MAJOR PROJECT ASSESSMENT: Enviroking Liquid Waste Facility (MP 07_0048)

Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

July 2010

Photo: Existing plant building and tanker truck.

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EXECUTIVE SUMMARY

Enviroking Investments (Enviroking) operates a liquid waste treatment facility at Black Hill in the Cessnock local government area.

In November 1998, Cessnock City Council (Council) granted consent for the facility to allow the treatment of liquid food wastes, grease trap arrestor wastes and industrial oily waters.

The original facility was designed and constructed to treat up to 15,000 tonnes (t) of liquid waste per annum. However, Council imposed a condition of consent to restrict total throughput to 5,000 t per annum and required that all waste water be disposed of through Hunter Water Corporation's (Hunter Water) Sewage Treatment Plants (STPs).

Enviroking now proposes to expand its existing waste management operations to treat up to 20,000 t of liquid waste per annum. The project involves the receival and treatment of liquid waste and the disposal of treated waste into landfill, STPs or otherwise appropriately licensed facilities. The proposal also involves:

- expanding the existing structures on site;
- extending the main treatment building to include a workshop, truck wash bay area, bunded dry storage area and two treated effluent tanks; and
- upgrading the ventilation systems within the treatment building.

Enviroking originally, as part of its project, also sought approval to re-use treated food and grease trap wastes by means of irrigation and land application respectively on nearby mine rehabilitation sites and agricultural land. However, the Department advised Enviroking that the scope of the Environmental Assessment did not support those activities, and as such, separate approval would be required. Therefore, the proposal no longer includes off-site land application of treated waste. All residual waste under the current proposal would be disposed of via either landfill, a STP or an appropriately licensed facility.

The proposal has a capital investment value of $408,000 and would create 5 construction jobs and 12 operational jobs.

The proposal constitutes a 'major project' under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and consequently requires the Minister's approval.

During the exhibition period, the Department received 6 submissions on the project comprising 5 from government authorities and 1 from a neighboring company.

Most of the issues raised by government agencies (Council, the Department of Environment, Climate Change and Water and the NSW Office of Water) were in relation to the initially proposed off-site land application of treated waste and the potential for further impacts such as groundwater contamination and increased odour complaints. Council did not support the Project, primarily on the basis of the initial proposal to dispose treated waste on lands within the Cessnock local government area.

The Department has assessed the merits of the project in detail and considers the key issues to be air quality (odour and dust), waste, soil and water.

The Department is satisfied that all of these issues can be suitably managed to ensure an acceptable level of environmental performance, and has concluded that the project would:

- provide essential liquid waste treatment services not provided by public utilities (e.g. STPs);
- meet demand for liquid waste disposal or alternative waste disposal technologies which would otherwise be disposed of to sewer or landfill;
- satisfy the regional demand for more sustainable waste management facilities;
- reduce the long term waste management costs and greenhouse gas emissions associated with the landfilling of wastes;
- be consistent with the strategic direction for waste management in NSW; and
- make use of an innovative technology and infrastructure already operating on a smaller scale.

On balance, the Department considers the project is in the public interest, and should be approved subject to conditions.

1. PROPOSED PROJECT

1.1 Background

In November 1998, Cessnock City Council (Council) granted consent for the operation of a liquid waste treatment facility (DA 118/697/181) at 843 John Renshaw Drive, Black Hill (see Figure 1).

The facility treats liquid food wastes, grease trap arrestor wastes (GTWs) and industrial oily waters. Food and grease trap wastes are sourced from restaurants, canteens and food halls while industrial oily waters are sourced mostly from motor vehicle workshops. The facility services business in the Hunter Valley and Central Coast, and is one of only three similar facilities servicing the area.

These wastes cannot be disposed of by businesses directly to sewer as water authorities will not allow untreated liquid waste to go direct to sewer (due to the potential for untreated liquid wastes to damage infrastructure, and a lack of capacity within Sewerage Treatment Plants (STPs) to treat large doses of oily or fatty matter). The public utilities therefore require businesses that produce oily or greasy waste waters to install interceptor traps. The interceptor traps are regularly pumped out into vehicles which deliver the liquid waste to the facility for treatment.

The Black Hill facility was designed and constructed to treat up to 15,000 tonnes (t) of liquid waste per annum. However, due to concerns about the facility's existing environmental performance and the potential operating impacts of a facility this size, Council imposed a condition of consent to restrict total throughput to 5,000 t per annum and required that all waste water be disposed of through the Hunter Water Sewage System.

Enviroking Investments (Enviroking) (the Proponent) has a license from the Environmental Protection Authority to treat up to 15,000 t of waste per annum.

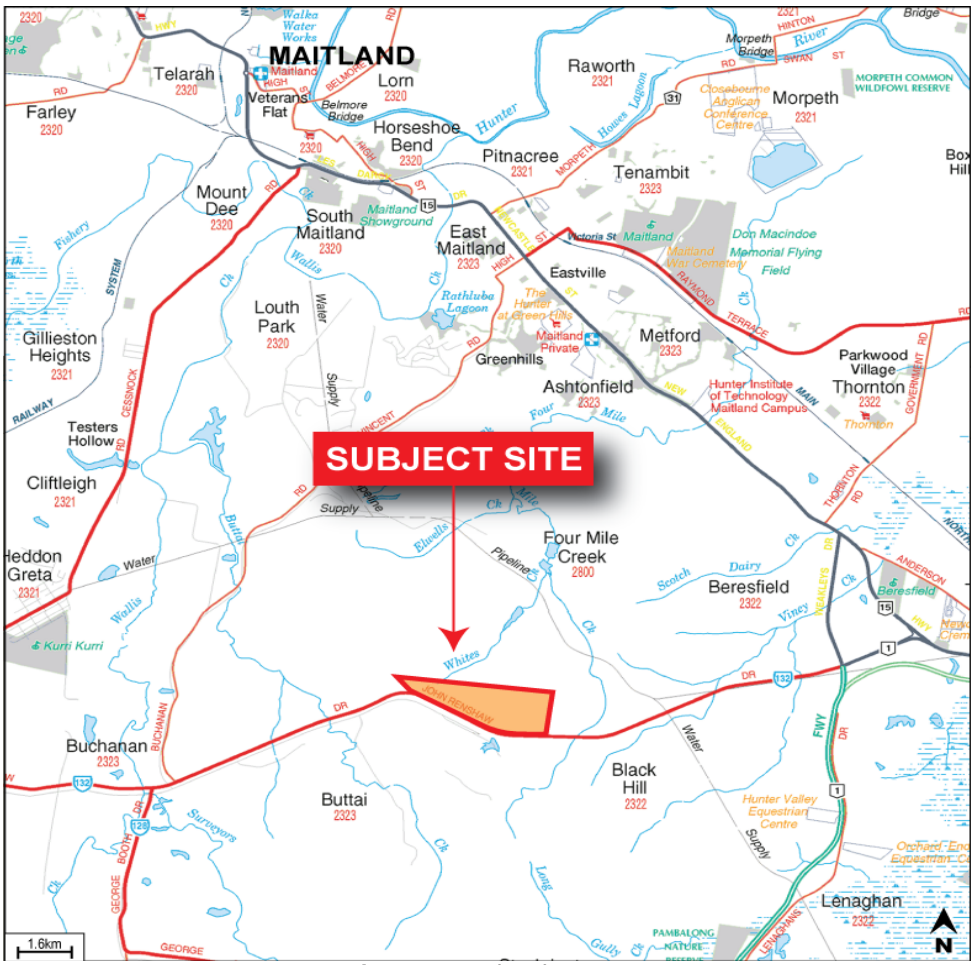


***Figure 1**: Regional context*

1.2 Subject Site

The site comprises an area of 60.21 hectares (ha) and is generally covered with native vegetation, except for a cleared area near the centre of the property of about 3.5 ha where the buildings comprising the existing facility are located (see Figure 2). A cleared driveway connects the facility to John Renshaw Drive.

Pursuant to Item 8, Schedule 5 of Cessnock Local Environmental Plan 1989 (Amendment No 43), the site is zoned to permit a "waste water treatment facility" within the 1(a) Rural "A" Zone.

1.3 Surrounding Land Uses

The following land uses are located in the immediate vicinity of the site (see Figure 2):

- adjoining rural properties (to the south and west, with the nearest residence approximately 750 metres to the south);
- Bloomfield Collieries rehabilitation area (located on the immediate northern boundary); and
- Donaldson Mine (located on the southern boundary).

A 500 metre (m) buffer zone has been established around the waste treatment facility. A 1000 m buffer zone has also been established around Donaldson Mine. Dwelling houses are prohibited development within these buffer zones.

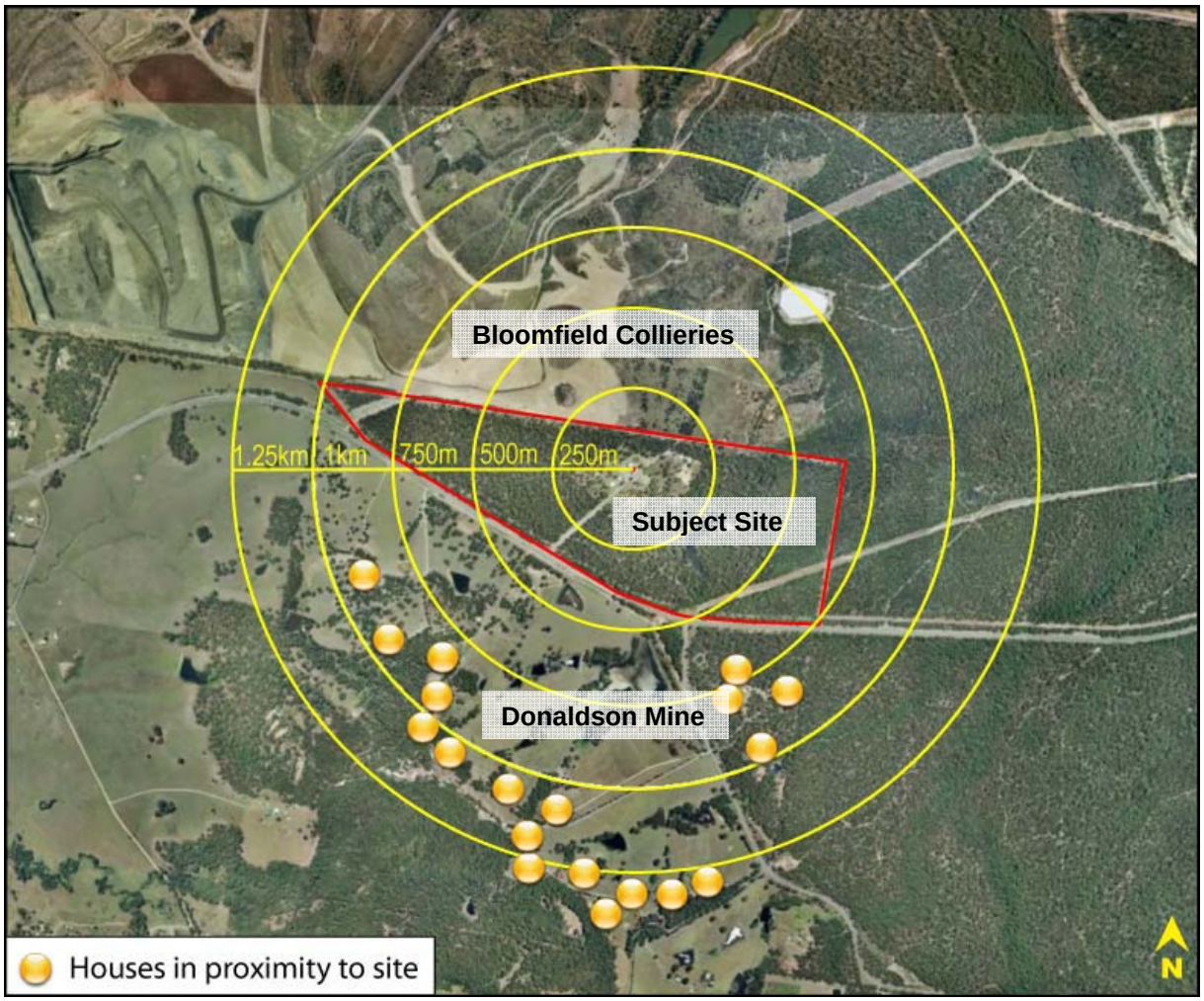


***Figure 2**: Subject site and surrounding properties*

1.4 Project Description

Enviroking is proposing to expand its existing waste treatment facility at Black Hill. The facility would receive and treat up to 20,000 t of liquid waste per annum. A throughput of 20,000 t per annum equates to 385 kilolitres (kl) per week, or approximately 70 kl per day. (Note: one kilolitre is equal to approximately one tonne).

Enviroking originally sought approval to allow processed effluent water and food sludge to be reused by means of irrigation and land application on nearby agricultural and mine rehabilitation sites. To do this, Enviroking would need to detail the makeup of the waste / effluent, and also assess the capability of the land to accept that waste / effluent. Following advice from both DECCW and the Department, the Proponent is now aware that their EA did not provide sufficient analysis to support the land application or irrigation of waste, and that they would need a separate approval or exemption from DECCW for these activities. As such, off-site land application of treated waste is no longer part of the proposal subject of this report.

The proponent therefore seeks approval for the purposes of accepting and treating waste on site and for the expansion of the capacity of the existing liquid waste treatment plant. Specifically, the project would involve:

- receiving and treating a volume of up to 20,000 t per year of liquid food and GTW from domestic and commercial food outlets and industrial oily waters;
- recycling floating oil (from industrial oily waters) to mineral oil recyclers;
- disposing of contaminated effluent water from industrial oily waters to sewage treatment plants operated by Hunter Water Corporation; and
- disposing of non-contaminated grit, sand and solids to landfill.

The expansion of the existing structures on site and upgrading of the ventilation systems within the treatment building will result in all treatment and loading areas being covered, such that any spillages would be contained. The proposed extension works are detailed in Figure 3.

Treatment Process

There are two main types of input waste streams received at the facility. They are:

- Food and GTW, sourced from restaurants, canteens and food halls; and
- Oily industrial liquids, sourced mainly from motor vehicle workshops.

Table 1 displays the expected waste input rates at a maximum capacity (20,000 kl per annum).

***Table 1**: Expected Breakdown of Waste Receival*

Type	kl / annum	kl / week	kl / day
GTW and Food Waste	18 000	346	55 - 75
Oily Industrial Liquids	2 000	38.5	6 -10
Total	20 000	385	

Note: One kl is equal to approximately one t. Monday and Friday are usually the peak days but this varies seasonally, so the expected range is given.

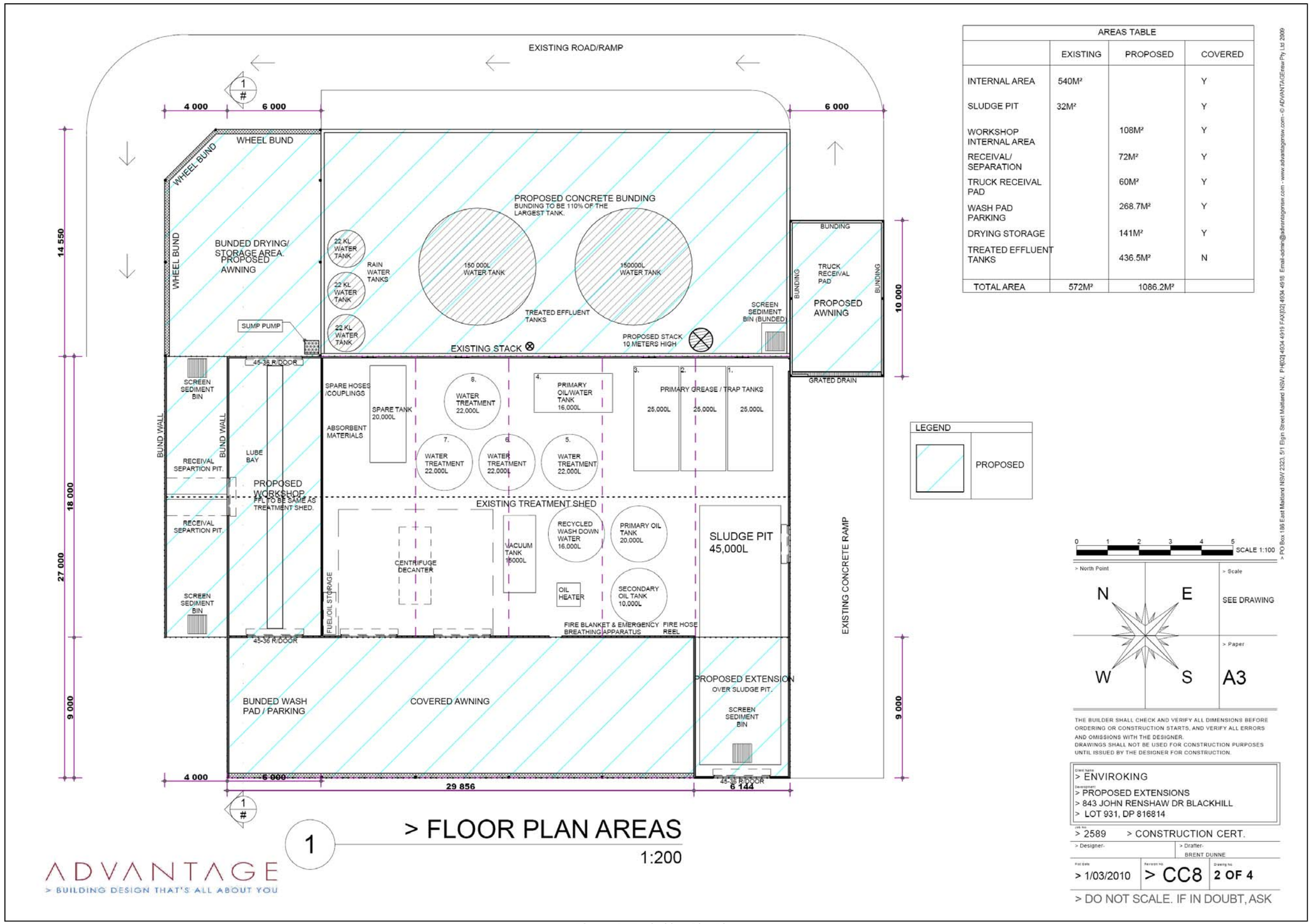
Food and GTW would be treated by settlement, with thickened sludge being transferred to a storage pit and water being decanted to a water treatment tank for further clarification by addition of flocculants and/or coagulants. Floating matter would be optionally combined with the settled sludge or pumped to a heating refinement tank to extract vegetable oils for industrial biodiesel recycling. Waste water would be transported to a STP / licensed treatment facility or used for irrigation if an exemption is subsequently granted.

Oily industrial liquids would be treated separately and where possible, mineral oil would be recovered and recycled to mineral oil recyclers. Oily industrial liquids would be pumped into a separate oily liquids tank, or if containing high sediment loads, into an open tank and allowed to settle. Water in this treatment tank may be treated with coagulant to separate the suspended sediments, with the treated water being recycled back into the system if possible or sent to a STP. Sludge, soil and grit which cannot be recycled would be dried and land filled off-site at a licensed facility. Any contaminated effluent that cannot be reused or recycled would be disposed of at a STP operated by Hunter Water.

The major components of the project are summarised in Table 2. The project is described in full in the Proponent's Environmental Assessment (EA), which is attached as Appendix F.

***Table 2**: Major components of the Enviroking Waste Facility*

Aspect	Description
Project Summary	Expansion of existing waste management operations including a minor expansion of existing structures on site and upgrading the ventilation systems within the treatment building.
Key features	
Waste processing limitation	Up to 20,000 t of liquid waste would be processed at the site per year.
CIV	$408,000
Output	The facility would produce: ▪ treated effluent water; 14,000 - 18,000 kl/yr ▪ organic GTW and food waste sludge; 4,000 - 6,000 kl/yr (sludge) 2,000 - 3,000 kl/yr (solid) ▪ solidified oily sludge from oily waters; 50 - 100 t/yr ▪ dewatered and filtered tallow; 50 - 200 t/year ▪ recovered mineral oil; and <20 t/yr ▪ contaminated effluent water for STP disposal.
Employment	▪ 5 short-term construction jobs ▪ 12 long-term operational jobs.
Operating Hours	The following operation hours would apply to the project: ▪ 7am to 5pm Monday to Friday; ▪ 7am- 12pm Saturday; and ▪ No operation on Sundays or Public Holidays.
Access	Access would be via John Renshaw Drive along an existing gravel driveway which is sealed for a distance of approximately 35 metres.
Vehicles	Waste is bought to the site in tanker trucks (see cover photograph).
Parking	There is adequate parking on site for employee vehicles and tanker trucks.
Energy Requirements	The total energy requirements of the project including the installed pump, air treatment system and centrifuge would be approximately 41 kW per day.
Development Components	
Components	The project would involve the construction and operation of the following new components on the site (in addition to the continued use of the current infrastructure): ▪ a workshop – by extending the existing main building by 108m^2.; ▪ covered truck wash bay area – by extending the existing main building by 268.7m^2; ▪ covered & bunded dry storage area – by extending the existing main building by 213m^2; ▪ covered waste receival separation pit; ▪ two 150,000 litre treated effluent tanks; ▪ an additional ventilation system within the existing building including a ventilation hood covering most of the odorous areas on the right-hand side of the plant feeding a single vertical stack (approximately 1.03m in diameter and 8m in height) with an exit velocity of 10m/s; and ▪ associated infrastructure.
Landscaping	No landscaping works are proposed as part of the project as the existing treatment building on site is not visible from John Renshaw Drive or other external locations as it is screened by surrounding native vegetation.



AREAS TABLE			
	EXISTING	PROPOSED	COVERED
INTERNAL AREA	540M²		Y
SLUDGE PIT	32M²		Y
WORKSHOP INTERNAL AREA		108M²	Y
RECEIVAL/ SEPARATION		72M²	Y
TRUCK RECEIVAL PAD		60M²	Y
WASH PAD PARKING		268.7M²	Y
DRYING STORAGE		141M²	Y
TREATED EFFLUENT TANKS		436.5M²	N
TOTAL AREA	572M²	1086.2M²	

LEGEND

PROPOSED

> FLOOR PLAN AREAS

1:200

ADVANTAGE

> BUILDING DESIGN THAT'S ALL ABOUT YOU

SCALE 1:100

> North Point

> Scale: SEE DRAWING

> Paper: A3

THE BUILDER SHALL CHECK AND VERIFY ALL DIMENSIONS BEFORE ORDERING OR CONSTRUCTION STARTS, AND VERIFY ALL ERRORS AND OMISSIONS WITH THE DESIGNER.
DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED BY THE DESIGNER FOR CONSTRUCTION.

> ENVIROKING
> PROPOSED EXTENSIONS
> 843 JOHN RENSHAW DR BLACKHILL
> LOT 931, DP 816814

> 2589 > CONSTRUCTION CERT.

> Designer: > Drafter: BRENT DUNNE

> 1/03/2010 | > CC8 | 2 OF 4

> DO NOT SCALE. IF IN DOUBT, ASK

***Figure 3**: Enviroking Site Plan*

Output Materials and Disposal Methods
The waste volumes of the project and potential disposal methods (subject to separate application / approval) are summarised in Table 3.

Table 3: *Treated waste volumes and reuse/disposal methods*

Maximum volume of waste received	20,000 t/yr	
Waste type	**Approximate volume**	**Reuse/disposal OPTION**
Treated effluent water	14-18,00 kl/yr	Irrigated (subject to separate application /approval) or disposed of at Hunter Water STP or a licensed facility.
Organic sludge from Grease Trap Waste and food waste in sludge and solid form	4-6,000 kl/yr(sludge) 2-3,000 t/yr (solid form)	Potential land application for agricultural benefit (subject to separate application/approval). otherwise, disposal at a licensed facility.
Solidified oily sludge from oily waters and car wash treatment suitable only for landfill	50-100 t/yr	Solidification and dried for landfill
Dewatered and filtered tallow	50-200 t/yr	Heating and refinement as tallow or biodiesel conversion
Recovered mineral oil	<20 t/yr	Sale to oil recyclers

If an exemption for off-site land application of treated waste is granted, it is anticipated that most effluent water will be reused and very little disposed of at Hunter Water STPs due to the significant costs associated with this method of disposal. No treated waste would be disposed of within the subject site.

1.5 Project Need
The Proponent offers the following points as justification for the project:
- the project provides essential liquid waste treatment services not provided by public utilities (e.g. sewage treatment plants);
- the project meets demand for liquid waste disposal or alternative waste disposal technologies which would otherwise be disposed of to sewer or landfill.
- the project is consistent with the strategic direction for waste management in NSW;
- the project would assist in satisfying the regional demand for more sustainable waste management facilities;
- the project would reduce the long term waste management costs and greenhouse gas emissions associated with land-filling wastes;
- the site is suitable for the proposed use; and
- the project is using an innovative technology already operating locally at a similar scale.

2. STATUTORY CONTEXT

2.1 Major Project

The proposal is classified as a major project under Part 3A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*, because it is development for the purpose of liquid waste depots that handle more than 10,000 tonnes per year of liquid food or grease trap waste and therefore triggers the criteria in Clause 27(6a) of Schedule 1 of *State Environmental Planning Policy (Major Developments) 2005*.

Consequently, the Minister for Planning is the approval authority for the project.

2.2 Permissibility

Under Section 75J of the EP&A Act, the Minister cannot approve the carrying out of a project that would be wholly prohibited under an environmental planning instrument.

The *Cessnock Local Environmental Plan 1989* establishes the permissibility of the site for the waste facility. The site is within the 1(a) Rural "A" Zone. The development of a "waste water treatment facility" is permissible with consent in this zone.

Under the delegation dated 25 January 2010, the Deputy Director-General, as delegate of the Minister for Planning, may approve the development.

2.3 Exhibition and Notification

Under Section 75(3) of the EP&A Act, the Director-General is required to make the Environmental Assessment (EA) of a project publicly available for at least 30 days.

After accepting the EA for the project, the Department:

- made it publicly available from 16 December 2009 until 16 February 2010:
  - on the Department's website;
  - at the Department's Information Centre;
  - at Cessnock City Council; and
  - at the Nature Conservation Council
- notified landowners in the vicinity of the site about the exhibition period by letter;
- notified relevant State government authorities and Cessnock City Council by letter; and
- advertised the exhibition in the Cessnock Advertiser.

This satisfies the requirements in Section 75H(3) of the EP&A Act.

During the assessment process the Department also made a number of documents available for download on the Department's website. These documents included the:

- project application;
- Director-General's environmental assessment requirements;
- EA; and
- Enviroking's response to issues raised in submissions.

2.4 Strategic Context

The Project has been assessed against the objectives of both the State Plan and the Lower Hunter Regional Strategy 2006, the two principal strategic planning documents relevant to the Project.

The Project is consistent with the goals and priorities of the State Plan, and in particular priorities P1 (increased business investment), P6 (increased business investment in rural and regional NSW) and E5 (jobs closer to home).

The Project is also consistent with the goals of the Lower Hunter Regional Strategy 2006, which supports industry, and the diversification of economic and employment opportunities.

2.5 Environmental Planning Instruments

Under Section 75I of the EP&A Act, the Director-General's report is to include a copy of or reference to the provisions of any:

- *State Environmental Planning Policy* (SEPP) that substantially govern the carrying out of the project; and
- environmental planning instrument that would (but for Part 3A) substantially govern the carrying out of the project and that have been taken into consideration in the environmental assessment of the project.

The Department has assessed the proposal against the relevant provisions of several environmental planning instruments and is satisfied that none of these SEPPs substantially govern the carrying out of this project.

Consideration of the relevant Environmental Planning Instruments, namely SEPP 33 and the *Cessnock Local Environmental Plan 1989*, is provided in Appendix C.

2.6 Objects of the Environmental Planning and Assessment Act 1979

The Minister is required to consider the objects of the EP&A Act when he makes decisions under the Act. These objects are detailed in Section 5 of the Act, and include:

'The objects of this Act are:

(a) to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,

(ii) the promotion and co-ordination of the orderly and economic use and development of land,

(iii) the protection, provision and co-ordination of communication and utility services,

(iv) the provision of land for public purposes,

(v) the provision and co-ordination of community services and facilities, and

(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and

(vii) ecologically sustainable development, and

(viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.'

The objects of most relevance to the Minister's decision on whether or not to approve this project are those under Section 5(a) (i), (ii), (vi) and (vii).

With respect to ecologically sustainable development (ESD), the EP&A Act adopts the definition in the Protection of the Environment Administration Act 1991. Section 6(2) of that Act states that ESD 'requires the effective integration of economic and environmental considerations in decision-making processes' and that ESD 'can be achieved through' the implementation of the principles and programs including the precautionary principle, the principle of inter-generational equity, the principle of conservation of biological diversity and ecological integrity, and the principle of improved valuation, pricing and incentive mechanisms. In applying the precautionary principle, public decisions should be guided by careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment and an assessment of the risk-weighted consequences of various options.

The Department has fully considered the objects of the EP&A Act, including the encouragement of ESD, in its assessment of the project application. The Department considers the project provides an essential service with the treatment of liquid waste. Whilst only a small amount of mineral oil is able to be recovered from the waste stream, the Department still considers the project to be consistent with

the Government's Waste Avoidance and Resource Recovery Policies given it does include the recovery and reuse of some liquid wastes that would otherwise be disposed direct to landfill or sewer.

2.7 Statement of Compliance

Under Section 75I of the EP&A Act, the Director-General's report is required to include a statement relating to compliance with the environmental assessment requirements with respect to the project.

The Department is satisfied that the environmental assessment requirements have been complied with.

3. ISSUES RAISED IN SUBMISSIONS

During the exhibition period, the Department received a total of 6 submissions on the project. These include:

- 5 from public authorities (DECCW, Cessnock City Council (Council), RTA, NSW Office of Water and Hunter Water Corporation); and
- 1 submission from a neighboring company.

A summary of the issues raised in submissions is provided below. A full copy of these submissions is attached in Appendix D.

3.1 Public Authorities

The **Roads and Traffic Authority** (RTA) had no objections to the project provided all vehicular access to and from the site was provided via the existing access route along John Renshaw Drive.

The **Department of Environment Climate Change and Water (DECCW)** did not object to the project and raised issues regarding:

- the requirement for the proponent to apply for an Environmental Protection License prior to the commencement of operations of the project, should it be approved; and
- the requirement for further approval to be obtained should the proponent wish to apply treated liquid waste to land and associated activities outside the subject site.

DECCW also recommended a number of conditions of approval relating to waste, water, noise, air quality, project operations and plant and equipment maintenance.

Council's submission stated that it does not support the Project, primarily on the basis of the proposed disposal of treated waste on lands within the Cessnock local government area and related impacts including the potential for increased odour complaints and the potential impacts on a recently approved 2 lot rural subdivision in the vicinity of the site. The subdivision is located on the opposite side of John Renshaw Drive. The boundary of the closest lot is approximately 450m from the facility. No dwellings are currently proposed on these lots.

The **NSW Office of Water** did not object to the proposal and requested additional information regarding the re-use of treated waste off-site, the potential for groundwater contamination as a result of land injection/application of treated liquid waste and any subsequent water monitoring and contingency strategies.

The **Hunter Water Corporation** considered that the project would not affect any of their assets and raised no objections to the project.

3.2 Other

The Department received 1 submission from an adjoining landowner, Bloomfield Collieries Pty Ltd, who did not object to the project but raised an issue regarding the need for periodic review of the project's Environmental Management Plan to reflect current best management practice.

Additionally, it should be noted that Bloomfield Collieries Pty Ltd acknowledged that they would consider the acceptance of treated waste from the project for mine rehabilitation subject to treated

materials satisfying the relevant legislative requirements for off-site land application/injection of liquid waste.

3.3 Response to Submissions

Enviroking has provided responses to the issues raised in submissions (see Appendix E). This has been made publicly available on the Department's website.

The Department has considered the issues raised in submissions, and Enviroking's responses to these issues in its assessment of the project.

4. ASSESSMENT

Following a review of submissions received during exhibition of the project, and assessment of the Proponent's EA and response to submissions, the Department considers the key issues are air quality, waste, soil and water.

These issues are considered in detail below. All other issues are summarised in Table 6.

4.1 Air Quality

An air quality assessment was undertaken by Sinclair Knight Merz (SKM) on behalf of Enviroking to examine the potential air quality impacts of the proposed project. The air quality impact assessment indicates that the primary emissions from the Enviroking facility would be odour and dust from airborne particulates.

Odour

The air quality impact assessment was undertaken in accordance with DECCW's '*Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW'.* The assessment considered the potential odour levels from the proposed facility with DECCW's odour performance criteria. The odour performance criterion considers the population of the potentially affected community, cumulative impacts, anticipated odour levels during adverse meteorological conditions and community expectations of amenity.

A criteria of 7 odour units per cubic metre (OU/m^3) for the 99^{th} percentile concentration at single residences would apply to the project for on-site odour impacts and a criteria of 2 OU/m^3 for the 99^{th} percentile concentration in urban areas would apply for the nearest affected residences to the south of the project site.

Odour emission rates were modelled using dispersion modelling software and odour measurements of GTW and oil taken from a facility with similar waste inputs and outputs to the proposed project. Three main sources of odour emission were identified, including:

- odours emissions released by agitated liquid waste during filling of the primary holding tanks, assumed to be emitted from the existing stack on site;
- all other odour emissions released by liquid waste during filling of the primary holding tanks; and
- fugitive odour emissions from undisturbed liquid waste and open-to-air sludge pits.

Two modelling scenarios were then considered based on a worst case / maximum waste input rate of 23 t of waste per hour/day. The two modelling scenarios included:

- Scenario 1 modelled project emissions using the existing odour management regime; and
- Scenario 2 modelled project emissions including the installation of an additional hood and stack (2) ventilation system on the right-hand side of the plant building as proposed by this project.

The modelling results of worst-case stack emissions were as follows:

Table 4: *AUSPLUME odour modelling results of worst-case stack emissions*

Modelling Scenario	Odour criteria (OU/m^3)	
	Single Residences 7.0	**Urban Areas 2.0**
Scenario 1 (existing)	7.0	0.2
Scenario 2 (additional ventilation)	0.6	0.25

The results indicate that, under the existing odour management regime (Scenario 1), the facility is expected to only just comply with the relevant DECCW criteria.

When comparing the results of the two odour management scenarios it can be seen that high level odour control with the installation of an additional stack ventilation system (Scenario 2) would provide for significantly lower on-site odour impacts while similar odour impacts could be expected further away at the nearest sensitive receivers (in urban areas).

SKM recommended that the installation of ventilation controls as per Scenario 2 be pursued. This would involve the installation of an additional stack (8m in height above ground level) and ventilation hoods covering most odorous areas on the right-hand side of the plant building, as well as open to air waste handling and storage areas. It is expected that controlled ventilation of odours via two stacks would result in lower odour impacts overall for all potential receivers. This would significantly improve amenity for Enviroking plant workers whilst ensuring standards are still met for those residents living closest to the project site. Both DECCW and the Department support this recommendation to implement additional ventilation controls.

It is also important to note that a highly conservative modelling approach was undertaken whereby odour emission rates were modelled based on a 24 hours, 7 days per week operation, despite the Enviroking facility only operating from 7am – 7pm (Monday to Friday) and 7am – 12pm (Saturday). Furthermore, modelling scenarios have been formulated using worst-case odour concentrations of liquid waste material.

Council raised concerns given the recent approval of a 2 lot rural subdivision adjacent to the site, on the opposite side of John Renshaw Drive. Although there are no new dwellings proposed at this stage for these lots, Council is concerned because there is potential for a dwelling to be located 450m from the site. SKM's odour impact assessment indicates that the erection of a dwelling on the recently subdivided lots would be subject to a worst-case scenario of approximately 0.35 OU/m^3, which would be well within the relevant DECCW criteria of 2 OU/m^3 for urban areas. Based on these modelling predictions, both DECCW and the Department are satisfied the criteria would be met.

Furthermore, the Department is satisfied that with the implementation of the additional ventilation controls, the odour impacts of the project can be effectively managed and would not be significant. Further, the additional ventilation controls would result in an overall improvement in working conditions for plant workers and nearby residential receivers. The Department has incorporated the requirement for additional ventilation controls into the recommended conditions of approval.

Airborne Particulates (Dust)

Air monitoring data suggests that the Bloomfield open cut mine, located to the immediate north of the site, is the main source of airborne particulate matter in the area. There are no other major sources of air pollution in the area.

The main source of dust from the Enviroking site is from vehicles, mainly road tankers crossing the unsealed section of the access road to the site off John Renshaw Drive. Dust emissions are currently managed by watering the access road to the site as required. This practice is expected to continue with increased operations and is considered an effective way to manage dust emissions from the Enviroking facility.

DECCW has recommended a condition of approval that would require Enviroking to maintain the site in a condition which prevents the emission of dust, which the Department has incorporated into the recommended conditions of approval.

The Department is therefore satisfied that potential sources of airborne particulates from the project can be effectively managed and would be negligible.

4.2 Waste

Enviroking's proposal involves the treatment of liquid waste. The project entails two primary waste streams: oily industrial liquids; and food and grease trap waste. However, like most waste treatment facilities, following a treatment and recovery process (where all materials that can be recovered are extracted from the waste stream), there is inevitably a residual waste at the end of the process to dispose of. This issue is discussed further below.

Land application of treated waste

As discussed earlier, Enviroking initially had intentions to reuse the residual food and GTW waste by means of irrigation and land application outside the subject site. The treated food and GTW in the form of treated water and refined settled sludge were to be used on nearby mine rehabilitation and agricultural land.

The Department, DECCW, NOW and Council all consider it necessary to regulate the quality of waste applied to land outside of the project site. Enviroking would need to obtain an additional EPL, variation or waste exemption from DECCW for such activities. The Department has therefore recommended a condition of approval which would prevent Enviroking from undertaking any land application of liquid waste and associated activities outside the project site without acquiring the necessary approval to do so.

Council and NOW raised a number of concerns regarding irrigation, land application of treated waste outside the project site and the potential for increased odour complaints. However, these concerns are not relevant to the current proposal since waste would not be disposed of on site and the above recommended condition of approval would prevent any land application of liquid waste outside the subject site without a separate approval to do so.

Enviroking has since advised the Department that they are aware of the legislative requirements for waste proposed to be applied to land outside the project site. In addition, Enviroking has acknowledged that any activity such as land application of treated waste undertaken outside the subject site would need to be lawfully pursued.

Disposal of Residual Waste

Enviroking estimates that a very small percentage of its waste stream (approximately 50-100 tpa) would be waste from oily industrial waters which is not suitable for reuse. This residual waste would need to be removed and disposed of lawfully at an appropriate licensed facility (e.g. landfill). This requirement has been incorporated into the recommended conditions of approval.

Additionally, the Department has included conditions of approval that would require Enviroking to prepare a Waste Management Plan for the project. This plan would require Enviroking to describe:

- the types and quantities of waste that would be generated during construction and operation;
- standards and performance measures that would be implemented to deal with this waste;
- measures to minimise the production and impact of all wastes generated by the project; and
- how this waste would be reused, recycled, and if necessary, appropriately treated and disposed of in accordance with DECCW's *Waste Classification Guidelines.*

The Department is therefore satisfied that any impacts from waste can be adequately managed.

4.3 Soil and Water

The project presents some potential sources of contamination to soil and water, with the potential for spillages of treated and untreated waste being transported to (and unloaded at) the site.

It is anticipated that all waste would be treated within the treatment building with two additional 150 kl tanks proposed to store treated effluent outside the treatment building (see Figure 3). No untreated waste or effluent would be stored outside the treatment building.

All waste material would be transported in sealed tankers. The risk of spillages during transport is therefore considered to be low. Additionally, unloading areas would be covered and bunded on hardstand surfaces to contain any spillages during unloading. The Department has incorporated these requirements into the recommended conditions of approval.

The risk of partial or untreated waste being pumped for disposal (sewer) is also considered to be low as all waste must pass through the processing system, receiving treatment at each stage. Due to the arrangement of pumps (no cross connections) and pipework within the treatment building, it is generally not possible to bypass any stage of the treatment process.

Additionally, the proposed Environmental Management Strategy (EMS) for the project also provides for regular testing of output materials to check for contamination prior to disposal. The Department has incorporated this requirement into the recommended conditions of approval.

NOW raised concerns with regards to potential soil and water contamination with the land application of treated food and GTW outside the site. However, these concerns are not considered to be relevant to the current proposal since any waste disposal outside the subject site would be subject to a separate application / approval.

Domestic water would be provided by roof water tanks and sewage would be treated and disposed of by way of septic tanks. Residual liquid waste would be tankered off site and disposed of at a licenced facility.

The Department is therefore satisfied that potential sources of soil and water contamination can be effectively managed on-site.

4.4 Other Issues

Table 5: *Other issues*

Issue	***Assessment***	***Recommendation***
Traffic and Parking	▪ The project is expected to generate a total of 46 trips per day (including 20 light vehicles trips) to achieve the maximum waste processing capacity of 20,000 tpa. ▪ Truck deliveries would be expected to increase from 11 to 26 per day. ▪ Both the RTA and the Department are satisfied this represents only a minor increase in traffic that would not be expected to have an adverse impact on the surrounding road network or intersection capacity of John Renshaw Drive. Additional truck parking can also be accommodated on site.	▪ The Department has recommended a condition requiring Enviroking to ensure that all vehicular access to and from the site is via the existing transport route along John Renshaw Drive.
Noise	▪ The project has the potential to generate noise during construction, operation and from traffic. ▪ The site is relatively isolated with the nearest dwelling approximately 750m from proposed development. ▪ Noise levels from mechanical equipment during operation are expected to be similar to existing levels as no changes to the number or types of equipment on-site is proposed. ▪ The existing ventilation stack is inaudible at all site boundaries. This is expected to be the same with the newly proposed ventilation stack. ▪ Traffic noise generated from the project is not expected to increase significantly from existing levels. ▪ The Department is satisfied that the noise impacts of the project would be negligible	▪ The Department has recommended a condition requiring Enviroking to comply with any noise criteria in its Environment Protection Licence.
Visual Impact	▪ The proposed building additions are all lower than the current building height (approximately 6m) except for the new ventilation stack which will be 8m above	▪ No additional conditions of approval recommended.

Issue	Assessment	Recommendation
	ground level. ▪ The site is surrounded by remnant bushland. ▪ A 500m buffer zone has been established around the building in which dwelling houses are prohibited. ▪ The nearest dwelling is separated by bushland approximately 750m to the south of the proposed development. ▪ The facility is more than 250m from, and not visible from, the nearest public road (John Renshaw Drive). ▪ The Department is satisfied that the visual impact of the project would be negligible.	
Hazards	▪ There are a number of potential hazards associated with the project including the potential for contaminated waste input and spillages to occur. ▪ The proposed Environmental Management Strategy (EMS) for the project identifies all potential hazards on-site and mitigation measures to address these. ▪ No hazardous materials are used in the waste process and none would be stored on site. ▪ DECCW has recommended a condition of approval that would require Enviroking to prepare and implement an Emergency Response Plan to deal with all types of incidents that may occur inside and outside the premises (such as spills) which are likely to cause harm to the environment. ▪ The Department is satisfied that potential hazards on-site can be effectively managed.	▪ The Department has recommended a condition requiring Enviroking to prepare and implement an Emergency Response Plan for the project.

The Department has assessed the project, in accordance with the requirements of Clause 8B of the *Environmental Planning and Assessment Regulation 2000*, and considers that the potential impacts of the project can be suitably managed to ensure an acceptable level of environmental performance.

5. RECOMMENDED CONDITIONS

The Department has prepared recommended conditions of approval for the project (see Appendix B) and summarised these conditions in Appendix A. These conditions are required to:

- prevent, minimise, and/or offset adverse impacts of the project;
- set standards and performance measures for acceptable environmental performance;
- ensure regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Enviroking has reviewed and accepts the recommended conditions.

6. CONCLUSION

The Department has assessed the merits of the project having regard to the objects of the EP&A Act and the principles of ecologically sustainable development. This assessment has concluded that with the implementation of the recommended conditions of approval, the impacts of the project can be mitigated and/or managed to ensure an acceptable level of environmental performance.

The Department recognises the importance of the liquid waste facility in decreasing the amount of waste that is deposited into landfill or STPs. The project also has the potential to meet the demand for alternative waste disposal technologies in the Hunter region. The project is also consistent with the strategic direction for waste management in NSW.

The Department also recognises the long-term employment opportunities that this facility presents. The site is located on the edge of land identified as future freight hub and employment lands in the Lower Hunter Regional Strategy and would employ 5 workers during construction and approximately 12 workers during full-time operation.

Consequently, the Department believes that the project is in the public interest, and should be approved subject to conditions.

7. RECOMMENDATION

Under the Minister for Planning's delegation of 25 January 2010, It is RECOMMENDED that the Deputy Director General:

- consider the findings and recommendations of this report;
- approve the project application, subject to conditions, under section 75J of the *Environmental Planning and Assessment Act 1979*; and
- sign the attached project approval (Tag A).

Anna Bradley
Industry Projects
Ph: 9228 6503

28.7.10

29/7/10

Chris Ritchie
Manager, Industry Projects

Chris Wilson
Executive Director
Major Projects Assessment

1/8/10

Richard Pearson
Deputy Director-General
Development Assessment
Systems Performance

APPENDIX A: SUMMARY OF CONDITIONS OF APPROVAL

Aspect	Condition	Requirement
Schedule 2: Administrative Conditions		
General Terms & Limits of Approval	1-13	Defines permissible land uses, operations and activities relevant to the project.
Schedule 3: Environmental Conditions		
Waste	1-7	Imposes limits on waste inputs and outputs. Requirements for waste screening, acceptance and management.
Soil & Water	8-10	Imposes soil and water discharge limits. Requirements for soil and water management.
Air Quality	11-13	Requirements for dust and odour minimisation.
Noise	14-16	Requirements for noise minimisation and compliance with the NSW Industrial Noise Policy. Imposes limits on construction and operating hours.
Traffic & Transport	17 & 18	Requirements for parking, vehicle movements and access routes.
Safety & Risk Management	19 & 20	Requirement for implementation of an Emergency & Fire Response Plan. Requirements for bunding of chemical, fuels and oil.
Schedule 4: Environmental Management, Reporting & Auditing		
Environmental Management Strategy	1	Requirement for implementation of Environmental Management Strategy.
Incident Reporting	21 & 22	Requirements for incident reporting.
Independent Environmental Audit	23 & 24	Requirements for undertaking Independent Environmental Audit.
Appendix 1: Site Plan & Building Elevations		
Appendix 2: Statement of Commitments		

APPENDIX B: CONDITIONS OF APPROVAL

APPENDIX C: CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENTS

Cessnock Local Environmental Plan (LEP) 1989

The site is zoned 1(a) Rural "A" under the Cessnock LEP and is permitted as a "waster water treatment facility" within this zone. The project complies with all other relevant controls of the LEP.

State Environmental Planning Policy 33 - Hazardous and Offensive Development
SEPP 33 aims to identify proposed developments that have the potential for significant offsite impacts, in terms of risk and/or offence. If a development is likely to result in significant risks and/or offences to offsite receptors (for example as a result of noise and odour impacts), it is considered to be a hazardous and/or offensive development. SEPP 33 requires that, in determining whether a development is hazardous or offensive, consideration must be given to current circulars or guidelines. The guidelines relevant to SEPP 33 is 'Applying SEPP 33 - Hazardous and Offensive Development Guidelines' (DoP, 1994).

Offensive Developments (Offence Impacts)
SEPP 33 defines a 'potentially offensive industry' as 'a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.'

A potentially offensive industry is one that would emit a polluting discharge in a manner that would have a significant adverse impact, if it were to operate without measures to mitigate these impacts.

The proposal may be considered to be a potentially offensive industry to the extent that ameliorative measures would be appropriate to control the emission of odour, and to a lesser extent, noise, to prevent any significant adverse impact on nearby receptors.

Further, as the project requires an environmental protection licence (EPL) from the Department of Environment, Climate Change and Water (DECCW) under the *Protection of the Environment Operations Act 1997* (POEO Act) it is a 'potentially offensive development'. However, the level of offence would not be considered significant if the licence can be obtained. It is considered that an environmental protection licence can be obtained for the project, and therefore it is not an offensive industry as defined by SEPP 33.

Following consideration of potential air, odour, noise and water impacts it is concluded that, subject to the implementation of recommended mitigation measures, the project would not emit a polluting discharge leading to significant adverse impacts on the locality.

APPENDIX D: SUBMISSIONS

See attached CD.

APPENDIX E: ENVIROKING'S RESPONSE TO SUBMISSIONS & ADDITIONAL INFORMATION

See attached CD.

APPENDIX F: ENVIRONMENTAL ASSESSMENT

See attached CD.