts during construction and operation;
- Potential odour issues during operations at the Premises; and
- Impacts on air quality.

The proponent should ensure that the EIS is sufficiently comprehensive to enable the EPA to determine that extent of the impacts of the proposal.

In carrying out the assessment, the proponent should refer to the relevant guidelines as listed in **Attachment 2** and any relevant industry codes of practice and best practice management guidelines.

The proponent should be aware that any commitments made in the EIS may be formalised in the approval and subsequently included as environment protection licence conditions. Pollution control measures should not be proposed if they are impractical, unrealistic or beyond the financial viability of the development. It is important that all conclusions are supported by adequate data.

The EPA requests **one hard copy of the EIS** for assessment. This document should be provided to the EPA, Unit Head – Waste Compliance, PO Box 488G NEWCASTLE NSW 2300. The EPA also requests an electronic copy be sent to waste.operations@epa.nsw.gov.au.

PO Box 488G Newcastle NSW 2300
117 Bull St Newcastle West NSW 2302
Tel: (02) 49086890 Fax: (02) 49086810
ABN 43 692 285 758
www.epa.nsw.gov.

If you have any questions in relation to this matter please contact Karen Gallagher on 02 49086822.

Yours sincerely

JENNY LANGE
A/Unit Head Waste Operations
Environment Protection Authority

Encl.: Attachment 1: EPA's Recommended Environmental Assessment Requirements
Attachment 2: General Guidance Material.

To lodge official correspondence electronically on behalf of your business or company, please email the signed correspondence on company/business letterhead to waste.operations@epa.nsw.gov.au . You do not need to provide a hard copy of the emailed correspondence.

ATTACHMENT 1

EPA's Environmental Assessment Requirements

TABLE OF CONTENTS

1. Environmental impacts of the project

Impacts related to the following environmental issues need to be assessed, quantified and reported on:

- Air Quality and Odour
- Noise and vibration
- Wastewater management
- Water and Soils
- Waste

The Environmental Impact Statement (EIS) should address the specific requirements outlined under each heading below and assess impacts in accordance with the relevant guidelines mentioned. A full list of guidelines is provided at **Attachment 2**.

2. General

1. The Proposal

The objectives of the proposal should be clearly stated and refer to:

- the size and type of the operation;
- The nature of the processes and the products, by-products and wastes produced;
- The use, reuse or disposal of products;
- the anticipated level of performance in meeting required environmental standards and cleaner production principles;
- the staging and timing of the proposal; and
- the proposal's relationship to any other industry or facility.

2. The Premises

The EIS will need to fully identify all of the processes and activities intended for the site over the life of the development. This will include details of:

- The location of the proposal and details of the surrounding environment;
- The proposed layout of the site;
- Appropriate landuse zoning;
- Ownership details of any residence and/or land likely to be affected by the proposed facility;
- Maps/diagrams showing the location of residences and properties likely to be affected and other industrial developments, conservation areas, wetlands, etc in the locality that may be affected by the facility;
- All equipment proposed for use at the site;
- Chemicals, including fuel, used on the site and proposed methods for their transportation, storage, use and emergency management;
- Waste generation and disposal;
- Methods to mitigate any expected environmental impacts of the development;
- Site rehabilitation following termination of the development

3. Licensing requirements

Should project be granted, the proponent will need to make a application to the EPA for an Environment Protection Licence prior to undertaking any on site works. Additional information is available through EPA's *Guide to Licensing* document:
http://www.epa.nsw.gov.au/licensing/licenceguide.htm

General information on license requirements can also be obtained from EPA's Environment Line on 131 555 during office hours, or can be found at the EPA web site at: http://www.epa.nsw.gov.au/licensing/

4. Air and Odour issues

4.1 Air quality

Undertake a detailed quantitative air quality impact assessment in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, including, as a minimum the following components:

Assessment Objective

1. Demonstrate the proposed project will incorporate and apply best management practice emission controls; and
2. Demonstrate that the project will not cause violation of the project adopted air quality impact assessment criteria at any residential dwelling or other sensitive receptor.

Reference and Guidance Documents

- EPA (2005),Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, including appendices and updates.
- EPA (2006), Approved Methods for the Sampling and Analysis of Air Pollutants in NSW, including appendices and updates.
- EPA (2011), Coal Mine Particulate Matter Control Best Practice – Site-specific determination guideline.
- TRC (2011), Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion into the 'Approved Methods for the Modelling and Assessments of Air Pollutants in NSW, Australia'.

Assessment Criteria

- Define applicable assessment criteria for the proposed development referencing EPA (2005).

Existing Environment

- Provide a detailed description of the existing environment within the assessment domain, including:
    - geophysical form and land-uses;
    - location of all sensitive receptors;
    - existing air quality; and
    - local and regional prevailing meteorology.

- Justify all data used in the assessment, specifically including analysis of inter-annual trends (preferably five consecutive years of data), availability of monitoring data, and local topographical features.

- Meteorological modelling must be verified against monitored data. Verification should involve comparative analysis of wind speed, wind direction and temperature, at a minimum (additional guidance is included in TRC, 2011).
- A review of all existing, recently approved and planned developments likely to contribute to cumulative air quality impacts must be completed.

Emissions Inventory

- Provide a detailed description of the project and identify the key stages with regards to the potential for air emissions and impacts on the surrounding environment.
- Identify all sources of air emissions, including mechanically generated, combustion and transport related emissions likely to be associated with the proposed development.
- Estimate emissions of TSP, PM10, PM2.5, NOx, (tonnes per year), at a minimum, for all identified sources during each key development stage. The emissions inventory should:
    - utilise USEPA (1995) (and updates) emission estimation techniques, direct measurement or other method approved in writing by EPA;
    - calculate uncontrolled emissions (with no particulate matter controls in place); and
    - calculate controlled emissions (with proposed particulate matter controls in place).
- The emissions inventory must be explicitly coupled with the project description.
- Provide a detailed summary and justification of all parameters adopted within all emission estimation calculations, including site specific measurements, proponent recommended values or published literature.
- Document, including quantification and justification, all air quality emission control techniques/practices proposed for implementation during the project. As a minimum, consideration must be given to source control techniques, emission control through mine planning and reactive/predictive management techniques.

Best Practice Determination

- Based on the TSP, PM10 and PM2.5 emissions inventories calculated for the proposed development, undertake a site-specific best practice determination, in accordance with EPA (2011).
- Demonstrate that the proposed control techniques/practices are consistent with best management practice.

Dispersion Modelling and Interpretation of Results

- Atmospheric dispersion modelling should be undertaken in accordance with EPA (2005).
- Modelling must implement fit for purpose modelling techniques that:
    - have regard for the most up to date and scientifically accepted dispersion modelling techniques;
    - contextualise all assumptions based on current scientific understanding and available data; and
    - include a thorough validation of adopted methods and model performance.
- Use an appropriate atmospheric dispersion model to predict, at a minimum, incremental ground level concentrations/levels of the following:
    - 24-hour and annual average PM10 concentrations;
    - 24-hour and annual average PM2.5 concentrations; and
    - 1-hour and annual average NO2 concentrations. NO2 concentrations should be assessed using a well justified approach for the transformation of NOx to NO2.

- Ground level concentrations of pollutants should be presented for surrounding privately-owned properties and other sensitive receptors (as applicable).
- Undertake a cumulative assessment of predicted impacts. The contribution of all identified existing and recently approved developments should be accounted for in the cumulative assessment.
- Cumulative 24-hour PM10 and PM2.5 concentrations must be assessed in accordance with EPA (2005) and/or a suitably justified probabilistic methodology.
- Cumulative annual average PM10, PM2.5, and NO2 should be assessed using a sufficiently justified background concentration(s);
- Results of dispersion modelling should be presented as follows:
    - isopleth plots showing the geographic extent of maximum pollutant concentrations (incremental and cumulative);
    - tables presenting the maximum predicted pollutant concentrations (increment and cumulative) and the frequency of any predicted exceedances at each surrounding privately-owned properties, mine-owned properties and other sensitive receptors (as applicable); and
    - time series and frequency distribution plots of pollutant concentrations at each private receptor location at which an exceedance is predicted to occur. Where no exceedances are predicted, the analysis must be performed for the most impacted off site sensitive receptor.

Air Quality Emission Control Measures

- Provide a detailed discussion of all proposed air quality emission control measures, including details of a reactive/predictive management system. The information provided must include:
    - explicit linkage of proposed emission controls to the site specific best practice determination assessment
    - timeframe for implementation of all identified emission controls;
    - key performance indicators for emission controls;
    - monitoring methods (location, frequency, duration);
    - response mechanisms;
    - responsibilities for demonstrating and reporting achievement of KPIs;
    - record keeping and complaints response register; and
    - compliance reporting.

4.2 Greenhouse gas

1. The EIS should include a comprehensive assessment of, and report on, the project's predicted greenhouse gas emissions (tCO2e). Emissions should be reported broken down by:
   a) direct emissions (scope 1 as defined by the Greenhouse Gas Protocol – see reference below),
   b) indirect emissions from electricity (scope 2), and
   c) upstream and downstream emissions (scope 3)

   before and after implementation of the project, including annual emissions for each year of the project (construction, operation and decommissioning).

2. The EIS should include an estimate of the greenhouse emissions intensity (per unit of production). Emissions intensity should be compared with best practice if possible.

3. The emissions should be estimated using an appropriate methodology, in accordance with NSW, Australian and international guidelines (see attached).

4. The proponent should also evaluate and report on the feasibility of measures to reduce greenhouse gas emissions associated with the project. This could include a consideration of energy efficiency opportunities or undertaking an energy use audit for the site.

4.3 Odour

The EIS should include an assessment of potential odour sources, potential odour impacts and odour management strategies in accordance with the EPA's Technical framework and Technical notes for the Assessment and management of odour from stationary sources in NSW.

5. Noise and vibration

In relation to noise, the following matters should be addressed (where relevant) as part of the Environmental Assessment.

General

1. Construction noise associated with the proposed development should be assessed using the *Interim Construction Noise Guideline* (DECC, 2009). http://www.epa.nsw.gov.au/resources/noise/09265cng.pdf

2. Vibration from all activities (including construction and operation) to be undertaken on the premises should be assessed using the guidelines contained in the *Assessing Vibration: a technical guideline* (DEC, 2006). http://www.epa.nsw.gov.au/noise/vibrationguide.htm

Industry

3. Operational noise from all industrial activities (including private haul roads and private railway lines) to be undertaken on the premises should be assessed using the guidelines contained in the *NSW Industrial Noise Policy* (EPA, 2000) and *Industrial Noise Policy Application Notes*. In particular, the acceptability of residual noise impacts (noise above the Project Specific Noise Levels) should be assessed in accordance with Chapters 8 and 9 of the Industrial Noise Policy. http://www.epa.nsw.gov.au/noise/industrial.htm

Road

4. Noise on public roads from increased road traffic generated by land use developments should be assessed using the guidelines contained in the *Environmental Criteria for Road Traffic Noise* (EPA, 1999). http://www.epa.nsw.gov.au/resources/noise/roadnoise.pdf

5. Noise from new or upgraded public roads should be assessed using the *Environmental Criteria for Road Traffic Noise* (EPA, 1999). http://www.epa.nsw.gov.au/resources/noise/roadnoise.pdf

6. Wastewater Management

The EIS should include a detailed assessment of the wastewater treatment and management proposed for the premises. This should include:

- Details of the volume and expected wastewater quality.
- Details of proposed wastewater treatment methods.
- Details of any upgrades to wastewater treatment processes, including the purpose, location, volumetric capacity and design criteria.
- Details of the construction of any new wastewater treatment infrastructure.

- An assessment of proposed effluent irrigation in accordance with the EPA's Environmental Guidelines: Use of Treated Effluent by Irrigation.
- Detail of water, salt and nutrient balances for effluent irrigation.
- Details of wet weather storage requirements including wet weather capacity calculations.
- Details of any "other" wastewater management ponds including their designed purpose, volumetric capacity, design criteria and location.
- A map of the location of all wastewater management infrastructures.

7. Water and soils

7.1 Soil

The EIS should include:

1. An assessment of potential impacts on soil and land resources should be undertaken. The nature and extent of any significant impacts should be identified. Particular attention should be given to:
   a. Soil erosion and sediment transport - in accordance with *Managing urban stormwater: soils and construction,* vol. 1 (Landcom 2004) and vol. 2 (E. Mines and quarries) (DECC 2008).
   b. Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets which includes *Site Investigations for Urban Salinity* (DLWC, 2002).

2. A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified soil and land resource impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

7.2 Water

The EIS must provide sufficient information to demonstrate that the proposed development can be operated whilst complying with the *Protection of the Environment Operations (POEO) Act* 1997, in particular, the protection of water quality, during operations.

Describe Proposal

1. Describe the proposal including position of any intakes and discharges, volumes, water quality and frequency of all water discharges.

2. Demonstrate that all practical options to avoid discharge have been implemented and environmental impact minimised where discharge is necessary.

3. Where relevant include a water balance for the development including water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.

Background Conditions

4. Describe existing surface and groundwater quality. An assessment needs to be undertaken for any water resource likely to be affected by the proposal.

5. State the Water Quality Objectives for the receiving waters relevant to the proposal. These refer to the community's agreed environmental values and human uses endorsed by the NSW Government as goals for ambient waters (http://www.environment.nsw.gov.au/ieo/index.htm). Where groundwater may be impacted the assessment should identify appropriate groundwater environmental values.

6. State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the ANZECC (2000) Guidelines for Fresh and Marine Water Quality http://www.environment.gov.au/resource/australian-and-new-zealand-guidelines-fresh-and-marine-water-quality-volume-1-guidelines

7. State any locally specific objectives, criteria or targets which have been endorsed by the NSW Government.

Impact Assessment

8. Describe the nature and degree of impact that any proposed discharges will have on the receiving environment.

9. Assess impacts against the relevant ambient water quality outcomes. Demonstrate how the proposal will be designed and operated to:
    - protect the Water Quality Objectives for receiving waters where they are currently being achieved; and
    - contribute towards achievement of the Water Quality Objectives over time where they are not currently being achieved.

10. Where a discharge is proposed that includes a mixing zone, the proposal should demonstrate how wastewater discharged to waterways will ensure the ANZECC (2000) water quality criteria for relevant chemical and non-chemical parameters are met at the edge of the initial mixing zone of the discharge, and that any impacts in the initial mixing zone are demonstrated to be reversible.

11. Assess impacts on groundwater and groundwater dependent ecosystems.

12. Describe how stormwater will be managed both during and after construction.

13. Describe in detail any water storage ponds, or basins, proposed to be constructed during the whole operational life. Provide location of the proposed storage(s), estimated volume capacities and expected water quality.

14. Describe under exactly what circumstances, if any, these storages would be discharged or allowed to overtop, and what the receiving environment for any discharges would be.

Monitoring

15. Describe how predicted impacts will be monitored and assessed over time. Including a Trigger Action Response Plan, or similar response management plan, that will be implemented in response to any adverse impacts identified from the activity. This plan is to identify appropriate trigger values for the site and provide appropriate response actions to be implemented if adverse impacts are identified through the monitoring program.

16. Water quality monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutant in NSW* (2004) http://www.epa.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

8 Waste

The Proponent suggests that the fuel produced from plastic and flock waste is no longer a waste as the material is classified as a combustible liquid under the Australian Dangerous Goods Code. The classification of the liquid as a combustible liquid plays no part in the definition of the liquid as a waste as per the dictionary definition in the *Protection of the Environment Operations Act 1997.*

The EIS should:

1. Identify, characterise and classify all waste that will be generated including proposed quantities of the waste.
   Note: All waste must be classified in accordance with *EPA's Waste Classification Guidelines.*

2. Identify, characterise and classify all waste that is proposed to be disposed of to an offsite location, including proposed quantities of the waste and the disposal locations for the waste. This includes waste that is intended for re-use or recycling.
   Note: All waste must be classified in accordance with *EPA's Classification Guidelines.*

3. Include a commitment to retaining all sampling and classification results for the life of the project to demonstrate compliance with *EPA's Waste Classification Guidelines.*

4. Provide details of how waste will be handled and managed onsite to minimise pollution.

6. Provide details of how the waste will be handled and managed during transport to a lawful facility. If the waste possesses hazardous characteristics, the Proponent must provide details of how the waste will be treated or immobilised to render it suitable for transport and disposal.

7. Include details of all procedures and protocols to be implemented to ensure that any waste leaving the site is transported and disposed of lawfully and does not pose a risk to human health or the environment.

8. Include a statement demonstrating that the Proponent is aware of EPA's requirements with respect to notification and tracking of waste.

9. Include a statement demonstrating that the Proponent is aware of the relevant legislative requirements for disposal of the waste, including any relevant Resource Recovery Exemptions, as gazetted by EPA from time to time.

10. Include a statement demonstrating that the Proponent is aware of the EPA's NSW Energy from Waste Policy Statement and how the proposal can potentially operate as an energy from waste facility.

11. Outline contingency plans for any event that affects operations at the site that may result in environmental harm, including: excessive stockpiling of waste, volume of leachate generated exceeds the storage capacity available on-site etc.

9 Monitoring Programs

The EIS should include a detailed assessment of any noise, air quality, water quality or waste monitoring required during the construction/development phase and on-going operation of the site to ensure that the development achieves a satisfactory level of environmental performance. The evaluation should include a detailed description of the monitoring locations, sample analysis methods and the level of reporting proposed.

ATTACHMENT 2

Guidance Material

Title	Web address
Relevant Legislation	
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
Licensing	
Guide to Licensing	www.environment.nsw.gov.au/licensing/licenceguide.htm
Air Issues	
Air Quality	
Approved methods for modelling and assessment of air pollutants in NSW (2005)	http://www.epa.nsw.gov.au/resources/air/ammodelling05361.pdf
POEO (Clean Air) Regulation 2010	http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+428+2010+cd+0+N
Odour	
Technical framework: Assessment and management of odour from stationary sources in NSW (DEC, 2006)	http://www.epa.nsw.gov.au/resources/air/20060440framework.pdf
Technical notes: Assessment and management of odour from stationary sources in NSW (DEC, 2006)	http://www.epa.nsw.gov.au/resources/air/20060441notes.pdf
Greenhouse Gas	
The Greenhouse Gas Protocol: Corporate Standard, World Council for Sustainable Business Development & World Resources Institute	http://www.ghgprotocol.org/standards/corporate-standard
National Greenhouse Accounts (NGA) Factors, Australian Department of Climate Change (Latest release),	http://www.climatechange.gov.au/publications/greenhouse-acctg/national-greenhouse-factors.aspx
National Greenhouse and Energy Reporting System, Technical Guidelines (latest release)	http://www.climatechange.gov.au/climate-change/greenhouse-gas-measurement-and-reporting/company-emissions-measurement/technical
Australian Greenhouse Emissions Information System (AGEIS)	http://ageis.climatechange.gov.au/
Noise and Vibration	
Interim Construction Noise Guideline (DECC, 2009)	http://www.epa.nsw.gov.au/resources/noise/09265cng.pdf
Assessing Vibration: a technical guideline (DEC, 2006)	http://www.epa.nsw.gov.au/noise/vibrationguide.htm

Title	Web address
Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990)	http://www.epa.nsw.gov.au/resources/noise/ANZECBlasting.pdf
Industrial Noise Policy Application Notes	http://www.epa.nsw.gov.au/noise/industrial.htm
Environmental Criteria for Road Traffic Noise (EPA, 1999)	http://www.epa.nsw.gov.au/resources/noise/roadnoise.pdf
Rail Infrastructure Noise Guideline (EPA, 2013)	http://www.epa.nsw.gov.au/resources/noise/20130018eparing.pdf
Environmental assessment requirements for rail traffic-generating developments	http://www.epa.nsw.gov.au/noise/railnoise.htm
Wastewater	
DEC (2004) Environmental Guidelines: Use of Treated Effluent by Irrigation. NSW Department of Environment and Conservation, Sydney.	http://www.environment.nsw.gov.au/water/effluent.htm
EPHC, NRMMC and AHMC, 2006, Australian guidelines for water recycling: Managing health and environmental risks (Phase1), Doc. 21, NWQMS. Environment Protection and Heritage Council, Natural Resource Management Ministerial Council and Australian Health Ministers' Conference Canberra Act,	http://www.environment.gov.au/water/publications#quality
Waste, Chemicals and Hazardous Materials and Radiation	
Waste	
Waste Classification Guidelines (DECC, 2008)	http://www.epa.nsw.gov.au/waste/classification.htm
Resource recovery exemption	http://www.epa.nsw.gov.au/waste/RRecoveryExemptions.htm
NSW Energy from Waste Policy Statement	http://www.epa.nsw.gov.au/resources/waste/140056enfromwastep s.pdf
Water and Soils	
Soils	
Managing urban stormwater: soils and construction, vol. 1 (Landcom 2004) and vol. 2 (E. Mines and quarries) (DECC 2008)	Vol 1 - Available for purchase at http://www.landcom.com.au/whats-new/publications-reports/the-blue-book.aspx Vol 2 - http://www.environment.nsw.gov.au/stormwater/publications.htm
Landslide risk management guidelines	http://www.australiangeomechanics.org/resources/downloads/
Site Investigations for Urban Salinity (DLWC, 2002)	http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf
Local Government Salinity Initiative Booklets	http://www.environment.nsw.gov.au/salinity/solutions/urban.htm

Title	Web address
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	http://www.environment.gov.au/resource/australian-and-new-zealand-guidelines-fresh-and-marine-water-quality-volume-1-guidelines
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.epa.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

Planning and Regulatory. G. Mansfield.
Reference: 5056315
Phone: 02 4974 2767

8 December 2014

The City of Newcastle

PO Box 489, Newcastle
NSW 2300 Australia
Phone 02 4974 2000
Facsimile 02 4974 2222
Email mail@ncc.nsw.gov.au
www.newcastle.nsw.gov.au

Mr David Mooney
Senior Planner
Industry and Key Sites
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Great Place, Great Lifestyle, *Great Future*

Dear Mr Mooney

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SSD 6829) RESOURCE RECOVERY FACILITY - 8 SPARKE STREET HEXHAM

I refer to your email of 24 November, 2014 and the attached preliminary scoping document prepared by ERM Australia seeking Council's comments on the drafting of the Secretary's environmental assessment requirements (SEARs) for the above development. I also refer to our telephone conversation of 4 December, 2014 regarding this matter.

It is confirmed that Council's Pre-Development Application advice dated 13 November, 2014 (Refer to Annex A of scoping document) provides details of the issues that Council requires to be addressed in the SEARs. In addition, it is requested that the quantity surveyor's report referred to in section 7-Capital Investment Value of the scoping document be required to also calculate the 'proposed cost of the development' in accordance with clause 25J of the *Environmental Planning and Assessment Regulation 2000*.

Should you have any questions in relation to the above matter, please contact me on 49742767 during normal business hours or email gmansfield@ncc.nsw.gov.au .

Yours faithfully

G. Mansfield

Geof Mansfield
PRINCIPAL PLANNER (DEVELOPMENT)

NSW GOVERNMENT | Department of Primary Industries

OUT14/39747

Mr David Mooney
Industry and Key Sites
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

David.Mooney@planning.nsw.gov.au

Dear Mr Mooney,

Hexham Resource Recovery Facility [SSD_6829]
Request for input into Secretary's Environmental Assessment Requirements

I refer to your email dated 24 November 2014 to the Department of Primary Industries in respect to the above matter.

Comment by NSW Office of Water
The NSW Office of Water (Office of Water) has reviewed the supporting documentation accompanying the request for Secretary's Environmental Assessment Requirements (SEARs) and provides the following comments below, and further detail in **Attachment A**.

It is recommended that the EIS be required to include:

- Details of water proposed to be taken (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.
- Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project).
- The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased.
- A detailed and consolidated site water balance.
- Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.

- Full technical details and data of all surface and groundwater modelling.
- Proposed surface and groundwater monitoring activities and methodologies.
- Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.
- Consideration of relevant policies and guidelines.
- A statement of where each element of the SEARs is addressed in the EIS (i.e. in the form of a table).

For further information please contact Alison Collaros, A/Senior Water Regulation Officer, [Newcastle Office], on 4904 2527 or at alison.collaros@water.nsw.gov.au.

Comment from Crown Lands
The proponent must identify any Crown land affected by the proposal. Prior to preparation of the EIS it is recommended that the proponent undertake a Crown Land Status search available through Crown Lands.

For further information please contact Rebecca Johnson, Co-ordinator Client Services, (Newcastle Office) on 4920 5040 or at rebecca.johnson@lands.nsw.gov.au.

Fisheries NSW and Agriculture NSW advise no issues.

Yours sincerely

Kristian Holz
Director Policy, Legislation and Innovation

Attachment A

Hexham Resource Recovery Facility [SSD_6829]
Request for Input into Secretary's Environmental Assessment Requirements
Additional Comment by NSW Office of Water

The following detailed assessment requirements are provided to assist in adequately addressing the assessment requirements for this proposal.

For further information visit the NSW Office of Water website, www.water.nsw.gov.au

Key Relevant Legislative Instruments

This section provides a basic summary to aid proponents in the development of an Environmental Impact Statement (EIS), and should not be considered a complete list or comprehensive summary of relevant legislative instruments that may apply to the regulation of water resources for a project.

The EIS should take into account the objects and regulatory requirements of the *Water Act 1912* (WA 1912) and *Water Management Act 2000* (*WMA 2000*), and associated regulations and instruments, as applicable.

Water Management Act 2000 (WMA 2000)

Key points:

- Volumetric licensing in areas covered by water sharing plans,
- Works within 40m of waterfront land,
- SSD & SSI projects are exempt from requiring water supply work approvals and controlled activity approvals as a result of the *Environmental Planning & Assessment Act 1979 (EP&A Act)*,
- No exemptions for volumetric licensing apply as a result of the *EP&A Act*,
- Basic landholder rights, including harvestable rights dams,
- Aquifer interference activity approval and flood management work approval provisions have not yet commenced and are regulated by the *Water Act 1912*,
- Maximum penalties of $2.2 million plus $264,000 for each day an offence continues apply under the *WMA 2000*.

Water Act 1912 (WA 1912)

Key points:

- Volumetric licensing in areas where no water sharing plan applies,
- Monitoring bores,
- Aquifer interference activities that are not regulated as a water supply work under the *WMA 2000*,
- Flood management works,
- No exemptions apply to licences or permits under the *WA 1912* as a result of the *EP&A Act*,
- Regulation of water bore driller licensing.

Water Management (General) Regulation 2011

Key points:

- Provides various exemptions for volumetric licensing and activity approvals,
- Provides further detail on requirements for dealings and applications.

Water Sharing Plans – these are considered regulations under the *WMA 2000*

Access Licence Dealing Principles Order 2004

Harvestable Rights Orders

Water Sharing Plans

The proposal is located within the area covered by the Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources. The EIS is required to:

- Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection (including groundwater dependent ecosystems), water quality and surface-groundwater connectivity.
- Provide a description of any site water use (amount of water to be taken from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.
- Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP, including:
    - Sufficient market depth to acquire the necessary entitlements for each water source.
    - Ability to carry out a "dealing" to transfer the water to relevant location under the rules of the WSP.
    - Daily and long-term access rules.
    - Account management and carryover provisions.
- Provide a detailed and consolidated site water balance.
- Further detail on licensing requirements is provided below.

Relevant Policies and Guidelines

The EIS should take into account the following policies (as applicable):

- NSW Guidelines for Controlled Activities on Waterfront Land (NOW, 2012)
- NSW Aquifer Interference Policy (NOW, 2012)
- Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW, 2012)
- Australian Groundwater Modelling Guidelines (NWC, 2012)
- NSW State Rivers and Estuary Policy (1993)
- NSW State Groundwater Policy Framework Document (1997)
- NSW State Groundwater Quality Protection Policy (1998)
- NSW State Groundwater Dependent Ecosystems Policy (2002)
- NSW Water Extraction Monitoring Policy (2007)

Office of Water policies can be accessed at the following links:
http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/default.aspx
http://www.water.nsw.gov.au/Water-licensing/Approvals/Controlled-activities/default.aspx

An assessment framework for the NSW Aquifer Interference Policy can be found online at: http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/Aquifer-interference.

Licensing Considerations

The EIS is required to provide:

- Identification of water requirements for the life of the project in terms of both volume and timing (including predictions of potential ongoing groundwater take following the cessation of operations at the site – such as evaporative loss from open voids or inflows).
- Details of the water supply source(s) for the proposal including any proposed surface water and groundwater extraction from each water source as defined in the relevant Water Sharing Plan/s and all water supply works to take water.
- Explanation of how the required water entitlements will be obtained (i.e. through a new or existing licence/s, trading on the water market, controlled allocations etc).
- Information on the purpose, location, construction and expected annual extraction volumes including details on all existing and proposed water supply works which take surface water, (pumps, dams, diversions, etc).
- Details on all bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring. All predicted groundwater take must be accounted for through adequate licensing.
- Details on existing dams/storages (including the date of construction, location, purpose, size and capacity) and any proposal to change the purpose of existing dams/storages
- Details on the location, purpose, size and capacity of any new proposed dams/storages.
- Applicability of any exemptions under the *Water Management (General) Regulation 2011* to the project.

Water allocation account management rules, total daily extraction limits and rules governing environmental protection and access licence dealings also need to be considered.

The Harvestable Right gives landholders the right to capture and use for any purpose 10% of the average annual runoff from their property. The Harvestable Right has been defined in terms of an equivalent dam capacity called the Maximum Harvestable Right Dam Capacity (MHRDC). The MHRDC is determined by the area of the property (in hectares) and a site-specific run-off factor. The MHRDC includes the capacity of all existing dams on the property that do not have a current water licence. Storages capturing up to the harvestable right capacity are not required to be licensed but any capacity of the total of all storages/dams on the property greater than the MHRDC may require a licence.

For more information on Harvestable Right dams, including a calculator, visit:
http://www.water.nsw.gov.au/Water-licensing/Basic-water-rights/Harvesting-runoff/Harvesting-runoff

Dam Safety

Where new or modified dams are proposed, or where new development will occur below an existing dam, the NSW Dams Safety Committee should be consulted in relation to any safety issues that may arise. Conditions of approval may be recommended to ensure safety in relation to any new or existing dams.

See www.damsafety.nsw.gov.au for further information.

Surface Water Assessment

The predictive assessment of the impact of the proposed project on surface water sources should include the following:

- Identification of all surface water features including watercourses, wetlands and floodplains transected by or adjacent to the proposed project.

- Identification of all surface water sources as described by the relevant water sharing plan.
- Detailed description of dependent ecosystems and existing surface water users within the area, including basic landholder rights to water and adjacent/downstream licensed water users.
- Description of all works and surface infrastructure that will intercept, store, convey, or otherwise interact with surface water resources.
- Assessment of predicted impacts on the following:
    - flow of surface water, sediment movement, channel stability, and hydraulic regime,
    - water quality,
    - flood regime,
    - dependent ecosystems,
    - existing surface water users, and
    - planned environmental water and water sharing arrangements prescribed in the relevant water sharing plans.

Groundwater Assessment

To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources.

Where it is considered unlikely that groundwater will be intercepted or impacted (for example by infiltration), a brief site assessment and justification for the minimal impacts may be sufficient, accompanied by suitable contingency measures in place in the event that groundwater is intercepted, and appropriate measures to ensure that groundwater is not contaminated.

Where groundwater is expected to be intercepted or impacted, the following requirements should be used to assist the groundwater assessment for the proposal.

- Works likely to intercept, connect with or infiltrate the groundwater sources.
- Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Bore construction information is to be supplied to the Office of Water by submitting a "Form A" template. The Office of Water will supply "GW" registration numbers (and licence/approval numbers if required) which must be used as consistent and unique bore identifiers for all future reporting.
- A description of the watertable and groundwater pressure configuration, flow directions and rates and physical and chemical characteristics of the groundwater source (including connectivity with other groundwater and surface water sources).
- Sufficient baseline monitoring for groundwater quantity and quality for all aquifers and GDEs to establish a baseline incorporating typical temporal and spatial variations.
- The predicted impacts of any final landform on the groundwater regime.
- The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.
- An assessment of groundwater quality, its beneficial use classification and prediction of any impacts on groundwater quality.
- An assessment of the potential for groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).
- Measures proposed to protect groundwater quality, both in the short and long term.

- Measures for preventing groundwater pollution so that remediation is not required.
- Protective measures for any groundwater dependent ecosystems (GDEs).
- Proposed methods of the disposal of waste water and approval from the relevant authority.
- The results of any models or predictive tools used.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

Groundwater Dependent Ecosystems

The EIS must consider the potential impacts on any Groundwater Dependent Ecosystems (GDEs) at the site and in the vicinity of the site and:

- Identify any potential impacts on GDEs as a result of the proposal including:
  - the effect of the proposal on the recharge to groundwater systems;
  - the potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections; and
  - the effect on the function of GDEs (habitat, groundwater levels, connectivity).
- Provide safeguard measures for any GDEs.

Watercourses, Wetlands and Riparian Land

The EIS should address the potential impacts of the project on all watercourses likely to be affected by the project, existing riparian vegetation and the rehabilitation of riparian land. It is recommended the EIS provides details on all watercourses potentially affected by the proposal, including:

- Scaled plans showing the location of:
  - wetlands/swamps, watercourses and top of bank;
  - riparian corridor widths to be established along the creeks;
  - existing riparian vegetation surrounding the watercourses (identify any areas to be protected and any riparian vegetation proposed to be removed);
  - the site boundary, the footprint of the proposal in relation to the watercourses and riparian areas; and
  - proposed location of any asset protection zones.
- Photographs of the watercourses/wetlands and a map showing the point from which the photos were taken.
- A detailed description of all potential impacts on the watercourses/riparian land.

- A detailed description of all potential impacts on the wetlands, including potential impacts to the wetlands hydrologic regime; groundwater recharge; habitat and any species that depend on the wetlands.
- A description of the design features and measures to be incorporated to mitigate potential impacts.
- Geomorphic and hydrological assessment of water courses including details of stream order (Strahler System), river style and energy regimes both in channel and on adjacent floodplains.

Landform rehabilitation

The Environmental Impact Statement report should include:

- Justification of the proposed final landform with regard to its impact on local and regional surface and groundwater systems;
- A detailed description of how the site would be progressively rehabilitated and integrated into the surrounding landscape;
- Outline of proposed construction and restoration of topography and surface drainage features if affected by the project; and
- An outline of the measures to be put in place to ensure that sufficient resources are available to implement the proposed rehabilitation.

End Attachment A

NSW GOVERNMENT | Office of Environment & Heritage

Your reference: SSD 6829
Our reference: DOC14/303028-01
Contact: Steve Lewer, 4908 6814

Mr David Mooney
Senior Planner – Industry and Key Sites
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Mr Mooney

RE: OEH INPUT INTO SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS FOR AN ENVIRONMENTAL IMPACT STATEMENT FOR THE ONESTEEL RESOURCE RECOVERY FACILITY, HEXHAM (SSD 6829) – NEWCASTLE LGA

I refer to your email dated 24 September 2014 inviting the Office of Environment and Heritage (OEH) to provide input into the Secretary's Environmental Assessment Requirements (SEARs) for the proposed OneSteel Resource Recovery Facility located at Hexham in the Newcastle local government area.

OEH understands that OneSteel propose to construct and operate a downstream recycling plant to treat and recover current waste materials generated from its existing Hexham metal shredder and recycling facility. The facility will be located on Lot 1 in Deposited Plan 11105761 at 8 Sparkle Street in Hexham. OEH understands that the proposal is a State Significant Development under the *Environmental Planning and Assessment Act 1979*.

OEH has reviewed the Preliminary Environmental Assessment (PEA) for this proposal and from this has prepared Standard SEARs which are presented in **Attachment A**. Due to the high number of known Aboriginal sites within the locality and concerns regarding impacts to floodplain management Project Specific SEAR's for Aboriginal cultural heritage and flooding have been provided in **Attachment B**.

It should be noted that the Framework for Biodiversity Assessment was released on 1 October 2014 as such this project is to be assessed under this policy. There are a couple points to note regarding the Framework for Biodiversity Assessment, firstly the assessment must be conducted by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995*. Secondly the Framework for Biodiversity Assessment is a new state wide policy, as such, the consultant is welcome to contact OEH (see contact officer below) with any questions they may have regarding the methodology. OEH notes that the PEA indicates the presence of a man-made wetland that may have native vegetation associated with it (including vegetation that may represent and endangered ecological community), coupled with patches / stands / isolated Swamp Oaks (*Casuarina glauca*). As such assessment under the Framework for Biodiversity Assessment may apply to these areas. If not appropriate justification needs to be provided.

PO Box 488G Newcastle NSW 2300
117 Bull Street, Newcastle West NSW 2302
Tel: (02) 4908 6800 Fax: (02) 4908 6810
ABN 30 841 387 271
www.environment.nsw.gov.au

If you have any further questions in relation to this matter, please contact Steve Lewer, Regional Biodiversity Conservation Officer, on 4908 6814.

Yours sincerely

8 DEC 2014

RICHARD BATH
Senior Team Leader Planning, Hunter Central Coast Region
Regional Operations

Enclosures:

Attachment A – Standard Environmental Assessment Requirements
Attachment B – Project Specific Requirements
Attachment C – Guidance Material

Attachment A – Standard Environmental Assessment Requirements

Biodiversity
1. Biodiversity impacts related to the proposed development are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, 2. Unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995.*
Aboriginal cultural heritage
3. The EIS must identify and describe the tangible and intangible Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011) and consultation with OEH regional officers.
4. Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.
5. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the [EIS/EA]. The [EIS/EA] must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the [EIS/EA] must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.
Historic heritage
6. The [EIS/EA] must provide a heritage assessment including but not limited to an assessment of impacts to *State and local heritage* including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall: a. outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996), b. be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria), c. include a statement of heritage impact for all heritage items (including significance assessment), d. consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and e. where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical

archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.

Water and soils

7. The EIS must map the following features relevant to water and soils including:
   a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).
   b. Rivers, streams, wetlands, estuaries (as described in Appendix 2 of the Framework for Biodiversity Assessment.
   c. Groundwater.
   d. Groundwater dependent ecosystems.
   e. Proposed intake and discharge locations.

8. The EIS must describe background conditions for any water resource likely to be affected by the development, including:
   a. Existing surface and groundwater.
   b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.
   c. Water Quality Objectives (as endorsed by the NSW Government www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
   d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.

9. The EIS must assess the impacts of the development on water quality, including:
   a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
   b. Identification of proposed monitoring of water quality.

10. The EIS must assess the impact of the development on hydrology, including:
   a. Water balance including quantity, quality and source.
   b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
   c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
   d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).
   e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.
   f. Mitigating effects of proposed stormwater and wastewater management during and after

construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.

g. Identification of proposed monitoring of hydrological attributes.

Flooding and coastal erosion

11. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
    a. Flood prone land
    b. Flood planning area, the area below the flood planning level.
    c. Hydraulic categorisation (floodways and flood storage areas).
12. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.
13. The EIS must model the effect of the proposed development (including fill) on the flood behaviour under the following scenarios:
    a. Current flood behaviour for a range of design events as identified in 8) above. The 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.
14. Modelling in the EIS must consider and document:
    a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
    b. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.
    c. Relevant provisions of the NSW Floodplain Development Manual 2005.
15. The EIS must assess the impacts on the proposed development on flood behaviour, including:
    a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
    b. Consistency with Council floodplain risk management plans.
    c. Compatibility with the flood hazard of the land.
    d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
    e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
    f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
    g. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.
    h. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.
    i. Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum

flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.

j. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

Attachment B – Project Specific Requirements

A. Aboriginal Cultural Heritage

A. The assessment of cultural heritage values must include a surface survey undertaken by a qualified archaeologist in areas with potential for subsurface Aboriginal deposits. The result of the surface survey is to inform the need for targeted test excavation to better assess the integrity, extent, distribution, nature and overall significance of the archaeological record. The results of surface surveys and test excavations are to be documented in the EIS.

B. The EIS must outline procedures to be followed if Aboriginal objects are found at any stage of the life of the [development/project] to formulate appropriate measures to manage unforseen impacts.

C. The EIS must outline procedures to be followed in the event Aboriginal burials or skeletal material is uncovered during construction to formulate appropriate measures to manage the impacts to this material.

B. Floodplain Management / Flooding

Section 4.3 of the report includes a chapter on "Stormwater and Flooding" and references previous work by ADW Johnson regarding Stormwater Management and Concept Engineering Report at the site. No mention is made of flooding at the site due to floodwaters from Hunter River. The conclusion of section 4.3 states that *"additional investigations of risks arising from the chonged use of the site including highly viscous fuel storage is proposed to be completed in the EIS"*.

With respect to flooding, OEH requests the following:

A. The EIS needs to include considerations of flooding, including the developments' impact on the existing flooding regime of the creek, as well as the impact of the creek flooding on the development, for flood flows up to and including the Probable Maximum Flood (PMF). As the proposed development is to include the use and storage of hazardous materials, the flooding assessment should include a risk assessment that takes in to account these impacts up to and including the PMF design flood event. Flooding information can be obtained from Newcastle City Council. These issues have generally been covered in sections 11-15 of Attachment A – Standard Environmental Assessment Requirements.

B. The proponent should also develop a Flood Emergency Response Plan as part of the development application process, as the site would be wholly surrounded by floodwaters from the Hunter River during a 1% Annual Exceedance Probability (AEP) flood event. It is to be noted that OEH does not have a legislative role in approving evacuation or emergency management plans, it is up to the proponent to ensure they are satisfied that the contents of the Flood Emergency Management Sub-Plan will cater for the needs of the development. However, in terms of flood risk management for the personnel who

would occupy the proposed site, flood evacuation is a vital component of the management of the flood risk that needs to be recognised at this early planning stage.

Attachment C – Guidance material

Title	Web address
Relevant Legislation	
Coastal Protection Act 1979	www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
Environmental Planning and Assessment Act 1979	www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
Fisheries Management Act 1994	www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N
Marine Parks Act 1997	www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N
National Parks and Wildlife Act 1974	www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
Protection of the Environment Operations Act 1997	www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
Threatened Species Conservation Act 1995	www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N
Water Management Act 2000	www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
Wilderness Act 1987	www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N
Biodiversity	
NSW Biodiversity Offsets Policy for Major Projects (OEH, 2013)	www.environment.nsw.gov.au/biodivoffsets/bioffsetspol.htm
Framework for Biodiversity Assessment (OEH, 2013)	www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf
Fisheries NSW policies and guidelines	www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation
List of national parks	www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx
Revocation, re-categorisation and road adjustment policy (OEH, 2012)	www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm
Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	www.environment.nsw.gov.au/resources/protectedareas/10509devadjdeccw.pdf
Heritage	
The Burra Charter (The Australia ICOMOS charter for places of cultural significance)	http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf
Statements of Heritage Impact 2002 (HO & DUAP)	www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf

Title	Web address
NSW Heritage Manual (DUAP) 1996: Located on OEH publications website – scroll to "N" on the link.	www.environment.nsw.gov.au/Heritage/publications/index.htm#G-I
Aboriginal Cultural Heritage	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Aboriginal Site Recording Form	www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf
Aboriginal Heritage Information Management System (AHIMS) Registrar	www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf
Water and Soils	
Acid sulphate soils	
Acid Sulfate Soils Planning Maps via 'The NSW Natural Resource Atlas'	www.nratlas.nsw.gov.au/
Acid Sulfate Soils Manual (Stone et al. 1998)	www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.advancedenvironmentalmanagement.com/Reports/Savannah/Appendix%2015.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding and Coastal Erosion	
Reforms to coastal erosion management	www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm
Floodplain development manual	http://www.environment.nsw.gov.au/floodplains/manual.htm
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf
NSW Climate Impact Profile	NSW Climate Impact Profile
Climate Change Impacts and Risk Management	Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation
Water	
Water Quality Objectives	www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1
Applying Goals for Ambient Water	http://deccnet/water/resources/AWQGuidance7.pdf

Title	Web address
Quality Guidance for Operations Officers – Mixing Zones	
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf