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Concrush Pty Ltd

Modification Report

Teralba Facility

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Modification Report Teralba Facility

Concrush Pty Ltd

WSP

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WSP acknowledges that every project we work on takes place on First Peoples lands.

We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Abbreviations

| ACEH | Australian Circular Economy Hub |
|-----------------|---|
| Action Plan | National Waste Action Plan 2020 |
| ALGA | Australian Local Government Association |
| Concrush | Concrush Pty Ltd |
| Council | Lake Macquarie City Council |
| DCCEEW | NSW Department of Climate Change, Energy, the Environment and Water |
| DPE | [former] NSW Department of Planning and Environment |
| DPHI | NSW Department of Planning, Housing and Infrastructure |
| EIS | Environmental Impact Statement |
| EP&A Act | Environmental Planning and Assessment Act 1979 |
| EP&A Regulation | Environmental Planning and Assessment Regulation 2021 |
| EPBC Act | Environment Protection and Biodiversity Conservation Act 1999 |
| EPL | Environment Protection Licence |
| LGA | Local Government Area |
| NIA | Noise Impact Assessment |
| NSW | New South Wales |
| POEO Act | Protection of the Environment Operations Act 1997 |
| RtS | Response to Submissions prepared by Umwelt Australia Pty Limited in 2019 |
| SIA | Social Impact Assessment |
| SSD | State Significant Development |
| The EIS | Environmental Impact Statement prepared by Umwelt Australia Pty Limited in 2018 |
| tpa | Tonnes per annum |
| WARR | Waste Avoidance Resource Recovery Strategy |
| WARR Act | Waste Avoidance and Resource Recovery Act 2001 |
| Waste Strategy | National Waste Strategy 2018 |

Executive summary

Concrush has operated in the Teralba area since its establishment in 2002. The business was established after recognising the need for a construction and demolition recycling facility in the Lake Macquarie region. The approved Concrush Resource Recovery Facility Expansion (the approved project) is located at 21 Racecourse Road, Teralba, New South Wales (NSW) (Figure 1.1). The approved project is for the staged expansion and increase in the processing capacity of the existing resource recovery facility to 250,000 tonnes per annum (tpa) of general solid waste (non-putrescible) with a maximum storage capacity of 150,000 tonnes at any one time.

Conditions of SSD-8753 approval state that the receival and processing of up to 250,000 tpa of general solid waste (non-putrescible) currently includes processing up to 5,000 tonnes of garden and wood waste annually, and provision that up to 200 tonnes of garden and wood waste can be stored onsite at any one time. Prior to project approval (SSD-8753), the Concrush development consent did not limit the maximum green waste inventory.

The proposed modification seeks consent for improvements to streamline operations and maintain environmental outcomes at the Teralba project site. The proposed modification includes improvements to site operations, and modifying the storage and processing capacity limits at the site, at any one time. Some elements of the proposed modification include modifying the internal site layout to increase the efficiency of operations, modifying operational hours to allow for crushing and processing in the evening period (permitted during northerly and easterly winds only), and operation of the site 24 hours per day seven days per week (to meet market demands) for unloading and dispatch of trucks in the night-time period.

Specifically, the proposed modification seeks to:

- modify the processing capacity limit for garden and wood waste to 10,000 tpa
- modify the storage capacity limit for garden and wood waste to 2,000 tpa stored onsite at any one time
- modify the hours of operation at the site to allow for:
 - crushing and processing in the evening period between 6:00 pm and 10.00 pm; Monday Saturday. This would
 result in crushing and processing between 7:00 am and 10:00 pm, permitted during northerly and easterly winds
 only
 - unloading and dispatch of trucks in the night-time period between 10:00 pm and 7:00 am; Monday Sunday as required. This would result in unloading and dispatch of trucks 24 hours per day, seven days per weeks, to respond to market demand
- remove the requirement for a noise wall along the eastern and southern boundary of the project site
- operate lighting during the evening and night-time periods
- modify internal site layout including the location of the wheel wash, weighbridge, water tanks, car parking, removing the light vehicle exit point, and updating the "Processed Material Stockpiles" and "Raw Material Stockpiles and Processing Area" to be classified as "Raw Materials Stockpiles, Processed Material Stockpiles, and Processing Area" to allow for improved management and processing of the stockpiles through additional flexibility
- provide an additional four water tanks to the south of the site office to increase potential capacity of the upgraded internal water management system at the project site.

The application to modify SSD-8753 is made under Section 4.55(2) of the *Environmental Planning & Assessment Act* 1979 (EP&A Act) and is considered substantially the same development as the approved project.

Construction

Environmental impacts associated with construction of the Stage 2 works, and/or construction of the proposed modification, are not expected to be generated, as the proposed modification would be carried out within the assessed project site footprint and in accordance with the consent.

Operation

Environmental impacts associated with operation of the proposed modification are expected to be limited to minor noise and vibration, air quality and social impacts. The surface water management system upgraded as part of the approved project is expected to be able to accommodate the modification to processing and storage capacity on site. Further detail about potential environmental impacts, and mitigation, for the proposed modification are described below.

Noise and vibration

A noise impact assessment (NIA) was prepared by RCA Australia (2024) (see Appendix D) to assess potential noise impacts as a result of the proposed modification and found the following:

- Unloading activities can occur 24 hours a day without being expected to result in noise impacts to nearby sensitive receivers, based on noise modelling, as supported by attended noise monitoring carried out on 30 October 2023 and 16 and 17 April 2024.
- Loading activities are expected to cause noise impacts during the night-time period under the majority of prevailing wind conditions, based on noise modelling.

Loading activities are not proposed during the night-time period.

- Crushing and processing ('screening') activities can occur at the project site during the evening period under northerly and easterly wind conditions without being expected to result in noise impacts to nearby sensitive receivers, based on the existing plant.
- Condition B45, detailing the requirement for noise walls along the eastern and southern boundaries, is not required to
 achieve compliance with the adopted daytime criteria and would not serve to mitigate proposed evening or
 night-time operations. Condition B45 can therefore be removed from consent conditions.

The assessment notes that Concrush are committed to a process of decarbonisation and continue to look for opportunities to replace old plant with newer, cleaner plant (such as the new electric mobile crusher used at the site). Operational noise levels are expected to trend downwards as older plant are replaced.

Air quality

The proposed modification would include an increase to the proposed storage and processing capacity for garden and wood waste at the project site at any one time; however, does not involve an increase in the operational footprint or increase to the total annual processing and storage capacity of materials at the site. As such, the proposed modification is not expected to result in additional air quality and odour impacts.

Traffic

The proposed modification would include an increase to the proposed storage and processing capacity for garden and wood waste at the project site at any one time and modifying the operational hours at the facility. However, the proposed modification does not involve an increase to the total annual processing and storage capacity of materials at the site and would not result in an increase in traffic movements to and from the project site.

The proposed modification would not seek to increase the traffic movements into and out of the project site, rather the modification to operational hours (proposed 24 hours per day, seven days per week as required) would extend the potential hours that the nominated traffic may move into and out of the project site.

As such, additional impacts to traffic and transport conditions at and surrounding the site are not expected and an updated traffic impact assessment has not been prepared for the proposed modification. The current Traffic Management Plan (TMP) for operations at the project site would be updated to accommodate the proposed modification.

Soil and water

The proposed modification is not expected to result in changes to potential operational impacts to soils, flooding, and groundwater conditions at the project site. The proposed modification would result in changes to the surface water management system at the project site to accommodate modified green waste storage and processing capacities, and the proposed modifications to the internal site layout.

Surface water management system and water quality

The surface water management system at the project site was upgraded as part of the approved project. A Green Waste Catchment Water Quality Assessment was prepared by Engeny (2023) to assess the potential impacts of the proposed increase in storage and processing capacity at the project site.

Total Nitrogen (TN) and Total Phosphorus (TP) concentrations recorded during routine monitoring of the leachate dam and wetland (which were installed as part of the approved project) were recorded and have been used as a basis for the water quality assessment. The water quality results and the estimated TN and TP removal efficiencies (with the exception of one sampling event, in August 2023) indicate that the wetland was performing to design expectations and is likely to have additional capacity for nutrient removal given the lower influent concentrations.

The assessment also found:

- Based on historical water quality sampling, the constructed wetland at the project site is performing to design
 expectations and is likely to have additional capacity for nutrient removal given the lower influent nutrient
 concentrations.
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the project site is not considered likely to increase nutrient concentrations in green waste catchment leachate/runoff.
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the project site is not considered likely to increase the risk of discharges to receiving waters from the project site provided the green waste catchment area remains unchanged (i.e. there is no increase in green waste processing and storage area) from the currently approved catchment area (as this would increase the likelihood of spills from the green waste catchment to sediment dam 2).
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the project site is not considered likely to increase the overall nutrient load generated, although an increase in the rate of processing of green waste is likely to generate additional nutrient load. However, given the performance of the constructed wetland (i.e. that it is meeting or exceeding design expectations) and considering additional water storage capacity at the project site, it is considered highly unlikely that nutrient loads in any off-site discharges from the project site would increase, provided the green waste catchment area is not increased (as this would increase the likelihood of spills from the green waste catchment to sediment dam 2).
- Nutrient load generation rates at the project site are inherently constrained by the available space to store and process green waste, as well as the limited availability of the shredder which is hired by Concrush to periodically shred stockpiled green waste.

- Nutrient concentrations and loads in green waste catchment leachate and runoff are dependent on a range of factors including climatic conditions, stockpile areas exposed to rainfall and processing rate, however, determining the degree to which each factor influences the concentrations and loads would require longer term data obtained from a very detailed monitoring program. It is considered that the benefit of implementing such a monitoring program is limited and the current monitoring program is adequate to indicate green waste catchment water management system performance.
- The existing monitoring program would be relied upon to develop an understanding of the baseline range in nutrient concentrations and loads generated under the current operating regime which would enable identification of any changes in green waste catchment water management system should operating conditions change (e.g. future changes to maximum storage and processing limits at the project site).

As such, potential impacts to water quality at and leaving the project site are not expected to be impacted through the increased processing capacity of the site, provided the green waste processing and storage areas do not increase in size, and monitoring and mitigation measures are implemented. Concrush would continue to install water tanks at the project site to capture rainwater for use as part of the project site's water management system, if required and identified through ongoing monitoring.

Socio-economic

An updated Social Impact Assessment (SIA) (Umwelt, 2024) was prepared for the proposed modification and is attached as Appendix E. The SIA (Umwelt, 2024) identified potential negative social impacts associated with the proposed modification as social amenity due to noise, dust and visual and potential health and wellbeing concerns relating to sleep disruption and air quality. Key positive impacts however related to increased capacity for green waste, employment and procurement benefits and ongoing opportunities for community investment and support.

The provision of increased processing during evening and night-time periods, and the increased processing and storage capacity of green waste at the site would have positive social outcomes for the broader local economy by recycling, for re-use, products that would potentially be destined for landfill. The capacity to store and process a larger quantity of garden and wood waste at any one time also allows Concrush to scale up and down production to meet market demands through peak and trough periods. This increase in storage and processing capacity of green waste at the site, for recycling as useful product, would also reduce green waste destined for landfill in the area.

Current operational plans would be updated to accommodate the proposed modification and minimise or manage potential off-site impacts to surround sensitive receivers. Concrush would continue to engage with stakeholders and residents surrounding the project site to keep them informed about the proposed modification. Ongoing regular engagement with nearby neighbours would be carried out by Concrush to understand feedback on the effectiveness of mitigation measures implemented for the approved project and the proposed modification. Concrush would continue to maintain a complaints register to record and address all concerns as they arise. Concrush may look to update their website to notify nearby residents of night-time operations prior to commencing, with the option to opt into receiving an email notification.

The proposed modification does not involve an increase in the operational footprint or change to the general processing activities at the project site. As such, additional social impacts at and surrounding the site are not expected.

The proposed modification has the potential to result in minor additional social impacts to stakeholders and residents nearby the project site associated with the modified operational hours into the evening and night-time periods, and with the unloading of trucks to 24 hours per day, seven days per week. However, potential additional social impacts associated with the proposed modification are expected to be minor and would be managed through engagement with the nearby residents about the proposed modification to operations at the project site. Potential complaints would be managed through the existing complaints handling process developed and implemented as part of the approved project.

The proposed modification is expected to achieve positive social and economic outcomes for the local economy as the extended operational hours would create an estimated extra three full-time equivalent employment opportunities at Concrush's Teralba facility. Increase processing capacity of green waste at the site would also have positive social outcomes for the broader local economy by recycling, for re-use, products that would potentially be destined for landfill.

Visual

The proposed modification would be carried out within the assessed project site footprint and generally, the potential impacts to the visual character of the area would be expected to remain consistent with the consent.

Additional artificial lighting would be required during evening and night-time operations, proposed as part of the modification. Potential impacts to the visual environment as a result of lighting during these periods may occur, however impacts are expected to be minor.

Waste management

The proposed modification does not involve an increase in the operational footprint or changed construction methodology and as such, additional impacts to waste streams and waste management at and surrounding the site are not expected.

The proposed modification to capacities at the project site would result in the increased tonnage of garden and wood waste stored and processed, which would increase the quantities of garden and wood waste destined for re-use as a recycled product. The increased capacities of garden and wood waste would be stored, handled, processed and managed in accordance with the existing management of waste and recycled products at the project site.

Other

Biodiversity

The proposed modification is not expected to result in significant changes to potential biodiversity impacts during operation as the proposed modification does not seek to expand the operational footprint.

Night-time movement of vehicles may result in minor light and noise impacts to wildlife. However, this is not expected to be significant as vehicles movements would be intermittent, as needed to meet market demand. Night-time use of lighting may have negligible to minor impacts on wildlife directly surrounding the site. However the project site and surrounds are heavily disturbed and not like to be utilised by wildlife.

Bushfire

The proposed modification is not expected to result in changes to bushfire risk and management during operation as the proposed modification does not seek to expand the operational footprint, or modify operational management practices, at the site.

As the proposed modification is not expected to result in additional impacts to bushfire risk at or surrounding the project site.

Heritage

The proposed modification is not expected to result in changes to potential Aboriginal or non-Aboriginal heritage impacts during operation as the proposed modification does not seek to expand the operational footprint at the site. Additional potential impacts to Aboriginal heritage and non-Aboriginal heritage at the site are not expected.

Contamination

The proposed modification is not expected to result in changes to potential soils and contamination impacts during operation as the proposed modification does not seek to expand the operational footprint or nature of processing operations.

Greenhouse gases

The proposed modification would not result in an increase to traffic entering and exiting the project site, despite the extended operational hours to allow for deliveries (unloading) and dispatch of trucks. The modification to operational hours (with unloading and dispatch of trucks proposed 24 hours per day, seven days per week as required) would extend the potential hours that the nominated traffic may move into and out of the project site. Potential impacts associated with the operation of plant and equipment for crushing activities into the evening and night-time periods would not be expected to significantly increase the assessed Scope 1, Scope 2 and Scope 3 emissions generated from the site, as assessed within the EIS.

The proposed modification aims to improve site operation and efficiency, reducing emissions of plant and equipment during the site's operation. It is also noted that the recycled nature of Concrush products aims to reduce demand for timber/forest resources and aggregate/concrete materials that would otherwise be required to produce similar products.

Hazards and risk

The proposed modification to increase the storage and processing capacity of green waste at the project site has the potential to increase risk and hazards associated with stockpile management and combustion. As part of existing operations at the project site, Concrush implements practices and measures to adequately manage stockpiles and reduce potential combustion risk associated with storage of green waste product onsite (for example, aeration of green waste stockpiles). Concrush would continue to implement stockpile and waste product management practices for the increased product to be stored at the project site, to manage the risk of combustion and other hazards.

The proposed modification would be carried out within the project site footprint and would not include additional types of materials to be stored, processed or used at the site. As such, the proposed modification is not expected to increase hazard or risk associated with materials stored, processed and used at the site.

Cumulative

Proposed and approved developments are not expected to result in additional sensitive receivers relative to the project site or proposed modification as the developments are beyond the nearest current sensitive receivers captured in operational noise monitoring.

Traffic and transport impacts during construction may occur as a result of the cumulative operation of the developments surrounding the project site. However, due to the nature of the proposed modification, and the nature of the surrounding proposed and approved developments, the developments are considered to represent typical background growth in traffic movements in the area (Umwelt, 2018a). Therefore, no significant cumulative impacts associated with operation of the proposed modification is expected.

Cumulative noise and vibration impact to sensitive receivers, such as the aged care development, have been considered in the relevant noise section and no potential significant cumulative noise and vibration impacts were identified.

1 Introduction

1.1 Scope

This Modification Report has been prepared by WSP Australia on behalf of Concrush Pty Ltd (Concrush) to support an application to modify development consent State Significant Development (SSD) 8753 for the Concrush Resource Recovery Facility Expansion ('the proposed modification').

The approved Concrush Resource Recovery Facility Expansion (the approved project), is located at 21 Racecourse Road, Teralba, New South Wales (NSW) (Figure 1.1). The approved project is for the staged expansion and increase in the processing capacity of the existing resource recovery facility to 250,000 tonnes per annum (tpa) of general solid waste (non-putrescible) with a maximum storage capacity of 150,000 tonnes at any one time. Figure 1.2a and Figure 1.2b display the approved project site layout, staged to be developed as the approved project scales up production over time.

The approved project, classified as SSD in accordance with [the now superseded] State Environmental Planning Policy (State and Regional Development) 2011, was approved under SSD-8753 by a delegate of the Minister for Planning and Public Spaces on 27 March 2020.

The proposed modification seeks consent for improvements to streamline operations and maintain environmental outcomes at the project site. The proposed modification includes improvements to site operations, and modification of storage and processing capacity limits at the site, at any one time. Elements of the proposed modification include modifying the internal site layout to increase the efficiency of operations, and modifying hours of operation at the site to allow for crushing and processing in the evening period (permitted during northerly and easterly winds only), and unloading and dispatch of trucks 24 hours a day, seven days per week (to meet market demands).

The application to modify SSD-8753 is made under Section 4.55(2) of the *Environmental Planning & Assessment Act* 1979 (EP&A Act) and is considered substantially the same development as the approved project. This Modification Report has been prepared to support the application and has considered the requirements outlined within the *State significant development guidelines – preparing a modification report: Appendix E to the state significant development guidelines (DPIE, 2022).*

1.2 The proponent

The proponent for the approved project and proposed modification is Concrush Pty Ltd ('Concrush'). Concrush was established in 2002 after recognising the need for a construction and demolition recycling facility in the Lake Macquarie region. Concrush is a locally owned and operated business based in Teralba, NSW.

1.3 Project site

Concrush's Teralba facility ('the project site') is located at 21 Racecourse Road, Teralba NSW (part Lot 2 DP220347), within the Lake Macquarie City Council local government area (LGA). The project site within its regional setting is shown in Figure 1.1. The project site covers an area of approximately 2.4 hectares (ha) and is located between Cockle Creek to the east and the Main North Rail Line to the west.

The project site is located on land which is leased by Concrush from B & S Scrap Metals Pty Ltd and a letter of consent for the submission of this Modification Application and report is presented in Appendix A.



1.4 Overview of approved project

Concrush has operated in the Teralba area since its establishment in 2002. The business was established after recognising the need for a construction and demolition recycling facility in the Lake Macquarie region.

1.4.1 State Significant Development – SSD-8753

Following strong demand for recycling service and an increased focus on maximising recycling of construction materials by the community as well as State and local government, Concrush sought an increase to the processing and storage capacity of the existing facility. In 2017, Concrush commenced the assessment and approvals process to increase the processing and storage capacity of the existing facility at the Teralba site.

The project was deemed SSD requiring approval under [the then] Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). In 2018, in accordance with the requirements of the EP&A Act, Umwelt Australia Pty Limited (Umwelt) prepared an Environmental Impact Statement (EIS) and Response to Submissions, 2019 (RtS) to assess the potential environmental and social impacts of the proposed increase to the processing and storage capacity at the Teralba site. From herein this is referred to as 'the EIS' and 'the RtS'.

In March 2020 a delegate of the Minister for Planning and Public Spaces granted Concrush approval for the project under SSD 8753. Concrush received approval for the staged expansion and increase in the processing capacity of the existing operations up to 250,000 tonnes (t) of general solid waste material recycled per annum (pa). As part of the approval, Concrush also received approval for the increase in waste storage capacity on-site to be sufficient for the increased level of throughput, anticipated to be up to 150,000 t of material storage at any point in time. From herein this is referred to as 'the approved project'.

Based on the EIS, it was anticipated that the increase in processing and storage of recycled product would consist predominately of construction and demolition waste, with a small volume of green waste, acknowledging that this would vary based on market demand.

1.4.1.1 Components of the approved project

The proposed works to support the increase to the processing and storage capacity at the site included:

- Hardstands to be constructed for material processing areas and stockpile areas.
- Processing areas processing areas for the crushers and screens.
- Waste and Product stockpile areas waste and product stockpiles established with a stockpile height of up to 10 metres, with up to 150,000 t of material stored onsite at any one time.

Changes to the Water Management System (during the RtS Phase), necessitated some alterations to the project site layout, resulting in minor changes to the shape of the two 'Processed Material Stockpiles' in Stages 1 and 2 of the approved project and the western end of the 'Raw Materials Stockpile and Processing Area' was also altered slightly to accommodate the relocated production compound.

- Upgrade of existing facilities existing weighbridge and office would be upgraded, and the existing lunch room and maintenance shed would be relocated to facilitate the new site layout.
- Waste tracking system existing Wasteman software would be used to track all inbound/outbound loads.
- Production compound relocated lunch room, toilet and maintenance shed would be grouped together to form a compound for production staff. Changes to the Water Management System (during the RtS Phase), necessitated relocating the production compound (consisting of the maintenance shed, lunch room/toilet and car parking area) about 20 metres to the north.
- Retail area this area would be restricted to light vehicles and small trucks with an area for tipping and an area containing concrete bays of products for sale.

- Storage bays concrete storage bays constructed using concrete blocks.
- Concrete walls concrete walls constructed using concrete blocks to prevent stockpiled material encroaching on swale drains and moving offsite. Concrete walls may also be used to delineate other areas of the site.
- Green waste pasteurisation aeration system would be installed to allow more control of oxygen levels in the
 pasteurisation processes.
- Wheel wash vehicle wheel wash bay would be constructed immediately after the exit weighbridge to reduce tracking of material onto public roads.
- Concrete washout bay wet concrete washout bay would be constructed comprising a bunded, impermeable area with an isolated catchment. Wet concrete and agitator washout would be within the concrete washout bay.
- Water management system existing Water Management System (WMS) would be upgraded involving resizing of
 existing sediment basins, new sediment basins, swale drains and a leachate dam and artificial wetland to treat
 nutrient runoff. Water tanks and associated poly pipe and pumps would be installed to allow collection and re-use of
 stormwater for dust suppression.

During the RtS phase, the WMS was revised to allow for increased onsite water detention through increased size of the two sediment dams. Sediment Basin 1 was designed to be approximately 55 by 15 metres compared to the original 30 by 4 metres. Sediment Basin 2 was designed to be approximately 52 by 14 metres compared to the original 16 by 6.6 metres.

- Trommel screening machine trommel screening machine for sorting of green waste.
- Primary jaw crusher existing primary jaw crusher would be replaced with more modern equipment.
- Perimeter landscaping (mounds, fencing and lighting) landscape mounds would be established on the perimeter to limit visibility. A high security fencing and security lighting would also be installed.
- Utilities existing Ausgrid connection, via a power pole in the north east corner of the site would be extended to the south west corner of the site via an underground connection.
- Pug mill may be installed in the future to allow fast mixing of materials to produce products such as road base.
- Ballast wash facility processing area may be dedicated to a ballast wash facility to allow for processing of rail ballast.

1.4.1.2 Staging of the approved project

It was anticipated during assessment that the volume of materials recycled and products sold would increase over a period of time up to the maximum production level of 250,000 tpa.

To efficiently meet the increase in demand for recycling and recycled products, the approved project was approved as staged development, with some elements of the site upgraded following consent, and other elements implemented as required when production levels were reached. The two project stages nominated in the EIS included:

- Stage 1 to be developed upon receipt of all approvals required for the approved project (shown in Figure 1.2a)
- Stage 2 to be developed at approximately 200,000 tpa up to 250,000 tpa (shown in Figure 1.2b).

1.4.1.3 Works carried out to date

Stage 1 has been constructed, and Stage 1 operations commenced at the project site in March 2023. Construction works for Stage 2 operations have commenced at the project site.

Work for Stage 1 operations at the project site has been completed, with the exception of some minor elements. Where these elements have not been completed, they would be carried out as part of Stage 2 construction, or modified. Approved and completed project elements, approved but not complete, and proposed modifications, are detailed in Table 1.1.

| Approved and completed | Approved but not completed | Proposed modification |
|---|--|--|
| Approved and completed Construct and commission a new site entry/exit, as approved by Lake Macquarie City Council (LMCC) Upgrade Water Management System, including constructing two sediment basins, a leachate dam, constructed wetland, install sprinklers and tanks. Construct maintenance shed and lunchroom/toilet, with parking Establish "Raw Material Stockpiles" and "Processing area Stockpiles" areas Establish site amenities and retail area Construct heavy vehicle weighbridge and weighbridge office to the west of the site entry/exit point Lining of Sediment Dam 1 Establish landscape bund along part of the eastern boundary | Approved but not completed - Construct wheel wash - Providing a roof on retail product area - Two coat seal of internal access road from new wheel wash to site exit - Commissioning new weighbridges - Construct noise wall along entire southern extent - Construct noise wall along the eastern boundary. | Proposed modification Relocate wheel wash Two coat seal internal access road from wheel wash to site exit Remove requirement for noise wall Remove requirement for "Light Vehicle Exit" point Rename "Raw Material Stockpiles" and "Processing area Stockpiles" areas to "Raw Materials Stockpiles, Processed Material Stockpiles, and Processing Area" Modify limit of green waste processed and stored onsite at any one time within the "Green waste raw and processed" area. |
| Establish an Ausgrid connection at the site. | | |

Table 1.1 Approved and completed project elements, approved but not completed, and proposed modifications





1.5 Overview of proposed modification

1.5.1 Context of the modification

In 2020, Concrush received approval for SSD-8753 to expand operations at their Teralba facility (the approved project). Concrush received approval for the staged expansion and increase in the processing capacity of the existing operations up to 250,000 tpa of general solid waste material recycled. Concrush also received approval for the increase in waste storage capacity onsite to be sufficient for the increased level of throughput, anticipated to be up to 150,000 t of material storage at any point in time.

Conditions of SSD-8753 approval state that the receival and processing of up to 250,000 tpa of general solid waste (non-putrescible) currently includes processing up to 5,000 tonnes of garden and wood waste annually, and provision that up to 200 tonnes of garden and wood waste can be stored onsite at any one time. Prior to project approval (SSD-8753), the Concrush development consent did not limit the maximum green waste inventory.

Stage 1 works at the site commenced following approval of the project. Concrush has identified improvements required to streamline operations and maintain environmental outcomes and is seeking to modify some approved activities. Concrush has commenced Stage 2 construction works at the Teralba facility.

The proposed modification includes improvements to site operations and modification to the green waste storage and processing capacity limits at the site. Elements of the proposed modification include modifying the internal site layout to increase the efficiency of operations, and modifying the hours of operation at the site to allow for crushing and processing in the evening period during northerly and easterly winds only; and unloading and dispatch of trucks 24 hours a day, seven days per week (to meet market demands).

The proposed modifications would require modifying the consent with regard to approved processing and storage capabilities, operational hours, and site layout of the facility at Teralba.

1.5.2 Need for the modification

Concrush provides an important service to supply recycled construction materials for vital projects that:

- retains haulage movements within local transport network and do not routinely cross into multiple LGAs
- recycles local waste and materials to keep waste from travelling through multiple LGAs
- has the potential to grow with population growth and the community's expectations.

The proposed modifications would provide more efficient operations onsite to allow Concrush to increase their operating capacity to the approved 250,000 tpa. It should be noted that additional processing is not required as part of this modification. Improved efficiency of operations would provide opportunity to receive material during all hours as construction of some infrastructure such as roads does not only occur during standard construction hours.

The modifications would not significantly increase the potential environmental impacts identified in the EIS and would support critical infrastructure projects through recycling of and provision of construction materials to local government and industry. Additionally, the proposed modification would support a circular economy and reduction in landfill in line with both Commonwealth and NSW waste avoidance and recovery strategies (refer to Chapter 2).

Details of the proposed modification are provided in Chapter 3 and an assessment of potential impacts associated with the proposed modification are provided in Chapter 6.

1.5.2.1 Operational changes

Green waste processing and storage (modify tonnage limits at any one time)

In section 1.2 of the EIS (Umwelt, 2018a) it was noted that the increase in processing and storage of recycled product for the approved project would be expected to consist predominately of construction and demolition waste with a small volume of green waste, dependent on market demand. It is also noted that prior to the project approval (SSD-8753), the Concrush development consent did not limit the maximum green waste inventory.

The proposed modification to modify the storage and processing capacity of green waste onsite, at any one time, seeks to respond to the increased supply and market demand for green waste products recycled at the site. The proposed modification seeks to modify the 5,000 tpa processing limit to 10,000 tpa and modify the 200 tonnes at any one time storage limit to 2,000 tonnes of green waste at the site, at any one time. This would allow for periodic increases in storage and processing capacity of green waste at the site, for recycling as useful product, which would reduce green waste destined for landfill in the LGA.

Hours of operation (24/7 receival and dispatch of material)

The proposed modification to operational hours also seeks to respond to market demand, aiming to increase operational flexibility to meet the demand for receiving recyclable material while construction is occurring and to provide recycled material resources materials for local projects. Proposed hours are:

- crushing and processing in the evening period (6:00 pm until 10:00 pm), permitted during northerly and easterly winds only (refer to Appendix D)
- unloading and dispatch of trucks in the night-time period (10:00 pm until 7:00 am) to allow for unloading and dispatch of trucks 24 hours a day, seven days per week (to meet market demands).

The proposed changes to operating hours would reduce need for double handling of material during evening and night-time infrastructure works and provide a site to direct recyclable material during construction. The changes would not result in changes to overall annual operating capacity.

1.5.2.2 Site layout and design

The proposed modification would include changes to the approved site layout, as presented for the Stage 2 operations in the EIS and the RtS.

The modified site layout has been proposed to increase efficiency of operations at the site, and to respond to the SSD consent (SSD-8753). A light vehicle exit point was proposed to be located along the central part of the eastern boundary, with a heavy vehicle entry/exit point to the north along the eastern boundary. The light vehicle exit point is proposed to be removed from the Stage 2 layout, and all traffic would use the existing entry/exit point to the north, before separating to use separate internal light vehicle and heavy vehicle access roads and weighbridges.

Subsequent internal site layout modifications have been proposed to improve efficiency of operations, maintain safety, and minimise environmental impacts considering the combined traffic entry/exit point. Additionally, improved site operations would involve additional options in stockpile management by removing restrictions and renaming parts of the site from "Raw Material Stockpiles" and "Processing area Stockpiles" to "Raw Materials Stockpiles, Processed Material Stockpiles, and Processing" areas to provide flexibility for operations within the site boundaries. This flexibility would increase opportunity for Concrush to adjust to market demands and provide recycled material to the market as available and appropriate.

1.5.3 Analysis of feasible alternatives

Alternatives to the modification for the Concrush facility were considered in the planning stage:

- Option 1 The 'do nothing' option. This option was not preferred as it would not meet the desired outcomes of
 increased construction and demolition waste recycling, increased waste potentially diverted from landfill and
 increased supply to meet demand and support a circular economy.
- Option 2 An alternative site. This option is not preferred as it would involve introducing potential impacts to a new area.
- Option 3 Modification to existing consent to provide additional green waste storage and processing (at any one time), for more efficient operation and capabilities to efficiently manage the approved 250,000 tpa capacity for the facility within an existing disturbed area.

Option 3 is the preferred option as the proposed modifications would allow Concrush to serve critical infrastructure projects more effectively through the modification to operational hours, storage and processing of an increased amount of green waste at any one time (to respond to market demands) and unloading and dispatch of trucks 24 hours a day, seven days per week.

2 Strategic context

2.1 Need for waste reduction

In 2018, the Commonwealth Department of Environment and Energy (now the Commonwealth Department of Climate Change, Energy, the Environment and Water), found that 'Australia generates more waste than the average Western economy and is recycling less than average (Parliament House, 2020)'. Australia currently sends 40 per cent of waste to landfill, that has increased by around 12 per cent over the last decade (Australian Local Government Association [ALGA], 2023).

A circular economy provides a new approach to the delivery of products and services. The circular economy is underpinned by three key principles:

- design out waste and pollution
- keep products and materials in use
- regenerate natural systems (Australian Circular Economy Hub [ACEH], 2023).

As such, a circular economy should keep materials and resources in use rather than landfills, through the recycling and reuse of materials (Parliament House, 2020). Facilities such as Concrush are critical key components of creating a circular economy and reducing the waste Australia sends to landfill. Through the expansion and modifications providing a more efficient site layout, the proposed modifications would enhance the facilities ability to contribute to the circular economy and reduce waste.

2.2 Commonwealth alignment

The Commonwealth government is committed to developing a more circular economy through its implementation of the National Waste Strategy 2018 (Waste Strategy) and the National Waste Action Plan 2020 (Action Plan). The Waste Strategy and Action Plan promote a more efficient and better waste management to recover resources, provide employment opportunities while providing better environmental outcomes (ALGA, 2023).

Key targets relevant to the proposed modification that are outlined in the Action Plan include:

- increase the average recovery rate from all waste to 80 per cent by 2030
- increase the use of recycled materials by governments and industry (Parliament of Australia, 2020).

Increasing the processing and storage capacity (at any one time) at the Concrush facility would allow increased recycling of construction and demolition waste and promote a circular economy within the Hunter. These recycled materials provide construction materials to local government and industry for critical infrastructure projects, which aligns with Australia's waste strategy and action plan.

2.3 NSW strategic alignment

The NSW government and specifically the Environment Protection Agency (EPA) currently operate a five yearly Waste Avoidance Resource Recovery Strategy (WARR). The WARR outlines future directions and supports investment in infrastructure, encourages innovation and improvements in recycling behaviour (EPA, 2014). Two key elements of the WARR that the proposed modification would help achieve are:

- increasing construction and demolition waste recycling to 80 per cent
- increasing waste diverted from landfill to 75 per cent.

Increasing the capacity of the Concrush facility would allow increased recycling of construction and demolition waste. This would, in turn, result in less waste potentially going to local landfills such as Awaba and Summerhill and would assist in achieving the NSW government waste avoidance and resource recovery goals.

There has been a strong ongoing demand for Concrush's products. With population growth in the region this demand would continue and likely increase. The proposed modification would allow Concrush to continue to service this demand. Currently Concrush is occasionally required to turn away construction contractors looking to recycle their waste due to the existing site constraints such as available space and the stockpile limit and operational hours.

There has been a strong ongoing demand for Concrush's products. With population growth in the region this demand would continue and likely increase. The proposed modification would allow Concrush to continue to service this demand.

As the proposed modification would increase the amount of recycled product available, this would also likely reduce the volume of virgin material required to be quarried to meet the increasing market demand for resources. The facility would also continue to make a contribution to the local and regional economies through employment of 20 people during operations when at full capacity. The capital expenditure during the construction phase would also add to the local and regional economies, further enhancing the economic benefits of the Concrush operations.

Local and State government would receive economic benefits, including revenue from taxes and levies. In addition, the Commonwealth government would also receive revenue from the proposed modification and ongoing operations, through means including company tax, excise on imported equipment and goods, fuel excise and other taxes such as goods and services tax and income tax.

2.4 Key features of the site/corridor

The Concrush facility was established in 2002 and has been operating at its Teralba location since that time. The proposed modification would require changes to the existing site layout to accommodate an increase to stockpile and processing areas to facilitate the increased throughput. The current site, and hence the modification of the project site for the proposed modification is considered suitable for the following reasons:

- appropriate industrial zoning
- good access to the local and regional road network
- separation distance of about 200 metres to nearest sensitive receivers
- use of an existing brownfield site negates the need for potential disturbance of greenfield areas
- strategic location to service construction contractors and the local community
- a low number of complaints have been received over a long period of time with regards to Concrush's current
 operations at this location.

2.5 Likelihood of cumulative impacts

The project site is located within Teralba NSW. Other approved or proposed projects in the area include the Bunderra Estate and seniors housing subdivision, the Metromix Teralba Quarry, Weemala Residential Development and the Lake Macquarie Costco.

Bunderra Estate and an associated seniors housing subdivision at Boolaroo have now been developed. The Metromix Teralba Quarry has an approved development application for works as part of its existing development. Costco Lake Macquarie has been constructed and is operational at 2A Main Street, Boolaroo. The Weemala Residential Development is currently being constructed as land releases in the estate are released.

Other proposed and approved developments in the vicinity of the project site include various subdivisions developments to the east and the south west, including a number of residential subdivisions approved and under construction east of Main Road at Teralba.

The potential for cumulative impacts in relation to the proposed modification is considered unlikely due to the existing nature of the operations at the site, the project site location west of Cockle Creek, and the scale and nature of proposed and approval projects in the area. Further consideration of cumulative impacts are considered in Section 6.15.

3 Description of modifications

3.1 Overview of the proposed modification

The proposed modification would modify approved processing and storage capabilities, operational hours, and site layout of Concrush's Teralba facility from the operations as approved as SSD-8753. The proposed modification compared to the approved project is described in Table 3.1, a full detailed project description (including the approved project description with detail of the proposed modification) is included as Appendix B.

| Element | Approved project | Proposed modification | | |
|--|--|---|--|--|
| Operational changes | | | | |
| Annual processing capacity of green waste | Receive and process up to 250,000 tonnes of general solid waste (non-putrescible) per annum, which includes no more than 5,000 tonnes of garden and wood waste. | Modify the processing capacity limit for garden and wood waste to 10,000 tpa. Ongoing water quality monitoring at the site that indicates water quality outcomes associated with leachate at the site can be adequately managed in accordance with environment protection licence (EPL) conditions as storage and processing capacities of green waste at the site does not dictate water quality outcomes alone (refer to Appendix F). | | |
| Maximum storage capacity of green waste | Store up to 150,000 tonnes of general solid waste (non-putrescible) at any one time, which includes 200 tonnes of garden and wood waste. | Modify the storage capacity limit for garden and wood waste to 2,000 tpa stored onsite at any one time. Modify the nominated 200 tonne (at any one time) storage capacity limit for garden and wood waste at the site based on the assessment findings that storage capacity of green waste at the site does not dictate water quality outcomes alone (refer to Appendix F). | | |

 Table 3.1
 Proposed modification summary table

| Element | Approved project | Proposed modification |
|-------------------------------|---|--|
| Hours of operation | Monday to Saturday: 7 am to 10 pm Sunday and Public Holidays: 8 am to 6 pm. During the evening period operations are limited to screening and stockpiling or the loading and dispatch of trucks. No crushers to be used during the evening period. Works outside of these hours may be undertaken where: works are inaudible at the nearest sensitive receivers works are required for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm. | Modify the hours of operation at the site to allow for: crushing and processing in the evening period between 6:00 pm and 10.00 pm; Monday – Saturday. This would result in crushing and processing between 7:00 am and 10:00 pm, permitted during northerly and easterly winds only unloading and dispatch of trucks in the night-time period between 10:00 pm and 7:00 am; Monday – Sunday as required. This would result in unloading and dispatch of trucks 24 hours per day, seven days per weeks, to respond to market demand. |
| Lighting | A 2 metre high security fence and security lighting on high poles to be installed along parts of the site perimeter. | Operate lighting during the evening and night-time periods to respond to proposed modification to operational hours at the project site. |
| Site layout and design | | |
| Internal access roads | Establish internal access roads with two coat seal (refer to Figure 1.2). | Modify internal access road layout and seal modified internal access roads between wheel wash and site exit (refer to Figure 3.1). The modification is proposed to provide a more efficient layout with improved operation and efficiency, and to minimise dust emissions leaving the project site. |
| Site entry/exit | Widen site access and install sliding gate and construct a new exit onto Racecourse Road from the retail area for light vehicles (refer to Figure 1.2). | Remove the light vehicle exit point "Exit-Light Vehicles" (refer to Figure 3.1) as an alternative vehicle access point has been approved by Lake Macquarie City Council (LMCC) and constructed. |
| Weighbridge and wheel wash | Establish wheel wash, re-configure existing exit only weighbridge to allow for vehicle exit and entry to facilitate entry to the site, relocate the existing exit weighbridge, construct a new entry weighbridge and establish the new weighbridge office (refer to Figure 1.2). | Relocate the wheel wash from the north eastern portion of the site to the north western boundary of the site to respond to final location and layout of the site entry/exit point, as approved by LMCC, and to tie in to the modified internal access road layout (refer to Figure 3.1). |

| Element | Approved project | Proposed modification |
|---|--|---|
| | | The existing weighbridge and office would be retained in the location per Stage 1 of the approved project. This would vary from the proposed removal/relocation of the exit weighbridge proposed for Stage 2 of the approved project. The existing weighbridges and office, in the location per Stage 1 of the approved project, would be retained for light vehicle entry/exit while heavy vehicles would use the weighbridges to the west, constructed as part of the approved project. |
| Internal water management system | Augment the existing water management system to incorporate the leachate dam, constructed wetland, additional sediment basins, drainage swales, flood mitigation bund, water storage tanks and sprinkler systems (refer to Figure 1.2). | Relocate water tanks to the western side of the maintenance shed and the eastern side of the site office to locate the water tanks closer to the pump and sediment basins onsite (refer to Figure 3.1). Allow for the provision of an additional four water tanks to the south of the site office to increase potential capacity of the upgraded internal water management system at the project site. |
| Light vehicle parking spaces | Provide a total 6 light vehicle car park spaces nearby the maintenance shed (refer to Figure 1.2). Provide a total 14 light vehicle car park spaces nearby the site office and weighbridge office (refer to Figure 1.2). | Provide a total of ten light vehicle car park spaces nearby the maintenance shed and a total 15 light vehicle parking spaces nearby the retail area and site office (refer to Figure 3.1). This includes the provision of one disabled parking space. |
| Stockpiling and material processing areas | The approved project includes a site layout that comprises two 'Processed Material Stockpiles' areas in the site's north, a 'Raw Material Stockpile and Processing Area' in the site's south, and a 'Green Waste Raw and Processed' area in the site's east (refer to Figure 1.2). | Update the areas marked "Processed Material Stockpiles" and "Raw Material Stockpiles and Processing Area" to be referred to and classified as "Raw Materials Stockpiles, Processed Material Stockpiles, and Processing Area" (refer to Figure 3.1). This modification would allow for improved management and processing of the stockpiles through additional flexibility. |
| Noise wall | Construct a concrete block noise wall on the eastern and southern perimeters of the 'raw material stockpiles and processing area', to be maintained during the life of the development (refer to Figure 1.2). | Remove the requirement for a noise wall along the eastern and southern boundary of the site with the lower level of concrete blocks along the boundary to be retained as a site management measure to prevent stockpile material entering the swales onsite, and for ease of stockpile management. |

3.2 Detailed description of proposed modifications

The proposed modification elements, and justification and need for the proposed modification, is described in Table 3.2.

Table 3.2 Proposed modification elements and need for the proposed modification

| Modification | Description | | | |
|----------------------------|--|--|--|--|
| Site layout and design | | | | |
| Internal access roads | The approved project seeks to establish internal access roads with two coat seal, as depicted in Figure 1.2. The proposed modification seeks to modify the internal access road layout and seal selected modified internal access roads. | | | |
| | In accordance with Condition of Consent (CoC) B28 and B29, prior to the commencement of Stage 1 construction, design plans were submitted by Concrush to LMCC for Racecourse Road access works, to obtain approval for the works under section 138 of the <i>Roads Act 1993</i> , with the road works required to be completed to the satisfaction of Council. | | | |
| | LMCC have approved the design and construction of a site entry/exit point to the north of the retail area and the proposed "Exit-Light Vehicles" point on the eastern boundary is not required. As such, the proposed modification of the internal access road layout is required to respond to the final location and layout of the site entry/exit point, constructed as approved by LMCC. | | | |
| | The proposed modification to internal access road layout and traffic movements at the site seeks to provide safe entry and exit for heavy and light vehicles using the site (refer to Figure 3.1). Sealing internal access roads between the wheel wash and site exit would aim to further reduce potential dust emissions from trucks leaving the site. | | | |
| Site entry/exit | The approved project included provision to widen the site access, and construct a new exit onto Racecourse Road from the retail area for light vehicles (refer to Figure 1.2). LMCC have approved the design and construction of a site entry/exit point to the north of the retail area and the proposed "Exit-Light Vehicles" point on the eastern boundary is not required. | | | |
| | As such, the proposed modification seeks to remove the light vehicle exit point "Exit-Light Vehicles" as an alternative vehicle access point was approved by LMCC and has subsequently been constructed. Light vehicles would use the approved and constructed entry/exit point to the north, with a separate weighbridge and traffic movement proposed to deviate this traffic from heavy vehicles (refer to Figure 3.1). | | | |
| Wheel wash and weighbridge | The approved project included provision to establish a wheel wash, re-configure the existing 'entry only' weighbridge to allow for vehicle exit and entry to the site, relocate the existing exit weighbridge, construct a new entry weighbridge and establish a new weighbridge office (refer to Figure 1.2). | | | |
| | The proposed modification seeks to relocate the wheel wash from the north eastern portion of the site to the north western boundary of the site in response to the final location and layout of the site entry/exit point, as approved by LMCC, and also aims to tie in to the modified internal access road layout (refer to Figure 3.1). | | | |
| | Sealing internal access roads and the proposed placement of the wheel wash aims to further reduce potential dust emissions from trucks leaving the site. The proposed modification would be carried out to help meet the requirements of CoC B37, relating to dust minimisation. | | | |
| | The proposed modification to weighbridge locations would include retaining the existing weighbridges and office at the site as per the Stage 1 configuration for entry/exit. Heavy vehicles would use the entry and exit weighbridge and office as approved for Stage 2 of the approved project. These modifications would increase the efficiency of vehicle movements to and from the site. | | | |

| Modification | Description | | |
|---|---|--|--|
| Internal water management system | The approved project includes provision to augment the existing water management system to incorporate the leachate dam, constructed wetland, additional sediment basins, drainage swales, flood mitigation bund, water storage tanks and sprinkler systems (refer to Figure 1.2). | | |
| | The proposed modification seeks to relocate water tanks to the western side of the maintenance shed and the southern site of the site office (refer to Figure 3.1). This modification would locate the water tanks closer to the pump and sediment basins onsite. | | |
| Light vehicle parking spaces | The approved project is required to provide 20 car parking spaces. The approved project site layout provides six light vehicle car park spaces nearby the maintenance shed, eight car spaces nearby the weighbridge, and six car park spaces nearby the site office (refer to Figure 1.2). | | |
| | The proposed modification seeks to provide ten light vehicle car park spaces nearby the maintenance shed and 15 light vehicle parking spaces nearby the retail area and site office (refer to Figure 3.1). This would result in a total 25 car parking spaces at the project site. This includes the provision of one disabled parking space. | | |
| | The proposed modification is required to respond to final location and layout of the site entry/exit point, and to tie into the modified internal access road layout and water tank relocation. The proposed modification would increase the car parking capacity to the amount provided for the approved project by five car spaces. | | |
| Stockpiling and material processing areas | The approved project includes a site layout that comprises two 'Processed Material Stockpiles' areas in the site's north, a 'Raw Material Stockpile and Processing Area' in the site's south, and a 'Green Waste Raw and Processed' area in the site's east. | | |
| | The approved project describes the activities undertaken within the material processing areas to include: trucks tipping, waste inspection, waste receival, stockpiling, mixing, grading, sorting, pulverising, primary crushing, electromagnetic steel capture, vacuum foreign waste removal (such as plastic and paper), sorting, multideck screening and sizing of material, secondary and tertiary crushing (cone crusher and impacters), shearing (stumps and logs), material volume measuring, material discharge using automated stockpiler and use of mobile loaders. Power generation systems including diesel and electric generators would be used within the material processing areas. | | |
| | The proposed modification seeks to update the areas marked 'Processed Material Stockpiles' and 'Raw Material Stockpiles and Processing Area' to be combined and classified as 'Raw Materials Stockpiles, Processed Material Stockpiles, and Processing Area' (refer to Figure 3.1). | | |
| | The modification would allow for improved management and processing of the stockpiles during operations at the Concrush facility. The proposed site layout would make the processing and stockpiling areas more accessible during operations, and would reduce the movements of vehicles internally at the site, thus reducing plant emissions and running expenses. | | |
| Noise wall | The proposed modification seeks to remove the requirement for a noise wall along the eastern and southern boundary of the site. | | |
| | RCA have updated the Noise Impact Assessment (NIA) prepared for the EIS for the approved project. The updated assessment (RCA, 2024) is based on minor proposed site layout changes and current plant at the project site, and supports Concrush's request to remove the conditions of consent that requires construction and maintenance of an eastern and southern noise wall at the project site. The NIA (RCA, 2024) is attached as Appendix D and the outcomes of the assessment are summarised in Section 6.1. | | |

| Modification | Description | | |
|--|--|--|--|
| | One layer of concrete blocks (around one metre tall) from the concrete wall would be retained within the stockpiling and processing area (and would continue to be extended) for efficient stockpile management, to reduce dust emissions through transfer of products, and for water quality and sedimentation management at the project site by preventing stockpiles from entering the swale drains along the site boundary. This would be maintained, and extended, during the life of the development (refer to Figure 1.2). | | |
| Operational changes | | | |
| Annual processing capacity and maximum storage capacity of green waste | Operations at the site currently include the receipt and processing of up to 250,000 tpa of general solid waste (non- putrescible), which includes no more than 5,000 tonnes of garden and wood waste. Operations at the site limit the maximum storage capacity of up to 150,000 tonnes of general solid waste (non- putrescible) at any one time, which includes 200 tonnes of garden and wood waste. | | |
| | The proposed modification seeks to modify the 5,000 tonne processing limit to 10,000 and modify the 200 tonnes at any one time storage limit to 2,000 tonnes of green waste at the site. | | |
| | In section 1.2 of the EIS (Umwelt, 2018a) it was noted that the increase in processing and storage of recycled product for the approved project would be expected to consist predominately of construction and demolition waste with a small volume of green waste, dependent on market demand. It is also noted that prior to the project approval (SSD-8753), the Concrush development consent did not limit the maximum green waste inventory. | | |
| | The proposed modification to increase the storage and processing capacity of green waste onsite seeks to respond to the increased supply and market demand for green waste products recycled at the site. The capacity to store and process a larger quantity at any one time also allows Concrush to scale up and down production to meet market demands through peak and trough periods. This increase in storage and processing capacity of green waste at the site, for recycling as useful product, would also reduce green waste destined for landfill in the LGA. | | |
| | A Green Waste Catchment Water Quality Assessment (Engeny, 2023) prepared to support this modification report, concluded that an increase in the maximum allowable inventory of green waste that may be stored at any one time at the project site is not considered likely to: | | |
| | increase nutrient concentrations in green waste catchment leachate/runoff increase the overall nutrient load generated through the storage, processing and handling of green waste provided the processing rate does not increase increase the risk of discharges to receiving waters from the project site provided the green waste catchment area remains unchanged from the current catchment area, and that the constructed wetland is performing to design expectations and is likely to have additional capacity for nutrient removal. | | |
| | The proposed modification would result in the increase the height of stockpiles, however would not increase size of storage area in surface area or introduce additional types of products to the project site. Stockpiles would remain within the existing 'Processed Material Stockpiles' and 'Raw Material Stockpile and Processing Area' areas at the site. The stockpiles would increase in height (up to 10 metres) however green waste storage surface area would not increase. | | |

| Modification | Description | | |
|--------------------|--|--|--|
| Hours of operation | The approved project is permitted to operate from 7 am to 10 pm Monday to Saturday, and 8 am to 6 pm on Sunday and Public Holidays. Under the current approval, during the evening period operations are limited to screening and stockpiling or the loading and dispatch of trucks. Crushers are not permitted to be used during the evening period. | | |
| | Works outside of the approved hours may be undertaken where: | | |
| | works are inaudible at the nearest sensitive receivers works are required for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm. | | |
| | The proposed modification seeks to modify the hours of operation to allow for the unloading and dispatch of vehicles continuing during the night-time period, on a 24 hour basis, to respond to market demand. The proposed modification also seeks to allow for crushing and processing to extend from Monday to Saturday 6:00 pm to 10:00 pm permitted during northerly and easterly winds only (allowing for crushing and processing from 7:00 am to 10:00 pm each day, pending weather conditions). The proposed modification would allow the facility to respond to market demand, increasing operational flexibility to meet the demand for recycled material resources materials as needed. | | |
| | The provision of crushing and processing during the evening, unloading and dispatch of vehicles during night-time periods, combined with increased processing and storage capacity of green waste at the site, would also have positive outcomes for the broader local economy by recycling, for re-use, products that would likely be destined for landfill. | | |
| Lighting | The proposed modification seeks to operate lighting during the evening and night-time periods to respond to proposed modification operational hours. Lighting during these periods would be required to ensure the safety of staff during evening and night-time operations at the project site. | | |
| | Lighting at the project site during the evening and night-time periods would be installed and operated in accordance with <i>Australian Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting</i> (Council of Standards Australia, 1997). | | |

3.3 Conditions of consent to be modified

The current operations at Concrush's Teralba site have been assessed and approved under SSD-8753. The proposed modification seeks to modify or remove conditions of consent that relate to the approved project, as provided within the Development Consent, issued by a delegate of the Minister for Planning and Public Spaces under delegation, on 27 March 2020. The consent conditions and proposed modification to consent conditions are outlined in Table 3.3.

| Condition reference | Approved condition (SSD-8753) | Proposed modification to condition |
|---------------------|---|--|
| A2 | TERMS OF CONSENT A2. The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; (c) in accordance with the EIS and Response to Submissions; (d) in accordance with the Development Layout in Appendix 1. and (e) in accordance with the management and mitigation measures in Appendix 2. | This modification report seeks to modify the terms of consent within condition A2, namely (a) conditions of consent, (d) development layout and (e) management and mitigation measures that relate to the approved project. <u>Modify A2 to the following:</u> A2. The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; (c) in accordance with the EIS , RtS and the modification report; (d) in accordance with the Development Layout in Appendix 1. and (e) in accordance with the management and mitigation measures in Appendix 2. |
| A7 | LIMITS OF CONSENT Waste A7. The Applicant must not: (a) receive or process more than 250,000 tonnes of general solid waste (non- putrescible) per annum, which includes no more than 5,000 tonnes of garden and wood waste; and (b) store more than 150,000 tonnes of general solid waste (non- putrescible) at any one time, which includes 200 tonnes of garden and wood waste. | Modify Condition A7 to the following: (a) receive or process more than 250,000 tonnes of general solid waste (non- putrescible) per annum, which includes no more than 10,000 tonnes of garden and wood waste; and (b) store more than 150,000 tonnes of general solid waste (non- putrescible) at any one time, which includes 2,000 tonnes of garden and wood waste. |

Table 3.3 Proposed modifications to relevant consent conditions

| Condition reference | Approved condition (SSD-8753) | | Proposed modification to condition |
|---------------------|---|--|--|
| B42 | NOISE Hours of Work B42. The Applicant must comply with the hours detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary. Table 1, Hours of Work Activity Day Stage 1 and Stage 2 construction Stage 1 and Stage 2 construction Monday - Friday Stage 1 and Stage 2 operations Monday - Saturday Monday - Saturday 7 am to 10 pm Stage 1 and Stage 2 operations Monday - Saturday More: During the evening period operations are limited to screening and stockpiling or the loading and dispatch of trucks. No crushers can be used during the evening period | | Modify B42 to the following:—crushing and processing in the evening period between 6:00 pm and 10.00 pm; Monday – Saturday. This would result in crushing and processing between 7:00 am and 10:00 pm, permitted during northerly and easterly winds only.—unloading and dispatch of trucks in the night-time period between 10:00 pm and 7:00 am; Monday – Sunday as required. This would result in unloading and dispatch of trucks 24 hours per day, seven days per week, to respond to market demand. |
| B45 | NOISE Noise Wall B45. Prior to the commencement of Stage 1 operations, the Applicant must construct a concrete block noise wall on the eastern and southern perimeters of the 'raw material stockpiles and processing area', as shown in Figure 1 at Appendix 1 of this consent. The noise wall must be maintained during the life of the development. | | Delete condition B45. NOISE Noise Wall B45. Prior to the commencement of Stage 1 operations, the Applicant must construct a concrete block noise wall on the eastern and southern perimeters of the 'raw material stockpiles and processing area', as shown in Figure 1 at Appendix 1 of this consent. The noise wall must be maintained during the life of the development. |
| C8 | REVISION OF STRATEGIES, PLANS AND PROGRAMS C8. Within three months of: (a) the submission of an incident report under condition C10; (b) the submission of an Independent Environmental Audit under condition C16; (c) the approval of any modification of the conditions of this consent; or (d) the issue of a direction of the Planning Secretary under condition A2(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing that a review is being carried out. | | No modification to condition is proposed. However, provided the proposed modifications are approved by the Department of Planning, Housing and Infrastructure (DPHI), strategies, plans and programs would require review in accordance with (c) the approval of any modification of the conditions of this consent. |

3.4 Category of modification and consistency with approved project

Under the EP&A Act, a consent authority may modify a SSD consent, provided the development to which the consent relates, as modified, is substantially the same as the development for which the consent was originally granted.

The proposed modification to the SSD consent for operations at Concrush's Teralba site would be considered 'other modifications involving greater than minimal environmental impact' and would require consideration under Section 4.55(2) of the EP&A Act.

The proposed modification is considered to be substantially the same development as the approved project under SSD-8753. The approved project is described as

"The staged expansion and increase in the processing capacity of an existing resource recovery facility to 250,000 tonnes per year of general solid waste (non-putrescible) with a maximum storage capacity of 150,000 tonnes at any one time."

The proposed modification would not modify the nature of general solid waste (non-putrescible) waste received and stored at the site, the total amount of waste (up to 250,000 tpa) processed yearly, the total amount of waste (up to 150,000 tpa) stored yearly at the site, or the nature of general processing activities at the site. Therefore, the proposed modification is considered substantially the same development as the approved project.


4 Statutory context

4.1 Commonwealth legislation

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), proposed actions with the potential to significantly impact matters protected by the EPBC Act must be referred to the Department of Climate Change, Energy, the Environment and Water to determine whether they are controlled actions and require approval from the Australian Government Minister for the Environment.

A preliminary assessment of the modifications indicates no Commonwealth land would be affected. Based on the project site, the design of the modifications and understanding of site conditions, it is anticipated that the proposed modification would not result in significant impacts on Commonwealth listed threatened species and ecological communities or other Matters of National Environmental Significance and an EPBC Act referral for the modification would not be required.

4.1.2 Native Title Act 1993

The *Native Title Act 1993* is administered by the National Native Title Tribunal. The proposed modification is wholly located within freehold land and there are no areas of Crown Land or Commonwealth land located within the project site.

4.1.3 Regional Forest Agreements Act 2002

The project site is within the area covered by the North East NSW Regional Forest Agreement, however it does not form part of the State Forest or reserve system. As such, the provisions of the *Regional Forest Agreements Act 2002* do not apply to the proposed modification.

4.2 State legislation

4.2.1 Environmental Planning and Assessment Act 1979

Under the EP&A Act, a consent authority may modify a SSD consent, provided the development to which the consent relates, as modified, is substantially the same as the development for which the consent was originally granted. Modifications may be necessary to change the design of the approved project or the conditions of the development consent.

The proposed modification at Concrush's Teralba site would be considered 'other modifications' and would require consent under Section 4.55(2) of the EP&A Act.

This Modification Report has been prepared as Concrush are seeking consent for the proposed modifications. The Modification Report has been prepared in accordance with Clause 99 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and the *State significant development guidelines – preparing a modification report: Appendix E to the state significant development guidelines* (DPIE, 2022).

4.2.2 State Environmental Planning Policy (Planning Systems) 2021

Clause 23 (3) of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2021 identifies SSD as:

"development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste".

As such, the approved was assessed as SSD and received approval on 27 March 2020. Modification to the approved SSD consent would be in accordance with Section 4.55(2) of the EP&A Act.

4.2.3 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) and the Protection of the Environment Operations (General) Regulation 2022 set out the general obligations for environmental protection for development in NSW. The approved project is classified as a premises-based scheduled activity under Schedule 1, 'Resource recovery' of the POEO Act.

The proposed modification seeks to modify the SSD approval to allow for processing to increase from 5,000 tpa to 10,000 tpa, and seeks to modify the 200 tonnes storage limit to 2,000 of green waste at the site, at any one time. The proposed modification would not involve an increase to the approved upper limit for the approved 'recovery of general waste' (250,000 tpa).

4.2.4 Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) aims to encourage the most efficient use of resources to reduce environmental harm in accordance with the principles of ecologically sustainable development. The proposed modifications are consistent with the aims of the Act and will provide more efficient recycling of materials without increasing potential impact of the approved facility.

4.2.5 Lake Macquarie Local Environmental Plan 2014

The site is zoned IN1 - General Industrial under the Lake Macquarie Local Environmental Plan 2014.

The EP&A Act provides that Local Environmental Plans do not apply to SSD projects or modifications.

4.3 Other NSW legislation and EPI

The applicability of relevant legislation and environmental planning instruments covering the potential impacts of the proposed modification and the permissibility of the actions included for the proposed modification are summarised in Table 4.1.

| Legislation and application | Comments | Applicable | Permissible |
|---|--|------------|-------------|
| <i>Biodiversity Conservation Act</i> 2016 | The proposed modifications would not increase the minor vegetation clearing assessed for the EIS. | ~ | n/a |
| Coal Mine Subsidence Compensation Act 2017 | The proposed modifications are within the EIS footprint, and consultation with Subsidence Advisory NSW was undertaken for the EIS. No further consultation would be required. | ✓ | n/a |
| Coastal Management Act 2016 | The proposed modifications would not have an impact on the coastal environment of NSW. A Green Waste Catchment Water Quality Assessment has been prepared by Engeny (2023) to assess the potential impacts of the proposed increase in storage and processing at the project site. The memorandum is provided in Appendix F. | ✓ | n/a |

| Table 4.1 | Other relevant | Acts | and | SEPPs |
|-----------|------------------|--------|-----|-------|
| | o anor roro ranc | , .0.0 | ana | 0 |

| Legislation and application | Comments | Applicable | Permissible |
|--|---|------------|-------------|
| Roads Act 1993 | The proposed modifications would not increase the potential impacts assessed for the EIS. Additional vehicle movements are not proposed. The modification would allow for the same vehicle movements over a longer period of time to provide improved flexibility and site operations. | ✓ | ✓ |
| SEPP (Resilience and Hazards) 2021 | Coastal processes were assessed in the EIS, and the proposed modifications would not increase the potential impacts previously assessed. A contamination assessment was undertaken during the EIS and identified that the proposed industrial use is appropriate for the site. The proposed modifications are consistent with the approved project and hence would be considered not hazardous or offensive as per the EIS. | ✓ | ✓ |
| SEPP (Biodiversity and Conservation) 2021 | There is no core koala habitat within the project site therefore the further provisions of the SEPP do not apply. | ✓ | n/a |

4.4 Identification of statutory requirements

Table 4.2 identifies the statutory requirements for the proposed modification.

| Table 4.2 | Summary of statutory requirements for the proposed modification |
|-----------|---|
|-----------|---|

| Category | Action required |
|-------------------------|---|
| Power to grant approval | The NSW Minister for Planning and Public Spaces or their delegate is the consent authority for the modifications and a Modification Report is required to be lodged to the NSW DPHI. |
| Permissibility | The proposed modifications are permissible with consent and are consistent with the approved SSD for the site. |
| Other approvals | Section 4.41 of the EP&A Act states the following approvals, permits etc. are not required for an approved SSD, including: |
| | Fisheries Management Act 1994: there would be no increase in potential impacts on key fish habitat. A biodiversity assessment was prepared for the EIS. Heritage Act 1977: there would be no increase in potential impacts on heritage. The EIS found that no listed heritage items would be impacted by the approved project. National Parks and Wildlife Act 1979: there would be no increase in potential impacts on Aboriginal heritage. The EIS found that there is a low likelihood of impact to Aboriginal objects onsite. Rural Fires Act 1997: there would be no increase in potential impacts on bushfire risk. Water Management Act 2000: a Green Waste Catchment Water Quality Assessment has been prepared by Engeny (2023) and is included in this Modification Report as Appendix F. |

| Category | Action required | | |
|--|---|--|--|
| | Section 4.42 of the EP&A Act lists legislation that must be consistently applied to SSD projects (Appendix C). For the approved project, existing permits were issued for the approved SSD: — EPL 13351 under the POEO Act. | | |
| Pre-condition to exercising the power to grant approval | The Modification Report has been prepared to address the Section 4.55(2) of the EP&A Act and content requirements set out in <i>State significant development guidelines –</i> <i>preparing a modification report (Appendix E to the state significant development</i> <i>guidelines)</i> (DPE, 2022) in accordance with the EP&A Regulation. The Modification Report would be publicly exhibited. After the exhibition period closes, DPHI may ask the proponent to respond to issues raised in the submissions and prepare a | | |

4.5 Statutory compliance

The proposed modifications statutory compliance is in Appendix C of this Modification Report. Appendix C identifies all the relevant statutory requirements for the proposed modification and indicates where they have been addressed in the Modification Report.

5 Engagement activities

Concrush have consulted with relevant NSW government agencies and public authorities to inform them of the proposal and seek feedback on the impact assessment approach.

5.1 NSW Department of Planning, Housing and Infrastructure

In February 2024, Concrush held a pre-lodgement meeting with representatives from the NSW Department of Planning, Housing and Infrastructure (NSW DPHI) to seek their input on the proposed modification and associated impact assessment approach. A summary of the key points raised by NSW DPHI and the way they have been considered or addressed in this modification report are included in Table 5.1.

| Issues raised | Summary and key outcomes of issues raised | Outcomes and/or where issue is addressed in this modification report |
|--|---|---|
| Noise impact assessment approach | DPHI queried the use of stockpiles as a barrier for the purpose of modelling, suggested complete noise modelling without stockpiles. DPHI raised queries about potential noise exceedances during loading activities predicted in the noise model. DPHI queried if noise monitoring provides additional background operation figures for the site. DPHI queried if NSW EPA have been consulted about the approach, to comply with Concrush's EPL. | With regard to DPHI's query about noise monitoring capturing background operations at the site, it was noted during the meeting to DPHI that noise monitoring has and continues to be carried out on-site, and this data is captured, informs and is included within the NIA. Concrush committed to meeting with NSW EPA to discuss the noise modelling approach of the NIA, and to provide NSW EPA a copy of the NIA for comment prior to submission of this modification report. Concrush has subsequently met with NSW EPA and provided NSW EPA with a copy of the NIA for comment. Engagement with NSW EPA is detailed in Section 5.2. |
| | | Concrush committed to providing feedback of findings from the meeting with NSW EPA to DPHI in the revised modification report (this report). Engagement with NSW EPA is detailed in Section 5.2. |
| Traffic impacts | DPHI raised concern that the intersection upgrade completed as part of the expansion project was not completed in accordance with the approved plans. | It was noted during the meeting that the conditions of consent granted for Stage 1 of the proposed expansion to operations at the site included that the intersection would be upgraded as approved by LMCC. |
| | | The intersection upgrade has been designed and constructed in accordance with consent provided by LMCC. Correspondence with LMCC on this matter is included as Appendix I. |
| | | The Traffic Management Plan (TMP) for the site would be updated following approval of the proposed modification to include proposed modifications. |

Table 5.1 Issues raised by NSW DPHI during consultation

| Issues raised | Summary and key outcomes of issues raised | Outcomes and/or where issue is addressed in this modification report |
|-----------------------------|---|--|
| Odour assessment | DPHI note that odour assessment maybe required by NSW EPA relating to the increased storage of green waste at the site. | It was noted during the meeting that odour is not an issue for green/garden waste at present. No complaints about odour have been received during operation. This is supported by odour modelling for the EIS (Umwelt, 2018) that did not predict odour impacts based on processing up to 25,000 tpa of green waste at the project site. |
| | | Concrush agreed to discuss potential odour impacts with NSW EPA during consultation activities. |
| | | If NSW EPA deem that odour is not an issue, this would be spelt out in this modification report noting that the proposed modification is to increase the height of stockpiles; however, would not increase size of storage area in surface area or introduce additional products. |
| Social impact assessment | DPHI state that a Social Impact Assessment (SIA) specialist report should be completed to support the proposed modification report, to capture the proposed modification, particularly changes to operational hours. | A SIA has been completed to inform this proposed modification report. The SIA addresses the requirements the <i>Social Impact Assessment Guideline</i> <i>for State Significant Projects</i> (DPE, 2023) and <i>Undertaking Engagement Guidelines for State</i> <i>Significant Projects</i> (DPHI, 2024). |
| | | Engagement activities carried out to inform the SIA are described in Section 6.9, and potential social impacts are discussed in Section 6.9. |
| Figures and site layout | DPHI queried the capacity of the project site (particularly querying surface area) to accommodate proposed increases to storage and processing, based on aerial imagery. | It was noted during the meeting that the proposed modification is to increase the height of green waste stockpiles; however, stockpiles would remain within the existing 'Processed Material Stockpiles' and 'Raw Material Stockpile and Processing Area' areas at the site. The stockpiles would increase in height (up to 10 metres) however green waste storage surface area would not increase. |
| | | It was noted during the meeting that the water quality impact assessment concluded that the surface area of the green waste area is a limiting factor for assessment findings. Specifically, provided the surface area does not increase, significant water quality impacts are not expected. Noting this, Concrush is not proposing to expand the surface area of the green waste storage area, rather, the proposed modification is to increase green waste storage capacity through increasing stockpile height (up to 10 metres). |
| | | Additionally, it was noted that the leachate management plan allows for additional green waste material to be stored on site. |

| Issues raised | Summary and key outcomes of issues raised | Outcomes and/or where issue is addressed in this modification report |
|--|--|---|
| | | It was agreed that this proposed modification report would be updated to explicitly detail that green waste stockpiles would increase in height only (up to 10 metres) and not surface area. |
| ExhibitionDHPI stated that a discussion with NSW EPA following the meeting with DPHI would be valuable to understand assessment and occupational licencing requirements relating to the proposed modification.DPHI note that this moderation report would be exhibited on the Major Projects website for comment by the public, required under Section 4.55(2) of the TRACE | | Concrush have historically, and continue to, engage with NSW EPA, including for this proposed modification. Concrush's engagement activities with NSW EPA are summarised in Section 5.2. |

5.2 NSW EPA

Concrush have historically, and continue to, engage with NSW EPA to meet environmental obligations of the facility's EPL. Concrush have also carried out ongoing consultation with NSW EPA throughout the months of February, April and May 2024 relating to the proposed modification. The correspondence is attached to this proposed modification report as Appendix I.

In February 2024, Concrush emailed NSW EPA expressing a desire to meet and discuss water discharge from the site, as well as odour relating to the green waste limit onsite, and the site's hours of operation.

In April 2024, Concrush emailed NSW EPA expressing a desire to meet and discuss odour assessment, and the noise modelling and noise impact assessment approach (following the pre-lodgement meeting with NSW DPHI).

In early May 2024 Concrush again contacted NSW EPA to seek their input on the odour assessment for the proposed modification and to comment on the noise impact assessment approach for the proposed modification.

Concrush consulted with NSW EPA in late May 2024 about the aforementioned matters. Follow up email correspondence from NSW EPA in late May stated that they would provide further comment on the proposed modification during the planning approvals process. NSW EPA also stated in the correspondence that the noise impact assessment approach should be carried out in accordance with the EPA's Noise Policy for Industry. Correspondence outlines that, while NSW EPA have some reservations about the use of stockpiles for acoustic attenuation in the modelling, modelling would need to account for and justify these aspects to ensure noise modelling is still accurate.

The updated NIA (RCA, 2024) has considered NSW EPA's comments on the assessment approach and has accounted for and provides justification for the approach to noise modelling used to inform the assessment. The complete NIA is included in Appendix D, and the assessment is summarised in Section 6.1.

5.3 Lake Macquarie City Council

Concrush have received a Compliance Certificate for Public Works (PWC/29/2020) from LMCC confirming Council's satisfaction with the intersection upgrade at Concrush's entry/exit point onto Racecourse Road, Teralba (dated 19 June 2023). In January 2024, Council stated that they have no comment or issues with the traffic impacts on Racecourse Road and are satisfied that Concrush's Traffic Management Plan (TMP) is being adequately implemented. Thus, consent condition B34 has been addressed, and associated consultation has been carried out. The correspondence is attached to this proposed modification report as Appendix I.

Concrush contacted LMCC throughout the months of February, April and May 2024 to seek Council's feedback and comments on the proposed modification. No further correspondence or comment has been received from LMCC.

5.4 SIA

Umwelt (2024) have prepared an updated SIA to inform this modification report (refer to Appendix E). The SIA involved engagement with stakeholders that may have an interest in, or may be affected by, the proposed modification.

Umwelt (2024) identified key stakeholders as those with an interest in the proposed modification, or those that may be directly and/or indirectly affected by the proposed modification, including any potentially vulnerable or marginalised groups. Key stakeholder groups include:

| — | neighbours to the project site | — | local government, being LMCC |
|----|--|-------|--|
| — | proximal residents | — | education and community groups |
| — | broader community | — | local businesses and service providers |
| _ | residents along the haulage route | _ | industry |
| — | employees of the Concrush workforce | — | proximal development. |
| En | recomment activities focused on anoviding information on | tha e | managed modification and the NSW als |

Engagement activities focused on providing information on the proposed modification and the NSW planning process, seeking to listen to and understand the perceived social impacts of the proposed modification from the selected stakeholders, and gathering community suggestions and input on potential management measures to address (and maximise where appropriate) these predicted perceived, direct, and indirect social impacts.

Engagement mechanisms that have been implemented to inform the SIA are outlined in detail in Section 2.3 of the SIA (Umwelt, 2024) (refer to Appendix E). In summary, engagement with community stakeholders has included telephone calls, semi-structured interviews, group meetings, emails and the distribution of the Project Information Sheet 1 and 2 specifically:

- April 2024: Delivery of Project Newsletter 1 to Teralba and Boolaroo suburb and locality during the week of 2 April 2024. Project Newsletter 1 contained information regarding the proposed modification and invitation to complete the SIA survey. Predicted interest in the proposed Modification increased after the first round of Project Newsletters that were delivered within Teralba and Boolaroo.
- Due to the interest in the proposed Modification, engagement was increased to include a targeted delivery of haulage route letters to residential properties along the haulage route during the week of 8 April 2024, with a direct invitation to call or email regarding potential impacts or opportunities associated with the proposed Modification.
- Phone calls with community members occurred in subsequent weeks with discussions regarding further request for information, notification that Project Newsletter 1 had been posted to local Facebook community pages.
- Email correspondence from community members included request for Project Newsletter 1, further clarification on the assessment process, inquiries into cultural heritage assessments, requests for information on traffic movements.
- Meetings with each proximal landholder on the 11 April 2024, 16 April 2024, 18 July 2024.
- Meetings with 40 residents of the Oak Tree Retirement Village occurred 19 April 2024.

— June 2024: Delivery of Project Newsletter 2 to Teralba and Boolaroo suburb and locality during the week of the 26 June 2024 as well as digital copies to SIA participants who provided their contact details. Project Newsletter 2 contained further details on the proposed Modification including changes from the existing consent, information about the assessment process itself, information on outcomes of the key studies being undertaken, key issues identified from the community engagement process, and how to find out more information about the proposed Modification.

A summary of findings of the SIA (Umwelt, 2024) is provided in Section 6.9 of this modification report and the full SIA (Umwelt, 2024) is included as Appendix E.

6 Assessment of impacts

6.1 Noise and vibration

A NIA has been prepared by RCA Australia (2024) to support this modification report, particularly to assess and provide recommendations on the proposed modification's changes to Concrush's Teralba facility's operational hours, and the removal of the requirement for a noise wall at the project site. The full NIA (RCA 2024) is attached as Appendix D of this report.

6.1.1 Existing environment

RCA prepared a NIA (2018) as part of the RtS to support the EIS. The relevant operational noise assessment inputs from the previous reporting by RCA, and ongoing monitoring by RCA, has been used to inform the NIA prepared for the proposed modification (RCA, 2024).

The project is located on the western bank of Cockle Creek, southeast of the Central Coast/Newcastle train line. The nearest residential areas are:

- Boolaroo (Oak Tree Retirement Village, Bunderra Estate) located about 230 metres east of the project site
- Argenton located approximately 1.1 kilometres north-east of the project site, and
- Teralba located approximately 1.3 kilometres south-west of the project site.

There are two residences located over 300 metres to the north of the project site.

Receivers have been grouped into five noise catchment areas (NCAs) according to receiver types and background noise monitoring undertaken for the EIS. The NCAs and their classified receivers are outlined in Table 6.1. It is noted that NCA 3 and NCA 4 were classified based on future proposed development (active recreation and residential respectively).

| Receiver | Receiver type | |
|----------|------------------------|--|
| NCA 1 | Residential – Suburban | |
| NCA 2 | Residential – Urban | |
| NCA 3 | Active recreation | |
| NCA 4 | Residential – Urban | |
| NCA 5 | Industrial Receiver | |

Table 6.1 Identified sensitive receiver types (from Table 2 of RCA, 2024)

6.1.1.1 Operational noise criteria

The NIA completed for the EIS set project specific noise targets according to the Noise Policy for Industry (NPI) (EPA, 2017). However, it was identified that the targets set were not achievable even after implementing all feasible and reasonable noise mitigation measures. The NIA (RCA, 2018 and included in RCA, 2024) identified the achievable site noise levels for each NCA, as outlined in Table 6.2. These levels were later adopted in Concrush's Operational Noise Management Plan (ONMP) (July, 2020) which was endorsed by the [then] NSW Department of Planning.

| Receiver | | Project-specific criteria | | | |
|----------|------------------------------------|--|--------------------------------------|---------------------------------------|--|
| | Day L _{Aeq,15 min} dBA | Evening L _{Aeq,15 min} dBA | Night L _{Aeq,15 min} dBA | Night L _{Amax,15 min} dBA | |
| NCA 1 | 51 | 43 | 36 | 52 | |
| NCA 2 | 56 | 47 | 37 | 52 | |
| NCA 3 | 53 | 53 | 53 | - | |
| NCA 4 | 54 | 48 | 42 | 52 | |
| NCA 5 | 68 | 68 | 68 | _ | |

Table 6.2 Operational noise criteria (from Table 4 of RCA, 2024)

6.1.1.2 Night-time road noise impacts

The EIS initially assessed potential road noise impacts due to proposed additional heavy vehicle movements along Racecourse Road during the night as a result of trucks moving in and out of the project site during the night-time, associated with loading and unloading activities. Following the EIS, Concrush rescinded the request to operate at night-time, however, the road noise assessment prepared for the EIS remains relevant for the proposed modification.

6.1.1.3 Review of historical compliance data

Concrush have not received any noise complaints from the community since the expansion project became operational in 2020.

RCA has carried out compliance noise monitoring on a quarterly basis since Quarter 3 2020. A summary table of compliance results over the three-year period is attached as Appendix A of the NIA (RCA, 2023) depicting a single minor exceedance (1 dB) reported over the course of 97 individual day time compliance measurements. This minor exceedance in May 2023 was due to the green waste shredder (provided by a contractor to the site) which has since been taken off site. Generally, significantly quieter plant is used onsite, compared to the shredder that caused the minor offsite noise exceedance in May 2023.

6.1.1.4 Evening noise survey results

Evening works is sporadic and only due to market demand which is typically at short notice. As such, evening noise monitoring has not routinely been carried out. However, evening noise monitoring was carried out by RCA on 30 October 2023 which captured heavy vehicles arriving and unloading at the site. RCA had staff located at NCA 1 and NCA 3, as well as Concrush's onsite noise monitor recording noise concurrently, to allow for a correlation between noise levels at the three locations to be estimated.

Survey time traces visually identify these activities and are attached in Appendix B of the NIA (RCA, 2024). The monitoring demonstrated that unloading activities were not likely to generate noise levels at residential receivers in excess of the adopted night-time criteria or sleep disturbance screening levels.

Evening monitoring was also carried out on 16, 17 April 2024. Despite deliveries being scheduled for 16 April, the only site activity that occurred during the evening of 16 April was a loader pushing stockpiles between 9:00 pm and 9:06 pm. RCA stationed staff at NCA 1 and NCA 2 for this measurement. A time trace of noise levels measured by RCA as well as the Concrush onsite noise monitor is provided in Appendix C of the NIA (RCA, 2024). Monitoring identified that onsite noise levels from the loader were approximately 58 dBA which corresponded to noise levels of approximately 43 dBA at NCA 1, meaning that the site noise LAeq,15min contribution at NCA1 averaged out to be below 40 dBA. Passing traffic meant that site noise was completely masked at NCA 2.

Evening monitoring on the 17 April 2024 demonstrated that trucks arriving, tipping, departing and the loader operating were all brief intermittent activities that typically generated offsite instantaneous noise levels less than 45 dBA when measured at NCA1, NCA2 and NCA3. Truck movement activities typically only lasted a matter of seconds and loader activities lasting a few minutes. When averaged over a 15-minute period, all measurements indicated a site contribution of LAeq,15 min less than 30 dBA. This would comply with noise management levels at all receiver locations.

The NPI provides a penalty for intermittency (only applicable to "night-time") when noise from a site clearly modulates by at least 5 dB, several times over an assessment period during the night-time. RCA conclude that the intermittency penalty would not be applicable to unloading or loading activities.

6.1.1.5 Updated impact assessment

Noise measurements of current crushing and screening plant were recorded at the site by RCA on 24 May 2023. Noise measurements captured the following crushing plant working together in the north-western portion of the site:

- jaw crusher
- cone crusher
- two screens
- two excavators.

A water cart and front-end loader were also observed to be moving around the crushing area.

The noise model prepared for the EIS was then updated to reflect Concrush's proposed day, evening and night-time activities and to account for the crushing plant that is currently operating on site. Additionally, a new mobile crusher and feeding excavator (which were not operating on 24 May 2023) have been modelled within the southern raw material stockpiles and processing area. The sound power of the mobile crusher has been taken to be 111 dBA (provided by manufacturer).

Noise modelling was carried out using CadnaA software. The noise model does not include the 1.8 metre high noise wall located along the eastern boundary, however includes a three metre tall bund to represent mounds of mulch that are typically located in the processing area at the project site. Detailed operational noise modelling scenarios are outlined in Table 11 of the NIA (RCA, 2024).

After consultation with both the DPHI and the NSW EPA, RCA have presented noise modelling results with stockpiles onsite (which would act as noise barriers) and without stockpiles onsite (including green waste), for completeness. It is noted that the scenario where there are no stockpiles onsite has not been known to occur and would be unlikely to occur as stockpiles are a key part and product of the Concrush business. It would be assumed that in the instance there are no stockpiles located at the site, there would be no noise generated at the site as the site would cease to be operating.

6.1.2 Potential impacts

6.1.2.1 Construction

The proposed modification would be carried out within the assessed project site footprint and in accordance with the construction method as presented in the EIS and RtS. As such, the proposed modification is not expected to result in additional noise and vibration impacts during construction.

6.1.2.2 Operation

Night-time unloading

Night-time unloading activities were modelled and found to comply with noise targets at all receivers. This is consistent with RCA's attended monitoring observations carried out on 30 October 2023. The site's contribution (L_{Aeq} , 15 min) at NCA 1 was predicted to be 27 dBA, supporting the attended monitoring assessment of noise impacts below 30 dBA. The assessment supports the proposed modification for Concrush to carry out unloading activities 24 hours a day, as modelling indicates that night-time unloading would not be expected to cause noise impacts at sensitive receivers.

Modelling identified that night-time unloading activities without stockpiles has potential to lead to a 3 dBA exceedance of the night-time L_{Aeq} noise criteria and a 4 dBA exceedance of the sleep disturbance criteria for NCA2 receivers, under noise enhancing conditions (i.e. under northerly, westerly, south-westerly and north-westerly wind conditions). RCA note that this hypothetical site noise contribution at NCA2 is still more than 20 dBA lower than the L_{Aeq} contribution measured from nearby road traffic and is therefore unlikely to cause a noise impact at these receivers.

Night-time loading activities

Modelling of the loading activities (in comparison to the unloading activities) assumes that a loader is now operating for five minutes out of the 15 minute assessment period for the impact assessment. Based on this, operating the loader for at least five minutes generates predicted noise exceedances at NCA 1 and NCA 2 for the majority of significant wind directions (particularly northerly, south-westerly, westerly or north-westerly winds). It is noted that the assessment assumes use of a large diesel loader, and future equipment to be used at the project site would likely be quieter.

As such, noise modelling indicates that under the majority of prevailing wind conditions, loading activities would be expected to result in noise impacts at nearby sensitive receivers in NCA 1 and NCA 2 during the night-time period. Potential noise impacts associated with loading activities during the night-time period would be expected to result in higher exceedances to the same NCAs where stockpiles are excluded from modelling. RCA note that this "no stockpile" scenario is very unlikely to occur onsite.

Evening crushing and processing ('screening')

The assessment of noise impacts for crushing and processing in the evening period considered activities being carried out in both the southern and northern "raw material stockpile, processing areas and processed material stockpile" areas. This included modelling a single front end loader operating near the primary crushing area for the full 15 minutes as well as two heavy vehicle arrivals to either load or unload (the loading scenario is captured with the front end loader operating the full period).

The assessment found that crushing could only occur under northerly or easterly wind conditions without resulting in expected noise exceedances to nearby sensitive receivers. Under other prevailing wind conditions sensitive receivers in NCA 1 may experience minor noise impacts. It is noted that loading and unloading activities during the evening period were approved as part of the development consent for the approved project.

Potential noise impacts associated with crushing and processing in the evening period would be expected to result in broader and higher exceedances where stockpiles are excluded from modelling. Based on modelling that excludes stockpiles onsite, crushing and processing in the evening period has potential to result in noise level exceedances to sensitive receivers in NCA 1, NCA 2, and NCA 4. RCA note that this "no stockpile" scenario is very unlikely to occur onsite.

Day time full operations without noise walls

Full operations at the project site during the day time period ('standard hours') including green waste shredding, were assessed and the modelling excluded consideration of the southern or eastern noise walls to assess whether the noise walls are required. However, modelling does model the shredder behind a three metre tall bund to represent the stockpiles of mulch that occur in the south-eastern portion of the site.

It was found that noise barriers along the eastern and southern boundary would not be required to minimise noise impacts to sensitive receivers during full operations in the day time period. These results are consistent with the results of routine compliance noise monitoring undertaken over the last three years. This supports Concrush's request to remove consent Condition B45.

Noise levels during daytime operations without stockpiles are predicted to exceed the daytime criteria for NCA 2 and NCA 3 under westerly and north-westerly wind conditions. RCA note that this "no stockpile" scenario is very unlikely to occur onsite. Additionally, the discrepancy between the modelled noise exceedances presented in Table 20 of the NIA (RCA, 2024) and quarterly compliance monitoring undertaken since 2020 that indicates noise level exceedances have not occurred at sensitive receivers surrounding the project site, support RCA's assertion that a "no stockpile" scenario is very unlikely.

Summary

A summary of the consent conditions, proposed modification and RCA (2024) recommendations are provided in Table 6.3.

Based on the findings of the updated NIA (RCA, 2024):

- Unloading activities can occur 24 hours a day without being expected to result in noise impacts to nearby sensitive receivers, based on noise modelling, as supported by attended noise monitoring carried out on 30 October 2023 and 16 and 17 April 2024.
- Loading activities are expected to cause noise impacts during the night-time period under the majority of prevailing wind conditions, based on noise modelling.

Loading activities are not proposed during the night-time period.

- Crushing and processing ('screening') activities can occur at the project site during the evening period under northerly and easterly wind conditions without being expected to result in noise impacts to nearby sensitive receivers, based on the existing plant.
- Condition B45, detailing the requirement for noise walls along the eastern and southern boundaries, is not required to
 achieve compliance with the adopted daytime criteria and would not serve to mitigate proposed evening or
 night-time operations. Condition B45 can therefore be removed from consent conditions.
- Concrush are committed to a process of decarbonisation and continue to look for opportunities to replace old plant with newer, cleaner plant (such as the new electric mobile crusher used at the site). Operational noise levels are expected to trend downwards as older plant are replaced.

| Consent conditions | Proposed modification | RCA recommendations (RCA, 2024) |
|---|---|---|
| B42. Operational hours: Monday – Saturday 7 am – 10 pm and Sunday and Public Holidays 8 am – 6pm. Note: current limitations on evening operations. | Modify crushing limitations during evening operations Monday – Saturday. Propose operations between 10 pm – 7 am Monday – Sunday be limited to loading and unloading activities. | Crushing could occur during the evening under northerly and easterly wind conditions only. Unloading activities could occur 24 hours per day without noise impacts. Loading activities would likely generate noise impacts at night-time. |
| B45. A noise wall must be constructed on east and southern boundaries. | Remove both of these noise walls conditions. | Additional noise walls serve no additional benefit in terms of noise compliance. Condition B45 can be removed. |

Table 6.3 Summary of consent conditions, proposed modification and RCA (2024) recommendations

Source: RCA, 2024

6.1.3 Mitigation and management

The following management and mitigation measures are recommended to be implemented for the proposed modification and include:

- the current Operational Noise Management Plan for operations at the project site will be updated. Updates to the plan will also include a review of the quarterly noise monitoring procedures
- adoption of a new operating procedure, which utilises online noise monitoring, will be installed for display within the weighbridge office onsite, to log any atypical noise heard from within or outside the site with the view of changing noise generated (if generated onsite). That is, using noise measurement to change behaviour onsite.

6.2 Air quality

The proposed modification would include an increase to the proposed storage and processing capacity for garden and wood waste at the project site at any one time, however, does not involve an increase in the operational footprint or increase to the total annual processing and storage capacity of materials at the site. As such, additional impacts to air quality and odour at and surrounding the site are not expected and an updated air quality impact assessment is not considered necessary for the proposed modification.

6.2.1 Existing environment

The existing air quality and odour conditions at the site are as described in the EIS for the approved project, and the project has been constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS.

6.2.2 Potential impacts

6.2.2.1 Construction

The EIS construction air quality impact assessment analysed dust emissions and found modelling results show the 24-hour impact assessment criteria is predicted to be met for the nearest receivers. Odour was not analysed within the construction impact assessment.

The proposed modification would be carried out within the assessed project site footprint and in accordance with the construction method as presented in the EIS and RtS. As such, the proposed modification is not expected to result in additional potential air quality impacts during construction.

6.2.2.2 Operation

The proposed modification includes extending regular operational hours to allow for crushing and processing into the evening and night-time periods; and unloading and dispatch of trucks from the site 24 hours a day, seven days per week, and removing the capacity limits for processing and storage of green waste at the site.

The proposed modification would include an increase to the proposed storage and processing capacity for garden and wood waste at the project site at any one time, however, does not involve an increase in the operational footprint or increase to the total annual processing and storage capacity of materials at the site.

The proposed modification to operational hours, crushing and processing hours, and extended potential hours for traffic movements to and from the project site has the potential to result in minor impacts to air quality through dust emissions. However, the proposed modification would be consistent with the activities assessed as part of the approved project, over extended operational hours. Potential impacts would be considered adequately managed through the implementation of existing management measures at the project site.

The proposed modification also includes modifying the layout of the internal access roads, and relocation of the wheel wash within the project site. The relocated internal access roads would be sealed with a two coat seal between the wheel wash and the site exit, and the proposed wheel wash would be relocated to the northern boundary of the project site. This modification has been proposed to respond to the final location and layout of the site entry/exit point, as approved by LMCC and to improve operations through a more efficient site layout. The proposed position of the wheel wash and sealed internal access roads from the wheel wash to exit have been designed to minimise potential dust emissions that may leave the site on truck tyres.

As such, the proposed modification is not expected to result in dust emissions additional to those assessed in the EIS.

Odour modelling for the approved project, completed for the EIS (Umwelt, 2018), included conservative modelling for potential odour impacts for the total green waste volume of 10 per cent of 250,000 tpa total processing capacity (that is, 25,000 tpa green waste). Odour modelling for the EIS (Umwelt, 2018) based on green waste quantities of 25,000 tpa did not identify potential odour impacts at the project site. The proposed modification would not include processing of up to 25,000 tpa, however, findings of the assessment remain relevant, and odour would be managed at the site in accordance with the existing management measures, including those from the approved project EIS (Umwelt, 2018).

6.2.3 Mitigation and management

As the proposed modification is not expected to result in additional impacts to air quality at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

The following management measures will also be implemented as part of the proposed modification:

The project site layout will include:

- construction of a wheel wash alongside a wet concrete wash out bay on the site's northern boundary
- two coat seal of internal access roads from the wheel wash to the site exit point to minimise dust emissions leaving the site.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.3 Traffic

The proposed modification would include an increase to the proposed storage and processing capacity for garden and wood waste at the project site at any one time and modifying the operational hours at the facility. However, the proposed modification does not involve an increase to the total annual processing and storage capacity of materials at the site and would not result in an increase in traffic movements to and from the project site. As such, additional impacts to traffic and transport conditions at and surrounding the site are not expected and an updated traffic impact assessment is not considered necessary for the proposed modification.

6.3.1 Existing environment

The existing traffic movements to and from the site, and the existing traffic management within the project site, are as described in the EIS for the approved project, and the project has been constructed generally in accordance with the consent.

The proposed modification would involve removing the light vehicle exit point proposed as part of Stage 1 construction, modification of internal access road arrangements, modification of operational hours, and allowance for unloading and dispatch of trucks to be 24 hours per day seven days per week, subject to market demand.

6.3.2 Potential impacts

6.3.2.1 Construction

The proposed modification would be carried out within the assessed project site footprint and in accordance with the construction method as presented in the EIS and RtS. As such, the proposed modification is not expected to result in additional potential traffic and transport impacts during construction.

6.3.2.2 Operation

The proposed modification would involve removing the light vehicle exit point proposed as part of Stage 1 construction, modification of internal access road arrangements, and modifying the operational hours for deliveries and dispatch of trucks to be 24 hours per day seven days per week, during project campaigns. The modification is proposed to allow for flexibility of operations at the project site, and to respond to market demand for Concrush's recycled products.

The proposed modification would not be expected to significantly impact traffic conditions surrounding the project site, as the proposed modification would not result in an increase to traffic movements to and from the site. The proposed modification would use the northern and southern transport routes identified within the EIS and RtS (refer to Figure 6.1). The traffic generation assessed for the approved project includes ten car movements per hour (five in and five out) and 26 truck movements per hour (13 in and 13 out) into and out of the project site per hour. The proposed modification would not seek to increase the traffic movements into and out of the project site, rather the modification to operational hours (trucks entering/exiting and unloading at the site 24 hours per day, seven days per week, as required) would extend the potential hours that the nominated traffic may move into and out of the project site.

The EIS traffic impact assessment identified that the roads surrounding the project site would continue to operate well within their technical and functional lane capacity levels as described by Austroads and NSW Roads and Maritime Services (now Transport for NSW) guidelines. Similarly, there would be little change to intersection performance. Overall, the traffic assessment determined that the road network surrounding the approved project would continue to operate at acceptable levels with the approved project.

Proposed modifications to the internal access roads and traffic management within the project site have been proposed to respond to the final intersection design and construction, as approved by LMCC. The proposed modifications to the internal traffic elements would not result in off-site impacts to traffic and transport. Modification to internal access roads and traffic management within the project site would be managed through implementation of existing management measures that relate to the project site. Relevant sections of the operational environmental management plan and traffic management plan that relate to the facility would be updated following approval of the proposed modification (once approved).

6.3.3 Mitigation and management

The following management measures will be implemented as part of the proposed modification:

The current Traffic Management Plan (TMP) for operations at the project site will be updated to accommodate
proposed modifications at the project site, including modified internal access road layout, the proposed location of
the wheel wash, removal of the light vehicle exit point "Exit-Light Vehicles", and the proposed increase and
reconfiguration of light vehicle parking.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.



6.4 Soil and water management

The proposed modification does not involve an increase in the operational footprint to the approved project at the site. However, the proposed modification would include increasing storage and processing capacity of garden and wood waste at the site. Therefore, the proposed modification has the potential to impact water quality at and surrounding the project site.

A Green Waste Catchment Water Quality Assessment has been prepared by Engeny (2023) to assess the potential impacts of the proposed increase in storage and processing at the project site. The report is provided in Appendix F.

6.4.1 Existing environment

6.4.1.1 Soils

The existing environment relating to soils and geology at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the approved project site footprint and generally as presented in the EIS and RtS.

6.4.1.2 Surface water management and hydrology

The existing environment relating to the flooding and hydrology conditions at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The project site is located in the Cockle Creek Estuary catchment that forms part of the broader Lake Macquarie catchment and majority of the site is classified as flood prone (having a high flood risk) based on LMCC flood risk mapping (NSW Department of Planning and Environment, 2024). The project site is situated in the Lower Cockle Creek Floodplain with lower portions of the project site within the 1 per cent Average Exceedance Probability (AEP) flood extent as determined by the Winding Creek and Lower Cockle Creek Floodplain Risk Management Study and Plan (BMT WBM, 2016).

The proposed modification would be carried out within the approved project site footprint and generally as presented in the EIS and RtS.

6.4.1.3 Water quality

The existing environment at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the approved project site footprint as presented in the EIS and RtS.

Prior to expansion of the site in accordance with SSD-8753, the green waste storage and processing area was not isolated from the broader project site catchment. Runoff from the green waste storage and handling area historically drained to the Centre Dam (a small drainage pit) which captured and conveyed runoff from the eastern end of the project site via a sub-surface stormwater pipe to a vegetated channel draining to the west along the northern boundary of the project site.

The surface water management system at the project site comprises a leachate dam, sediment dams, a constructed wetland, pumps and water tanks, and internal sprinklers. Leachate and runoff captured in the leachate dam is transferred via a pump to the wetland which was constructed based on a preliminary design prepared by Hunter H2O. Overflows from the leachate dam that occur as a consequence of storm events that exceed the leachate dam capacity bypass the wetland and drain to sediment dam 2 in the project site's south west (refer to Figure 3.1) which has a larger constructed capacity than the required design capacity. Further, as part of the approved project, Concrush has installed four tanks to store the first flush of runoff from the green waste catchment (transferred from the leachate dam) following dry periods when the runoff is likely to have higher nutrient concentrations. Water transferred to the first flush tanks is used as a priority for maintaining mulch moisture levels during the pasteurisation process.

Prior to expansion of the facility for the approved project, Concrush completed seven rounds of water quality monitoring for nutrients (amongst a range of other parameters) within the centre dam (refer to Figure 3.1). Water quality within the centre dam for the period of monitoring (November 2017 to March 2019) is considered to be most representative of green waste leachate and catchment runoff.

The results historically recorded from the centre dam do not clearly indicate whether green waste catchment runoff nutrient concentrations vary with green waste inventory. It is likely that a range of variables contribute to nutrient concentration levels in green waste catchment leachate and runoff including climatic conditions (i.e. rainfall and evaporation) and green waste properties (e.g. proportions of woody waste to garden waste). While it would seem likely that a higher green waste inventory would result in higher nutrient concentrations it is considered that other variables (particularly rainfall and evaporation) may be a more dominant influence on nutrient concentrations than green waste inventory.

While climatic conditions with lower rainfall and higher evaporation may result in higher nutrient concentrations in leachate and runoff, the lower volume of leachate and runoff produced means that water containing high nutrient concentrations is less likely to be discharged to receiving waters surrounding the project site.

6.4.2 Potential impacts

6.4.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method, and within the project site footprint as presented in the EIS and RtS. Additional potential impacts to soils and geology, flooding and hydrology and water quality at the site during construction are not expected. It is also noted that prior to the project approval (SSD-8753), the Concrush development consent did not limit the maximum green waste inventory.

6.4.2.2 Operation

Soils

The southern section of the approved project site was determined to be underlain by Potential Acid Sulfate Soils (PASS). In accordance with the EIS and RtS, an Acid Sulfate Soil Management Plan has been prepared and implemented for construction and operation of the approved project, to manage potential environmental impacts associated with acid generation from any excavated PASS. The EIS identified that the approved project is not expected to have any impacts on soil salinity.

Erosion and sediment controls have been and will continue to be implemented to minimise the generation of sediment at the project site and to minimise the transport of sediment around and off-site.

One layer of concrete blocks (around one metre tall) from the concrete wall would be retained within the stockpiling and processing area (and would continue to be extended) for efficient stockpile management, to reduce dust emissions through transfer of products, and for water quality and sedimentation management at the project site by preventing stockpiles from entering the swale drains along the site boundary.

Other controls to minimise and manage erosion and sedimentation impacts at the site would be implemented during operations in accordance with the operational environmental management plan (OEMP).

Surface water management and hydrology

Flooding

In accordance with the EIS, most of the project site (based on LiDAR survey dated by September 2014) is above RL 1.50 metres Australian Height Datum (mAHD), which is nominated as the 1 per cent AEP flood level as quoted from the Lake Macquarie Council's Property Enquiry tool. As such, the project site is not subject to lake flooding.

The applicable 1 per cent AEP flood level, as quoted from the Lake Macquarie Council's Property Enquiry tool, for catchment flooding (Winding Creek and Lower Cockle Creek Flood Study, 2013) is RL 2.35 mAHD. Through levelling and placement of a 0.5 metre capping layer over the majority of the project site for the approved project, the 1 per cent AEP flood standard RL of 2.35 mAHD was expected to be met.

Groundwater

A leachate barrier system for the green waste storage and handling area and the lining of the leachate dam and constructed wetland was incorporated into the approved project design, in accordance with the Environmental Guidelines for Composting and Related Organics Processing Facilities (NSW Department of Conservation, 2004). The approved project design was assessed to have a very low risk of impacting groundwater water quality, and the proposed modification is not expected to result in additional potential impacts to groundwater quality at and surrounding the site.

Surface water management system

The upgraded green wastewater management system comprises an isolated green waste catchment, a leachate dam (on the eastern boundary) and a constructed wetland (in the project site's south east) (refer to Figure 3.1). The green waste catchment has been constructed to include a leachate barrier and is bunded and graded to ensure runoff reports to the leachate dam. For efficiency, the sediment dams at the project site have been constructed to allow for Stage 2 operations. This has resulted in readings that indicate that the surface water manage system can adequately manage the proposed modification to storage and processing.

Water quality

A Green Waste Catchment Water Quality Assessment has been prepared by Engeny (2023) to assess the potential impacts of the proposed increase in storage and processing at the project site. The report is provided in Appendix F.

Concrush notified commencement of Stage 1 operations in March 2023. The commencement of Stage 1 operations included the commissioning of the upgraded green waste catchment water management system including the leachate dam and the wetland. Total Nitrogen (TN) and Total Phosphorus (TP) concentrations recorded during routine monitoring of the leachate dam and wetland were recorded and have been used as a basis for the water quality assessment.

The nutrient removal for TN and Total Phosphorus TP (presented in Appendix F) records the water management system to have 52 per cent of TN removal efficiency and 67 per cent removal efficiency of TP. The leachate dam monitoring results shows that the influent water supplied to the wetland has lower TN and TP concentrations than the design influent concentrations, which are most likely due to dilution associated with water transfers from the sediment dams to the leachate (refer to Figure 3.1). Water transfers from the sediment dams have been carried out to manage site water inventories through evapotranspiration following wet climatic conditions.

The water quality results and the estimated TN and TP removal efficiencies, with the exception of one sampling event, in August 2023, indicate that the wetland was performing to design expectations and is likely to have additional capacity for nutrient removal given the lower influent concentrations. The August 2023 results indicate higher concentrations of TN and TP, and total suspended solids, in the constructed wetland effluent than the incoming untreated leachate/runoff from the leachate dam, likely due to vegetative matter that was recorded in the constructed wetland sample. As such, the August 2023 constructed wetland effluent TN and TP results were excluded from the average nutrient removal efficiency calculations.

It is understood that inflows to the wetland at the project site are currently being managed to minimise effluent outflows during the more recent dry conditions. September water quality results (presented in Appendix F) indicate that wetland TN and TP removal rates under this operating regime are still exceeding design performance estimates. Leachate dam nutrient concentrations may increase further with ongoing dry conditions and the absence of transfers from sediment dam 2, however, based on the monitoring results following commission of the wetland, it is considered likely that the Wetland would continue to meet or exceed TN and TP design removal efficiencies and that the wetland can accommodate an increase in feed water nutrient loads.

Based on the analysis of historical green waste catchment water quality (see Appendix F for detail), review of the performance of the upgraded green waste catchment water management system at the project site (i.e. the leachate dam and the wetland), and considering the additional water storage capacity at the project site, the following conclusions are drawn:

- Based on historical water quality sampling, the constructed wetland at the project site is performing to design
 expectations and is likely to have additional capacity for nutrient removal given the lower influent nutrient
 concentrations.
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the project site is not considered likely to increase nutrient concentrations in green waste catchment leachate/runoff.
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the project site is not considered likely to increase the risk of discharges to receiving waters from the project site provided the green waste catchment area remains unchanged (i.e. there is no increase in green waste processing and storage area) from the currently approved catchment area (as this would increase the likelihood of spills from the green waste catchment to sediment dam 2).
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the project site is not considered likely to increase the overall nutrient load generated, although an increase in the rate of processing of green waste is likely to generate additional nutrient load. However, given the performance of the constructed wetland, and given that it is meeting or exceeding design expectations, and considering the additional water storage capacity at the project site, it is considered highly unlikely that nutrient loads in any off-site discharges from the project site would increase, provided the green waste catchment area is not increased (as this would increase the likelihood of spills from the green waste catchment to sediment dam 2).
- Nutrient load generation rates at the project site are inherently constrained by the available space to store and
 process green waste, as well as the limited availability of the shredder which is hired by Concrush to periodically
 shred stockpiled green waste.
- Nutrient concentrations and loads in green waste catchment leachate and runoff are dependant on a range of factors including climatic conditions, stockpile areas exposed to rainfall and processing rate, however, determining the degree to which each factor influences the concentrations and loads would require longer term data obtained from a very detailed monitoring program. It is considered that the benefit of implementing such a monitoring program is limited and the current monitoring program is adequate to indicate green waste catchment water management system performance.
- The existing monitoring program would be relied upon to develop an understanding of the baseline range in nutrient concentrations and loads generated under the current operating regime which would enable identification of any changes in green waste catchment water management system should operating conditions change (e.g. future changes to maximum storage and processing limits at the project site).

As such, potential impacts to water quality at and leaving the project site are not expected to be impacted through the increased processing capacity of the site, provided the green waste processing and storage areas do not increase in size, and monitoring and mitigation measures are implemented.

It is noted that the proposed modification to increase green waste processing and storage at the site would involve an increase in stockpile heights (while still remaining below the 10 metre height limit of stockpiles), however, the green waste processing and storage areas would not increase in size (i.e. area in square metres on site). Stockpiles would remain within the existing 'Processed Material Stockpiles' and 'Raw Material Stockpile and Processing Area' areas.

Concrush would continue to install water tanks at the project site to capture rainwater for use as part of the project site's water management system, if required and identified through ongoing monitoring.

6.4.3 Mitigation and management

The following management measures will be implemented as part of the proposed modification:

- There will be no increase in the size of the green waste processing and storage area associated with the proposed modification. If the green waste processing and storage area (and therefore catchment area) is increased, further assessment will be required to determine potential impacts to water quality.
- Concrush will install additional water tanks at the project site, if required, to increase the capacity of the water management system by capturing rainwater for use at the Teralba facility.
- Concrush will continue to monitor the water quality and nutrient load of water captured within the project site and will take remedial actions to rectify water quality if water quality guidelines target values are exceeded.
- Concrush will update and implement the controls and management measures, monitoring and inspection requirements outlined within the Green Waste Leachate Management Plan for the site.

6.5 Biodiversity

The proposed modification does not involve an increase in the operational footprint, and as such, additional impacts to biodiversity at and surrounding the site are not expected. An updated Biodiversity Development Assessment Report (BDAR) would not be required for the proposed modification as the modification would not increase the project site footprint.

6.5.1 Existing environment

The existing environment at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS.

6.5.2 Potential impacts

The EIS determined the approved project would not result in substantial indirect impacts on the biodiversity values of surrounding lands such as connectivity, corridors, habitat fragmentation or light emissions. The proposed modification would be carried out within the assessed project site footprint and as such, potential impacts to biodiversity are expected to remain consistent with those assessed in the EIS.

6.5.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method and within the project site footprint as presented in the EIS and RtS. As such, the proposed modification is not expected to result in additional impacts on biodiversity values at or surrounding the project site during construction.

6.5.2.2 Operation

The proposed modification is not expected to result in significant changes to potential biodiversity impacts during operation as the proposed modification does not seek to expand the operational footprint (as presented in the EIS and RtS) at the project site.

Additional artificial lighting would be required during evening and night-time operations, proposed as part of the modification. Minor changes to noise generated at the project site may also occur, associated with the modified operational hours for deliveries (unloading) and dispatch of trucks.

Night-time movement of vehicles may result in minor light and noise impacts to wildlife directly nearby the project site. However, this is not expected to be significant as vehicle movements would be intermittent and operation would only occur as needed to meet market demand. The use of lighting during the night-time would be expected to have negligible to minor impacts on wildlife as the project site and immediate surrounds are heavily disturbed and not like to be utilised by wildlife.

6.5.3 Mitigation and management

As the proposed modification is not expected to result in significant additional impacts to biodiversity values at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.6 Bushfire

The proposed modification does not involve an increase in the operational footprint or operational management practices for bushfire in comparison to the approved project at the site. As such, additional impacts to bushfire risk and management at the site are not expected.

6.6.1 Existing environment

The existing environment at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS, which is described as predominantly cleared of any significant vegetation (Umwelt, 2018a). The Concrush site is not mapped as bushfire prone land (NSW Department of Planning and Environment, 2024).

6.6.2 Potential impacts

A bushfire threat assessment was completed for the EIS. The proposed modification would be carried out within the assessed project site footprint and as such, potential bushfire risk is expected to remain consistent with the EIS. The proposed modification is not expected to alter bushfire risk and management proposed at the site.

6.6.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method, and within the site footprint as presented in the EIS and RtS. Additional risks to bushfire at the site, associated with the proposed modification, are not expected.

6.6.2.2 Operation

The proposed modification is not expected to result in changes to bushfire risk and management during operation as the proposed modification does not seek to expand the operational footprint (as presented in the EIS and RtS), or modify operational management practices for bushfire at the site.

Concrush have an existing Pollution Incident Response Management Plan (PIRMP) which includes the relevant evacuation procedure for staff and the public in response to bushfire threat. Threat of the combustion of product on site is managed through appropriate storage of materials and implementation of separation distances between stockpiles. During hot conditions stockpiles are wetted down and all operators are trained in firefighting techniques.

6.6.3 Mitigation and management

As the proposed modification is not expected to result in additional impacts to bushfire risk at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.7 Aboriginal heritage

The proposed modification does not involve an increase in the operational footprint to the approved project at the site. As such, additional impacts to Aboriginal heritage at and surrounding the site are not expected. An Aboriginal Cultural Heritage Report is not considered necessary as the modification would not increase the project site footprint or modify site activities.

6.7.1 Existing environment

The existing environment at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS, which is described as an area subject to extensive previous disturbances (Umwelt, 2018a).

A basic search of the Aboriginal Heritage Information Management System (AHIMS) was carried out in September 2023, and is attached as Appendix H. The search did not identify any known Aboriginal sites or places within Lot 2, DP220347, with a buffer of 200 metres.

6.7.2 Potential impacts

The EIS determined that the approved project would be undertaken within areas that have previously been disturbed and as such, there is a low likelihood that the works would result in harm to Aboriginal objects. In accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (the 'Due Diligence Code') (Commonwealth Department of Environment, Climate Change and Water, 2010) no further archaeological assessment was required.

The proposed modification would be carried out within the assessed project site footprint and as such, potential impacts to Aboriginal heritage values are expected to remain consistent with those assessed in the EIS.

As such, the proposed modification is not expected to result in additional impacts on Aboriginal heritage values.

6.7.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method, and within the site footprint as presented in the EIS and RtS. Additional potential impacts to Aboriginal heritage at the site are not expected.

6.7.2.2 Operation

The proposed modification is not expected to result in changes to potential Aboriginal heritage impacts during operation as the proposed modification does not seek to expand the operational footprint (as presented in the EIS and RtS) at the site. Additional potential impacts to Aboriginal heritage at the site are not expected.

6.7.3 Mitigation and management

As the proposed modification is not expected to result in additional impacts to Aboriginal heritage values at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.8 Non-Aboriginal heritage

The proposed modification does not involve an increase in the operational footprint, and as such, additional impacts to non-Aboriginal heritage at and surrounding the site are not expected. An updated Heritage Impact Statement is not considered necessary as the modification would not increase the project site footprint.

6.8.1 Existing environment

The existing environment at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The project site is not a listed heritage item, does not contain any listed heritage items, and is not located within any listed heritage conservation areas or precincts. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS.

6.8.2 Potential impacts

The EIS determined that the approved project is highly unlikely to result in any impacts to any potential historical (non-Aboriginal) archaeological resource. The proposed modification would be carried out within the assessed project site footprint and as such, potential impacts to non-Aboriginal heritage values are expected to remain consistent with those assessed in the EIS.

As such, the proposed modification is not expected to result in additional impacts on non-Aboriginal heritage values at or surrounding the project site.

6.8.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method, and within the project site footprint as presented in the EIS and RtS. Additional potential impacts to non-Aboriginal heritage at the site are not expected.

6.8.2.2 Operation

The proposed modification is not expected to result in changes to potential non-Aboriginal heritage impacts during operation as the proposed modification does not seek to expand the operational footprint (as presented in the EIS and RtS) at the site.

6.8.3 Mitigation and management

As the proposed modification is not expected to result in additional impacts to non-Aboriginal heritage values at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.9 Socio-economic

An updated Social Impact Assessment (SIA) has been prepared by Umwelt (2024) for the proposed modification to build upon the previous SIA report (Umwelt, 2018b) prepared to assess potential community and stakeholder impacts of the approved project. The full updated SIA is included as Appendix E. Social impacts that were assessed in relation to the approved project included:

- impacts to social amenity including traffic, air quality (dust), noise, visual and other environmental impacts, such as those relating to water, biodiversity, and greenhouse gases (GHG)
- impact to community values, sense of place and sustainability including, population change, impacts on housing availability and community infrastructure, economic impacts, sense of community and recreational values.

According to the *State significant development guidelines – preparing a modification report* (DPIE, 2022), a modification report assesses the economic, environmental, and social impacts of a modified project. The updated SIA (Umwelt, 2024) outlines changes in the social locality and context since 2020 and considers and assesses the potential social impacts of the proposed modification as described in Section 1.5.

The SIA addresses *State significant development guidelines – preparing a modification report* (DPIE, 2022), and *Undertaking Engagement Guidelines for State Significant Projects* (DPHI, 2024) guidelines.

6.9.1 Existing environment

6.9.1.1 Key stakeholders

Umwelt identified key stakeholders with an interest in the proposed modification, or those that may be directly and/or indirectly affected, including any potentially vulnerable or marginalised groups. Key stakeholders are identified in Table 6.4.

| Stakeholder group | Stakeholders | |
|---|--|--|
| Project Neighbours | 2 residents, located adjacent the Concrush site | |
| Proximal Residents | Residents of the Bunderra Estate (including Oak Tree Retirement Village residents) | |
| Broader Community | Residents and commercial stores in Boolaroo and Teralba (~2,000) including roads users and cyclists | |
| Residents along the haulage Route | Approximately 90 residents in Teralba and Barnsley (including those along Racecourse Road, York Street, The Weir Road and Northville Drive) | |
| Employees | Concrush workforce | |
| Local Government | Lake Macquarie City Council (LMCC) | |
| Education and Community Groups | Teralba Public School Barnsley Public School | |
| Local Businesses and Service Providers | Oak Tree Retirement Village Teralba Bowling Club Waterview Aged Care Facility Anglicare CA Brown | |
| Industry | National Strategic Constructions I Can Dig It Excavations Solmer Civil Pty Ltd Jackson Haulage Pty Ltd Lucky's Scrap Metal | |
| Proximal Development | Cockle Creek precinct – Hunter and Central Coast Development Corporation Weemala Residential Development Victoria Street (NSW) Pty Ltd – subdivision Billy's Lookout – McCloy Group | |

| Table 6.4 | Key stakeholder | groups |
|-----------|-----------------|--------|
|-----------|-----------------|--------|

(source: Umwelt, 2024)

6.9.1.2 Social baseline

The social baseline profile has been compiled based on the proposed modification's social locality or 'area of social influence'. The social locality for the proposed modification has been defined at both a localised and regional scale, given the scale of potential social impacts associated with the proposed modification.

A social locality or 'area of social influence' is defined as the area considered to be impacted by a project, based on a range of direct and indirect, tangible and intangible impacts (DPE, 2023). The project site is located in the Lake Macquarie LGA, in the suburb of Teralba. The nearest residential areas include Boolaroo, Barnsley, and Teralba, however, several residential developments have been approved or recently developed in the region. Immediate surrounding transport routes along York Street, Racecourse Road, The Weir Road, Northville Drive have also been included in the social locality. Two neighbours are located within 400 metres of the project site.

Socio-economic profile indicators for the social locality, as defined by ABS boundaries, inform the SIA by providing information on the demographic and societal make-up of the social locality relative to other areas nearby or within the state. This enables a better understanding of how people within the social locality may be impacted by the Project, and how local or site-specific mitigations, controls and opportunities can be developed.

The population around the project site has changed since the SIA was completed by Umwelt in 2018 for the approved project. The updated SIA (Umwelt, 2024) considers these changes, current and anticipated social trends within the locality, as well as the history of the operation.

Since 2020, when the approved project received development consent, the area of Boolaroo and Teralba has seen a rise in residential and infrastructure developments including:

- the continued development of houses within the Bunderra Estate which is a 76-lot residential development with construction starting in 2017/18. This was outlined in the previous SIA as a potential impacted stakeholder
- the Oak Tree Retirement Village (within the Bunderra Estate) located east of the Concrush site was constructed in 2023 with 61 units
- the construction of the Barnsley Weir Bridge which connects Teralba, Killingworth and Barnsley. The Weir Bridge
 opened in July 2022 and is utilised by Concrush for the northern transport route
- the opening of the wholesale store Costco in 2021
- the release of new housing developments including Weemala at the Lake announced in 2023 (east of Concrush), Billy Lookout.

The increase in residential developments in the past four years since 2020, has seen a rise in local population near the project site. More people are also using the Weir Bridge, resulting in increasing traffic along the haulage routes.

Additionally, several other developments have been recently constructed or are currently being considered within the region, which may result in changes to the community, or which may have cumulative effects with the proposed modification (Cockle Creek precinct- Hunter and Central Coast Development Corporation, Weemala Residential Development, Victoria Street (NSW) Pty Ltd, Billy's Lookout- McCloy Group).

6.9.1.3 Community complaints

Concrush maintains a complaints register as an important process management and community engagement tool. The register records any complaints made for each month of the year between December 2015 and May 2024. A total of ten complaints were received in relation to Concrush's operations during this time.

There have been minimal complaints except for 2018, when five were received, mostly relating to water and dust leaving the site. In total, six complaints focused on water, with one reporting dirty water flowing into Cockle Creek, and five relating to road wetting carried out for dust minimisation. The second most common complaint was dust blowing off the site. Another two complaints were received, one relating to odours from diesel fumes and the other regarding concerns about product quality.

6.9.2 Potential impacts

6.9.2.1 Construction

The proposed modification would be carried out generally in accordance with the assessed construction method and within the project site footprint as presented in the EIS and RtS.

As such, potential social impacts would generally be expected to remain consistent with those assessed in the EIS.

6.9.2.2 Operation

Excluding proposed changes to operational hours, the proposed modification does not seek to substantially change the approved project area, but rather improve onsite operations to increase operational capacity to the approved 250,000 tpa in accordance with the existing consent.

Summary of social impacts based on engagement for the SIA

Figure 6.2 illustrates the frequency of social impacts raised throughout community and stakeholder engagement for the proposed modification which has informed the identification and prioritisation of social impacts. The frequency of reported social impacts was determined by whether participants mentioned the impact or rated it between 3 (moderate) to 5 (extreme/transformational) in the survey. Stakeholder raised both positive (coloured green) and negative (coloured blue) impacts relating to the proposed modification.

Impacts to social amenity due to noise, dust and visual and potential health and wellbeing concerns relating to sleep disruption and air quality were the key negative social impacts identified. Key positive impacts however related to increased capacity for green waste, employment and procurement benefits and ongoing opportunities for community investment and support.

The following sections further discuss and evaluate these social impacts, their predicted significance, and outline the proposed mitigation, enhancement or management strategies to address them.



* *N* = 203

Source: Umwelt, 2024

Figure 6.2 Perceived social impacts associated with the proposed modification Table 6.5 expands on the positive and negative impacts raised during engagement and through an assessment of the proposed modification, categorising them according to the social impact categories of livelihoods, community, way of life, accessibility, culture, health and wellbeing, surroundings, livelihood, and decision making systems (including engagement), as outlined in the Social Impact Assessment Guideline (DPE, 2023).

| Matter | Issues raised | Impact assessment | Mitigation/management |
|--------------|---|---|---|
| Way of life | Changes to Sense of Place because of increased operational hours creating a more industrial area | The proposed modification would be within the existing project site and align with the above objectives of the IN1, General Industrial land zoning, as outlined in the Lake Macquarie LEP 2014. | Concrush continue to manage a complaints register and investigate and manage noise complaints as they occur in a rapid manner. The current Operational Noise Management Plan will be updated in line with the proposed modification and will include sharing of noise monitoring results, via the Concrush webpage. Implementation of noise monitoring and on-site lighting will be in line with Australian standards and will provide community stakeholders with access to noise information which aims to increase community understanding about noise monitoring mitigations and results. |
| Surroundings | Reduced air quality impacting social amenity | The proposed modification would be consistent with the activities assessed as part of the approved project (that is, staged expansion and increase in the processing capacity of the existing resource recovery facility to 250,000 tonnes per annum (tpa) of general solid waste (non-putrescible)) although occurring over extended operational hours. Therefore, a significant increase in dust emissions from the project site is not expected. | Potential dust impacts will be managed through the implementation of the Air Quality Management Plan (AQMP). Further measures to be implemented to manage air quality impacts from the site include: use of atomising water sprays on crushing and screening equipment two coat seal on exit haul road (from the wheel wash to the site exit point) minimising drop heights between the extractor and loader bucket maintenance of a clean entry ingress, dust suppression of stockpiles by water spraying on an as needed basis (such as average wind speed higher than 18 km/h from a north or north westerly direction) and the cessation of dust emitting activities to occur when there are average wind speeds greater than 36 km/h construction of a wheel wash on at the site exit to reduce potential dust from exiting the site. |

 Table 6.5
 Summary of social impacts (positive and negative) raised during engagement for the SIA, impact assessment and proposed mitigation measures

| Matter Issu | sues raised | Impact assessment | Mitigation/management |
|-------------------------------|---|--|--|
| Char impa incre hour | hanges to noise npacting amenity due to crease in operational ours | Existing noise has not been assessed as part of the SIA, though it is noted that Concrush undertakes quarterly noise monitoring and results are uploaded to the Concrush website for public viewing. Concrush's 2024 Quarter 2 Noise Monitoring (RCA, 2024) report found that the Concrush site was only briefly audible during intermittent evening activities (i.e. 6 pm to 10 pm) from the NCA1 receptor. The noise assessment undertaken during Q2 2024 found that the Concrush site complied with noise targets at all the monitoring stations. Based on the findings of the updated NIA (RCA, 2024) for the proposed modification: unloading activities can occur 24 hours a day without being expected to result in noise impacts to nearby sensitive receivers crushing and processing ('screening') activities can occur at the project site during the evening period under northerly and easterly wind conditions without being expected to result in noise impacts to nearby sensitive receivers noise walls along the eastern and southern boundaries are not required to achieve compliance with the adopted daytime criteria and would not serve to mitigate noise from proposed evening or night-time operations. | Concrush will continue with the existing noise monitoring program to assess the effectiveness of the proposed mitigation measures in achieving the predicted noise levels. Concrush will undertake initial noise monitoring of the day, evening and night- time activities to compare the actual noise levels against the predicted noise levels. Concrush will not use crushers after 10 pm and ensure truck engines are turned off while waiting on site during night-time hours. Concrush will engage with the two nearest neighbours (NCA 1) regarding property mitigation measures to reduce noise impacts. Ongoing regular engagement with nearby neighbours to understand feedback on the effectiveness of these mitigation measures will be carried out by Concrush. It is recommended that Concrush implement a notification system whereby residents are notified by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification. |

| ter Issues raised Impact assessment | Mitigation/management |
|--|--|
| Reduced Visual amenityThe proposed modification would take place within existing project site footprint; therefore, the visual impacts of the area are not expected to vary from the assessed in the approved EIS (Umwelt, 2018a).The use of additional artificial lighting required to accommodate additional evening and night-time operations is not expected to have major impacts a would be managed within existing mitigation meas contained in the EIS. | Concrush may engage with nearby residents on potential visual impacts of the proposed modification. Concrush may consider additional tree planting and landscaping onsite, and collaborating with local residential developers to develop lighting mitigation strategies for future residents if required. |
| Reduced safety at night due to changes in trafficIt is noted that Concrush's existing Traffic Manage Plan (TMP) continues to be implemented in line w approved project and will be updated to accommod the proposed modification.In January 2024, Council stated that they have no comment or issues with the traffic impacts on Racecourse Road and are satisfied that Concrush's Traffic Management Plan (TMP) is being adequated | Concrush will continue to update the TMP for the site, as required. |
| comment or issues with the traffic impacts on Racecourse Road and are satisfied that Concrush's Traffic Management Plan (TMP) is being adequate implemented. | |

| Matter | Issues raised | Impact assessment | Mitigation/management |
|--------|--|---|---|
| | Decreased safety of pedestrians and cyclists because of increased traffic | The proposed modification would not result in overall increased traffic movement, rather proposing changes in the operational hours in which traffic moves in and out of the site, with unloading and dispatch of trucks to be allowed up to 24 hours per day, seven days per week. The Traffic Impact Statement (Better Transport Future, 2018) for the approved project found that traffic around the site would continue to operate at acceptable levels. Therefore, as the proposed modification is not increasing the production rate (of 250,000 tonnes per annum) or the maximum number of trucks per hour, it is not expected to increase traffic congestion or result in reduced road access impacts for local road users. In January 2024, Council stated that they have no comment or issues with the traffic impacts on Racecourse Road and are satisfied that Concrush's Traffic Management Plan (TMP) is being adequately implemented. | Concrush will continue to update the TMP for the site, as required. Concrush will continue to engage with LMCC as required. LMCC may choose to pass on community concerns relating to road and pedestrian safety. |

| Matter | Issues raised | Impact assessment | Mitigation/management |
|-------------------------|---|--|---|
| Environmental Values | Changes to valued environmental assets | The proposed modification would be carried out within the existing site footprint; therefore, biodiversity impacts are not expected to differ from those assessed in the EIS (Umwelt, 2018a). While night-time operations may result in light and noise impacts to wildlife, these impacts are expected to be minor. | Concrush will continue to manage water quality, discharge and leachate at/from the project site in accordance with existing operational management plans that are required to be implemented at the site. These plans have or will be updated and approved to accommodate the proposed modification. |
| | | The proposed modification is not expected to cause changes that would impact on flooding. | |
| | | The increase in storage and processing capacity of the onsite garden and wood waste has the potential to impact water quality in the area through nutrient run off. Water quality monitoring for nutrients in the existing water management system found that the current system is performing to the design expectations, and that an increase in the amount of green waste stored is not likely to increase nutrient concentrations in green waste catchment leachate or runoff. The increase in the rate of processing of green waste is likely to generate additional nutrient load; however, modelling has concluded that | |

| Matter | Issues raised | Impact assessment | Mitigation/management |
|-------------------------|--|---|---|
| Health and wellbeing | Reduced air quality causing potential decrease to respiratory health | given that the proposed modification would not increase the project's operational footprint, additional impacts to air quality are not likely to arise. In the EIS for the approved project, the Air Quality Impact Assessment, found that predicted dust concentrations of PM10 and PM2.5 were below the maximum criteria of dust concentrations at the maximum production rate of 250,000 tpa. | Monitoring for deposited dust and PM10 emissions will be undertaken within at least a period of 24 months following the commencement of the proposed modification. Monitoring will ensure PM10 emissions are within compliance levels and dust modelling predictions. Dust control and suppression measures will be implemented at the project site and will include: atomising water sprays on crushing and screening equipment two coat seal on haul roads minimisation of height between excavator and loader dust suppression of stockpiles by water spraying during average winds greater than 18 km/h maintenance of clean entry driveway the use of a water cart to water roads and hardstand areas to assist in the control of fugitive dust emissions during average winds greater than 18 km/h cessation of dust emitting activities during average winds greater than 36 km/h from a north or north westerly direction construction of a wheel wash as part of the proposed modification. Concrush will continue to maintain a complaints register to address all environmental concerns, including dust pollution, as they arise. The Air Quality Management Plan (AQMP) will be updated to accommodate the proposed modification. The AQMP will include preventative measures to mitigate air and any odour pollution. Assessment of the effectiveness of mitigation measures will also occur periodically as outlined in the AQMP. Concrush will engage with stakeholders to reassure them that compliance levels will include annual updates to proximal neighbours regarding compliance and outcomes of environmental monitoring as part of the proposed modification. |
| Matter | Issues raised | Impact assessment | Mitigation/management |
|------------|--|---|--|
| | Potential for disruption of sleep patterns | Noise monitoring results (RCA, 2024) concluded that unloading activities were only briefly audible at NCA 1. Night-time unloading activities were modelled and found to comply with noise targets at all receivers indicating that unloading activities can occur 24 hours a day | Concrush will continue with the existing noise monitoring program to assess the effectiveness of the proposed mitigation measures in achieving the predicted noise levels. Concrush will undertake initial noise monitoring of the day, evening and night- time activities to compare the actual noise levels against the predicted noise |
| | | without being expected to generate noise impacts at nearby sensitive receivers. Noise exceedances may occur during loading at NCA 1 and NCA 2 for the majority of significant wind directions, and crushing may only occur under northerly or easterly wind conditions without being expected to generate noise impacts at nearby sensitive receivers. The NIA recommends that operating periods only occur at night for unloading. In addition, crushing and loading/ unloading can only occur during the evening during the northerly and easterly wind only. Loading only activities | levels. Concrush will not use crushers after 10 pm and ensure truck engines are turned off while waiting on site during night-time hours. Concrush will engage with the two nearest neighbours (NCA 1) regarding property mitigation measures to reduce noise impacts. Ongoing regular engagement with nearby neighbours to understand feedback on the effectiveness of these mitigation measures will be carried out by Concrush. It is recommended that Concrush implement a notification system whereby residents are notified by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the |
| Livelihood | Decrease in land and property values | are not to occur during night-time hours. In the past 12 months from May 2024, Boolaroo has seen a 22.3% increase in average house prices while Teralba (-4.2%) and Barnsley (-2.3%) have seen a decrease. The significant increase in house prices in Boolaroo has been linked to the change from being associated with the Pasminco Smelter to a suburb with major retailers, homes, school and parks (Rockman, 2023). | Concrush will continue to maintain a strong company reputation within the local community through fostering greater acceptance of its ongoing or modified operations. Part of this strategy includes improving access to quarterly environmental monitoring results, which will serve as a transparent demonstration of Concrush's continued compliance with EPA regulations. |

| Matter | Issues raised | Impact assessment | Mitigation/management |
|---------|--|---|--|
| | Increase in local employment and procurement | The proposed modification would seek to increase operational hours, therefore would increase employment opportunities to an estimated additional 3 FTE workers. | |
| | | Majority of participants rated this as a minor positive impact. However, many stakeholders considered the additional employment to not be significant enough to outweigh the perceived negative social impacts of the proposed modification. | |
| | Community investment and support | The proposed modification may enable Concrush to continue to support local community groups/ organisations through sponsorships, considered a minor positive impact to participants. | |
| | | Concrush currently sponsors local sporting teams, the local bowling club, Rotary club and more. Concrush sees 'sponsorship of sporting teams as particularly important as we believe sport and recreation builds, stronger, healthier, happier and safer communities.' (Concrush, n.d.). | |
| Culture | Impacts to Aboriginal cultural heritage | AHIMS searches completed in September 2023 did not identify known Aboriginal sites or places within the Concrush site, with a buffer of 200 metres. The proposed modification would be carried out in previously disturbed areas, and due to the lack of any known Aboriginal sites or places at the project location, additional impacts on Aboriginal heritage values are not expected to occur. | Concrush will ensure that its employees and contractors are aware that it is an offence under Section 86 of the <i>National Parks and Wildlife Act 1974</i> to harm or desecrate an Aboriginal object unless that harm or desecration is the subject of an Aboriginal Heritage Impact Permit. |
| | | | In the unlikely event that an Aboriginal object or objects are uncovered during the proposed construction works, ground disturbance works should cease within 20 metres of the object and an archaeologist, DCCEEW and the local Aboriginal parties should be contacted to determine an appropriate management strategy. |

| Matter | Issues raised | Impact assessment | Mitigation/management |
|--------------------------------------|---|--|---|
| Engagement and decision making | Inability to contribute to decision-making systems | Community engagement mechanisms were adapted and increased as members of the local community advocated for more opportunities to provide input into the proposed modification. Due to the level of interest in the proposed modification, increased transparency and effective community engagement with stakeholders regarding the outcomes of the assessments for the proposed modification, and particularly those related to key impacts such as dust, air, and noise is a key. The number of interested stakeholders in the proposed modification, and the fact that many people felt that they don't really have a substantive say in the decision-making process, underlines the importance of an increased focus on community engagement and information sharing in the years ahead. | Any changes to Concrush operations will be promptly communicated to ensure key local stakeholders are informed of these changes directly and have a chance to understand how mitigations and controls are being used to ensure no or minimal impact. If there are considerable and ongoing concerns relating to the operation of the proposed modification, a Community Consultation Committee (CCC) or a Social Impact Management Plan (SIMP) may be considered and implemented. |
| | Distrust regarding the assessment process | Concrush uploads environmental tests such as noise, dust, air quality, independent environmental audits and other environmental reports to their website which provide outcomes of the tests, the occurrence of each test, location of testing and EPA regulation compliance/breaches. | Concrush will continue to upload environmental tests such as noise, dust, air quality, independent environmental audits and other environmental reports to their website. Concrush may consider also sharing annual summaries of environmental monitoring outcomes, and more regular updates on operations generally. In the event of an exceedance recorded, engagement with the relevant stakeholders will occur to acknowledge the exceedance and discuss the mitigations implemented. Concrush may consider providing a phone number for complaints on signage at the front of the project site. |

| Matter | Issues raised | Impact assessment | Mitigation/management |
|--|---------------|--|--|
| Concerns about cumulative impacts and a lack of information | | It is acknowledged that the proposed modification will not have cumulative environmental impacts relating to the remediation of the Pasminco site, but that the proposed change in operations has increased residents' health and wellbeing concerns. Cumulative impacts are assessed in Section 6.15. The proposed modification and approved developments, including the Costco, Metromix modifications and the residential developments to the east of Main Street Boolaroo, are not expected to result in additional impacts than those already outlined for those people living closer to the proposed modification. This is in relation to noise, dust, traffic, amenity and other impacts discussed above. Due to the nature of the proposed modification, and the nature of the surrounding proposed and approved developments, the developments are considered to represent typical background growth in traffic movements in the area. No significant cumulative impacts associated with the proposed modification is expected. Cumulative noise and vibration impact to sensitive receivers, such as the aged care development, have been considered in the relevant noise section (see Section 6.1) and no further potential significant cumulative noise and vibration impacts were identified. | Concrush will continue to monitor environmental outcomes quarterly and continue to ensure results are publicly available. The project site will continue to be operated in compliance with EPA licencing and approvals and will need to provide and demonstrate ongoing community engagement regarding environmental compliance. |

6.9.3 Mitigation and management

Mitigation and management measures detailed in Table 6.5 will be implemented during operation of the proposed modification.

6.10 Visual

A visual impact assessment was included as part of the EIS for the approved project and is summarised in this section. Potential impacts associated with the proposed modification have also been considered in this section.

6.10.1 Existing environment

The existing environment at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS.

6.10.2 Potential impacts

The EIS determined the main change to the visual environment as a result of the approved project would be the minor increase in size of the project footprint, within the approved project site. The activities, plant and equipment, stockpiles and vehicles present at the site were considered to be consistent with the existing operations, and would generally remain the same, however would be present over a larger area.

The proposed modification would be carried out within the assessed project site footprint and generally, the potential impacts to the visual character of the area would be expected to remain consistent with those assessed in the EIS.

6.10.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method and within the project site footprint as presented in the EIS and RtS.

6.10.2.2 Operation

Additional artificial lighting would be required during evening and night-time operations, proposed as part of the modification. Potential impacts to the visual environment as a result of lighting during these periods may occur, however impacts are expected to be minor.

Potential impacts associated with lighting during evening and night-time periods as part of the proposed modification would be managed through the implementation of mitigation measures detailed in the EIS and additional mitigation measures.

6.10.3 Mitigation and management

In accordance with the EIS (Umwelt, 2018a), the following management measures will be implemented as part of the approved project:

 a landscaped two metre high earth bund will be established along the eastern boundary (southern half) of the site to complement the existing landscaped earth bund present along the northern half of the eastern site boundary.

To manage potential visual impacts associated with the proposed modification, the following management measure will be implemented:

outdoor lighting required during extended operational hours at the project site will be installed and/or operated in accordance with *Australian Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting* (Council of Standards Australia, 1997).

6.11 Contamination

The proposed modification does not involve an increase in the operational footprint or changed construction methodology to the approved project and as such, additional impacts to soils and contamination at and surrounding the site are not expected. An updated contamination assessment would not be required for the proposed modification.

6.11.1 Existing environment

The existing environment at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS.

6.11.2 Potential impacts

6.11.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method and within the project site footprint as presented in the EIS and RtS.

6.11.2.2 Operation

The proposed modification is not expected to result in changes to potential soils and contamination impacts during operation as the proposed modification does not seek to expand the operational footprint or nature of processing operations (as presented in the EIS and RtS) at the site.

6.11.3 Mitigation and management

As the proposed modification is not expected to result in additional impacts to soils and contamination conditions at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.12 Waste management

The proposed modification does not involve an increase in the operational footprint or changed construction methodology to the approved project and as such, additional impacts to waste streams and waste management at and surrounding the site are not expected.

6.12.1 Existing environment

The predicted waste streams and types generated at the site as part of the approved project is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint, and in accordance with the construction method as presented in the EIS and RtS.

6.12.2 Potential impacts

The EIS determined the main waste streams generated at the project site would be General Solid Waste (putrescible and non-putrescible) including limited construction waste, general waste and recyclable products.

6.12.2.1 Construction

The proposed modification would be carried out in accordance with the assessed construction method, and within the site footprint as presented in the EIS and RtS. Waste streams are expected to be limited to General Solid Waste (putrescible and non-putrescible) including limited construction waste and general waste from construction personnel. Additional potential impacts associated with waste streams and waste management at the site are not expected.

6.12.2.2 Operation

The proposed modification is not expected to result in changes to potential waste management impacts during operation as the proposed modification does not seek to expand the operational footprint or general nature of processing (as presented in the EIS and RtS) at the site.

Waste streams from staff onsite are expected to be limited to general solid waste (putrescibles) associated with food waste and waste from litter bins from employees, and general solid waste (non-putrescible) associated with recyclable products such as glass, paper, plastic and cardboard.

In terms of operating the facility, the proposed modification would seek to modify the processing and storage capacity of garden and wood waste at the site, at any one time. The proposed modification to capacities at the project site would result in the increased tonnage of garden and wood waste stored and processed at the project site, which would increase the quantities of garden and wood waste destined for re-use as a recycled product. The increased capacities of garden and wood waste at the project site and managed in accordance with the existing management of waste and recycled products at the project site.

The proposed modification would be carried out within the assessed project site footprint and generally in accordance with the construction method presented in the EIS and RtS. Additional potential impacts associated with waste streams and waste management at the site are not expected.

6.12.3 Mitigation and management

As the proposed modification is not expected to result in additional impacts to waste streams and waste management at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.13 Greenhouse gases

The proposed modification does not involve an increase in the operational footprint or change to construction methodology for the approved project. An updated greenhouse gas and energy assessment (GHGEA) would not be required for the proposed modification.

6.13.1 Existing environment

The method, data and assumptions for greenhouse gases estimated at the site is as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint and in accordance with the construction method as presented in the EIS and RtS.

6.13.2 Potential impacts

The EIS identified the potential impact of the approved project to be quantified as the increase in emissions over the existing operations.

6.13.2.1 Construction

The proposed modification would be carried out generally in accordance with the assessed construction method and within the project site footprint as presented in the EIS and RtS.

As such, potential construction greenhouse gas emissions would generally be expected to remain consistent with those assessed in the EIS.

6.13.2.2 Operation

The proposed modification would not result in an increase to traffic entering and exiting the project site, despite the extended operational hours to allow for deliveries (unloading) and dispatch of trucks. The proposed modification would not result in increases to the traffic movements into and out of the project site, rather the modification to operational hours (with unloading and dispatch of trucks proposed 24 hours per day, seven days per week as required) would extend the potential hours that the nominated traffic may move into and out of the project site. The modification to operational hours is proposed to allow for flexibility of operations at the project site, and to respond to market demand for Concrush's recycled products.

Potential impacts associated with the operation of plant and equipment for crushing activities into the evening and nighttime periods would not be expected to significantly increase the assessed Scope 1, Scope 2 and Scope 3 emissions generated from the site, as assessed within the EIS.

It is noted that the proposed modification, to allow processing and stockpiling across the whole central portion of the site, aims to reduce the requirement for plant and equipment to travel more freely around the site to access stockpiles for processing, stockpiling and unloading activities. This improved site operation and efficiency would have a positive impact to reduce emissions of plant and equipment during the site's operation.

It is also noted that, while not quantified within the EIS or this modification report, Concrush seeks to make a positive contribution towards the overall reduction of greenhouse gas emissions through the re-purpose and re-use of its recycled products. The recycled nature of Concrush products reduces the demand for timber/forest resources and aggregate/concrete materials that would otherwise be required to produce similar products.

6.13.3 Mitigation and management

In accordance with the EIS (Umwelt, 2018a), management measures are not required to be implemented as part of the approved project.

To manage potential greenhouse gas emissions associated with the proposed modification, the following management measures will be implemented:

- minimise vehicles lining up at weighbridge, as far as practicable, to reduce idling times
- regularly check and maintain in a proper and efficient condition all plant and machinery
- switch off plant and machinery when not in use, so it is not left idling.

6.14 Hazard and risk

A preliminary risk screening was carried out for the EIS for the approved project to determine if a preliminary hazard assessment is required. The proposed modification does not involve an increase in the operational footprint or change to the materials to be stored and processed at the site. As such, increased hazard or risk associated with materials at the site are not expected, and an updated preliminary risk screening would not be required for the proposed modification.

6.14.1 Existing environment

Potential hazards and risks at the site are as described in the EIS for the approved project, and as constructed generally in accordance with the consent. The proposed modification would be carried out within the project site footprint, as presented in the EIS and RtS, and would not include additional types of materials to be stored and processed at the site.

6.14.2 Potential impacts

The EIS concluded that none of the hazardous materials to be stored at the project site are above relevant screening thresholds and therefore a preliminary hazard assessment was not required. Additionally, the number of transport movements for relevant classes of hazardous materials would not exceed relevant thresholds, as the proposed modification would not be expected to increase traffic movements to and from the project site, therefore a route evaluation study would not be required. The proposed modification would not involve the receival or processing of hazardous materials.

The proposed modification to increase the storage and processing capacity of green waste at the project site has the potential to increase risk and hazards associated with stockpile management and combustion. As part of existing operations at the project site, Concrush implements practices and measures to adequately manage stockpiles and reduce potential combustion risk associated with storage of green waste product onsite (for example, aeration of green waste stockpiles). Concrush would continue to implement stockpile and waste product management practices for the increased product to be stored at the project site, to manage the risk of combustion and other hazards.

The proposed modification would be carried out within the project site footprint, as presented in the EIS and RtS, and would not include additional types of materials to be stored, processed or used at the site. As such, the proposed modification is not expected to increase hazard or risk associated with materials stored, processed and used at the site.

6.14.3 Mitigation and management

As the proposed modification is not expected to increase the potential hazard or risk at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the approved and modified project.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

6.15 Cumulative

Proposed and/or recently approved developments within the Teralba local area were taken into consideration in determining the potential cumulative environmental impacts of the approved project. Further assessment of proposed or approved developments (occurring since the approved project was assessed) surrounding the project site have been considered in this section.

6.15.1 Existing environment

Proposed or recently completed developments surrounding the site are as described in the EIS for the approved project. The proposed modification would be carried out within the project site footprint as presented in the EIS and RtS.

The Bunderra Estate (a residential housing estate) and an associated seniors housing subdivision, located on the eastern side of Cockle Creek, Boolaroo have now been developed.

The Metromix Teralba Quarry, off Rhondda Road, currently has an approved development application for the replacement of the existing aged asphalt plant with a new asphalt plant. The Metromix Teralba Quarry is an existing development. It is noted that modifications to the consent (relating to materials and production quantities) have been submitted and approved since authoring the EIS.

Costco Lake Macquarie, approved by the Hunter & Central Coast Regional Planning Panel in December 2020, is operational at 2A Main Street, Boolaroo, about 500 metres east of the approved project. The development has been assessed, approved and constructed since authoring the EIS.

Weemala Residential Development is a staged residential subdivision located at the former Pasminco Cockle Creek Site.

Other proposed and approved developments in the vicinity of the project site include various subdivisions developments to the east and the south west. A number of residential subdivisions have been approved and are in construction east of Five Island Road/Lake Drive Boolaroo. Other residential subdivisions to the south west of the project site would be located over one kilometre from the project site and are not expected to be impacted by, or impact, the approved project and proposed modification.

6.15.2 Potential impacts

Proposed and approved residential developments, including Costco, Metromix modifications and residential developments to the east of Five Island Road/Lake Drive Boolaroo (for example, Weemala Residential Development), are not expected to result in additional sensitive receivers relative to the project site or proposed modification as the developments are beyond the nearest current sensitive receivers captured in operational noise monitoring.

Traffic and transport impacts during construction may occur as a result of the cumulative operation of the developments surrounding the project site. Impacts would be short-term and minor, and traffic at the project site would continue to be managed in accordance with Concrush's TMP.

Traffic impacts during operation would not be expected to result in significant cumulative impacts as the proposed modification does not seek to increase traffic numbers entering and exiting the project site. Rather, the proposed modification seeks to extent the operational hours where trucks can enter/exit and unload at the project site. Due to the nature of the proposed modification (i.e. a modification to existing development), and the nature of the surrounding proposed and approved developments, the developments are considered to represent typical background growth in traffic movements in the area. Therefore, no significant cumulative impacts associated with the proposed modification is expected.

Cumulative noise and vibration impact to sensitive receivers, such as the aged care development, have been considered in the relevant noise section and no potential significant cumulative noise and vibration impacts were identified.

6.15.3 Mitigation and management

As the proposed modification is not expected to result in additional cumulative impacts at or surrounding the project site, mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential cumulative impacts associated with the approved and modified project, and surrounding proposed or approved developments.

A full list of mitigation and management measures relating to the approved project is included as Appendix G.

7 Justification of modified project

The proposed modification seeks consent for improvements to streamline operations and maintain environmental outcomes at the project site.

The proposed modification includes improvements to site operations, and modification of the storage and processing capacity limits for garden and wood waste at the site, at any one time. The proposed modification seeks to modify the 5,000 tpa processing limit to 10,000 tpa and modify the 200 tonnes at any one time storage limit to 2,000 tpa of green waste at the site, at any one time.

Other elements of the proposed modification to site operations include modifying the internal site layout to increase the efficiency of operations, modifying hours of operation at the site to allow for crushing and processing in the evening period between 6:00 pm and 10.00 pm Monday – Saturday (resulting in crushing and processing between 7:00 am and 10:00 pm) permitted during northerly and easterly winds only, and unloading and dispatch of trucks at the site 24 hours seven days per week including in the night-time period (to meet market demand).

The proposed modification would require modifying SSD-8753 under Section 4.55(2) of the EP&A Act, considered substantially the same development as the approved project.

Potential environmental impacts as a result of carrying out and operating the proposed modification have been considered within this modification report. The proposed modification is not expected to result in impacts that are significantly greater than those assessed for the approved project in the EIS and RtS.

Noise modelling has been carried out to include stockpiles onsite (which would act as noise barriers) and without stockpiles onsite (including green waste), for completeness. The scenario where there are no stockpiles onsite has not been known to occur and would be unlikely to occur as stockpiles are a key part and product of the Concrush business.

Based on noise modelling with stockpiles, night-time unloading activities were found to comply with noise targets at all receivers. This is consistent with RCA's attended monitoring observations carried out on 30 October 2023. The assessment supports the proposed modification for Concrush to carry out unloading activities 24 hours a day, as modelling indicates that night-time unloading would not be expected to cause noise impacts at sensitive receivers.

Modelling without stockpiles identified that night-time unloading activities has the potential to lead to a minor exceedance of the night-time noise criteria and sleep disturbance criteria for NCA 2 receivers, under northerly, westerly, south-westerly and north-westerly wind conditions. However, the modelled noise contribution at NCA 2 would be significantly lower than the noise contribution measured from nearby road traffic and is therefore unlikely to cause a noise impact at these receivers.

Based on noise modelling for both stockpile and no stockpile scenarios, loading activities would be expected to result in noise exceedances at NCA 1 and NCA 2. Loading would not be permitted during the night-time period.

Loading and unloading activities during the evening period have been approved as part of the approved project.

The NIA (2024) found that crushing could only occur under northerly or easterly wind conditions without resulting in expected noise exceedances to nearby sensitive receivers, based on assessment of crushing and processing occurring in the evening period at both the southern and northern "raw material stockpile, processing areas and processed material stockpile" areas, and the presence of stockpiles at the site. Based on modelling that excludes stockpiles onsite, crushing and processing in the evening period has the potential to result in noise level exceedances to sensitive receivers in NCA 1, NCA 2, and NCA 4. The "no stockpile" scenario is very unlikely to occur onsite.

Modelling of full operations at the project site during the day time period with stockpiles onsite as a noise barrier found (consistent with the results of routine compliance noise monitoring) that noise formal barriers along the eastern and southern boundary would not be required to minimise noise impacts to sensitive receivers during full operations in the day time period.

Noise levels during daytime operations without stockpiles are predicted to exceed the daytime criteria for NCA 2 and NCA 3 under westerly and north-westerly wind conditions. This "no stockpile" scenario is very unlikely to occur onsite. Additionally, the discrepancy between the modelled noise exceedances presented in Table 20 of the NIA (Appendix G) and quarterly compliance monitoring undertaken since 2020 that indicate noise level exceedances have not occurred at sensitive receivers surrounding the project site support RCA's assertion that a "no stockpile" scenario is very unlikely. Thus, the NIA supports removal of consent Condition B45.

The assessment has been based on the existing plant at the project site, and as diesel plant is replaced with quieter plant, crushing and processing noise levels would be expected to decrease. The assessment notes that Concrush are committed to a process of decarbonisation and continue to look for opportunities to replace old plant with newer, cleaner plant (such as the new electric mobile crusher used at the site). As newer technology is adopted, and is quieter, operational noise levels are expected to trend downwards as older plant are replaced. Noise generated during operations at the project site, including potential impacts associated with the proposed modification, would be minimised and managed through the implementation of mitigation measures as outlined in Appendix G.

Potential visual impacts may be experienced as a result of lighting during evening and night-time periods as part of the proposed modification. Potential impacts would be managed through the implementation of mitigation measures as outlined in Appendix G.

The proposed modification to operations is not expected to increase traffic movements to and from the project site. The proposed modification would not seek to increase the traffic movements into and out of the project site, rather the modification to operational hours would extend the potential hours that the nominated traffic may move into and out of the project site.

Overall, the road network is expected to continue to operate at acceptable levels. Mitigation and management measures identified within the EIS for the approved project are considered adequate to manage potential impacts associated with the proposed modifications. The current TMP for the site will be updated to accommodate the proposed modification.

The proposed modification, including the increased processing capacity at the project site, is not expected to result in impacts to water quality at or offsite provided the green waste processing and storage areas do not increase in size, and monitoring and mitigation measures are implemented (Engeny, 2023). The proposed modification would result in the increase the height of stockpiles (up to 10 metres), however would not increase size of storage area in surface area or introduce additional types of products to the project site. Stockpiles would remain within the existing 'Processed Material Stockpiles' and 'Raw Material Stockpile and Processing Area' areas. Mitigation measures would include provision for Concrush to install water tanks at the project site to capture rainwater for use as part of the project site's water management system, if required and identified through ongoing monitoring.

The proposed modification would not be expected to impact biodiversity values at or surrounding the project site, as the proposed modification would not expand the operation footprint of the project site. Impacts to Aboriginal and non-Aboriginal heritage values at and surrounding the project site are not expected as a result of the proposed modification. The proposal is not expected to impact soils, increase contamination risk, increase or change hazards or other risks, or alter waste management processes currently in place as part of the approved project at the project site.

The SIA prepared for the proposed modification (Umwelt, 2024) identified potential negative social impacts associated with the proposed modification as social amenity due to noise, dust and visual and potential health and wellbeing concerns relating to sleep disruption and air quality. Key positive impacts however related to increased capacity for green waste, employment and procurement benefits and ongoing opportunities for community investment and support.

The provision of increased processing during evening and night-time periods, and the increased processing and storage capacity of green waste at the site would have positive social outcomes for the broader local economy by recycling, for re-use, products that would potentially be destined for landfill. The capacity to store and process a larger quantity of garden and wood waste at any one time also allows Concrush to scale up and down production to meet market demands through peak and trough periods. This increase in storage and processing capacity of green waste at the site, for recycling as useful product, would also reduce green waste destined for landfill in the LGA.

Current operational plans would be updated to accommodate the proposed modification and minimise or manage potential off-site impacts to surround sensitive receivers. Concrush would continue to engage with stakeholders and residents surround the project site to keep them informed about the proposed modification. Ongoing regular engagement with nearby neighbours would be carried out by Concrush to understand feedback on the effectiveness of mitigation measures implemented for the approved project and the proposed modification. Concrush will continue to maintain a complaints register to record and address all concerns as they arise. Concrush may look to update their website to notify nearby residents of night-time operations prior to commencing, with the option to opt into receiving an email notification.

The proposed modification to operations and layout at the project site is not expected to result in significant environmental impacts. The proposed modification would not result in significant impacts on Commonwealth listed threatened species and ecological communities or other Matters of National Environmental Significance, and does not require approval under the EPBC Act.

8 References

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9 Limitations

This Report is provided by WSP Australia Pty Limited (*WSP*) for Concrush Pty Ltd (*Client*) in response to specific instructions from the Client and in accordance with WSP's proposal dated August 2023 and agreement with the Client dated 28 August 2023 (*Agreement*).

9.1 Permitted purpose

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The services undertaken by WSP in preparing this Report were limited to those specifically detailed in the Report and are subject to the scope, qualifications, assumptions and limitations set out in the Report or otherwise communicated to the Client.

Except as otherwise stated in the Report and to the extent that statements, opinions, facts, conclusion and / or recommendations in the Report (*Conclusions*) are based in whole or in part on information provided by the Client and other parties identified in the report (*Information*), those Conclusions are based on assumptions by WSP of the reliability, adequacy, accuracy and completeness of the Information and have not been verified. WSP accepts no responsibility for the Information.

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Appendix A Landowners consent letter





Postal: P O Box 130 Boolaroo NSW 2284 Phone: 02 49581271

B & S SCRAP METALS PTY. LTD. 21 Racecourse Rd N.S.W 2284 ABN. 77001166025

B & S SCRAP METALS PTY LTD

21 RACECOURSE ROAD, TERALBA, NEW SOUTH WALES, 2284

13 October 2023

CONSENT TO LODGE

NSW Department of Planning and Environment

4 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150

Dear Sir/Madam,

Owners consent to lodge an application for modification of the State Significant Development (SSD) 8753, relating to Concrush Pty Ltd operations at 21 Racecourse Road, Teralba, NSW (Part Lot 2, DP220347).

As the owner of the land to which this application relates, I grant permission for WSP (on behalf of Concrush Pty Ltd) to submit an application for the modification to SSD consent relating to the site. I grant permission for WSP and Concrush Pty Ltd to submit and discuss the application with the Department of Planning and Environment and other government agencies, as required, on our behalf.

I note that I, Sabina Helen Dryden, sign this letter under delegated authority as Director.

Yours sincerely,

Sabina Helen Dryden Director B & S SCRAP METALS PTY LTD ('LUCKY'S SCRAP METALS') 21 RACECOURSE ROAD, TERALBA, NEW SOUTH WALES, 2284

02 4958 1271

helgadryden@hotmail.com

Appendix B Updated project description



B1 Proposed project

The project description presented in this Appendix has been prepared based on the project description for the approved project as presented in the Environmental Impact Statement (EIS) (Umwelt, 2018a), and the Response to Submissions (RtS) (Umwelt, 2019). These documents form the project description for the approved project.

Modifications to the approved project description, as proposed as part of this modification report, are indicated **in bold text.**

Modifications or project elements that are proposed to be removed from the approved project description, are indicated using strikethrough text.

B1.1 The project

B1.1.1 Proposed operations

Concrush proposes a gradual increase to the production capacity in line with market demand up to 250,000 tonnes (t) of waste per annum and an increased storage capacity to accommodate the proposed levels of production. It is anticipated that the volume of materials recycled and products sold would gradually increase over a period of time up to the maximum production level of 250,000 tonnes per annum (tpa). Green waste storage inventories would be maintained below 1,000 t and the processing rate would be no greater than 10,000 tpa. The daily and weekly volume of waste through the site would be dependent on market demand and would vary from day to day and week to week. However, the possible maximum daily volume based on peak traffic movements and assuming truck and dog capacity would be approximately 5,800 t and therefore weekly maximum throughput would be **approximately** 34,800 t.

The Project would require a capital investment value of approximately \$1.1 million (estimated about \$300, 000 for the proposed modification) excluding mobile equipment over a likely 5 year period, and would increase the amount of building and construction waste able to be recycled in the Lake Macquarie Region. This would reduce the volume of this type of waste potentially being sent to local landfills including Awaba and Summerhill. The Project would contribute towards achieving the objectives of the NSW Government's *Waste Avoidance and Resource Recovery Strategy* 2014 - 21.

A quantity surveyor's estimate of the built elements of the Project was provided in Appendix C of the EIS.

The Project would include increasing the area of the recycling facility as well as changes to the existing site layout but would retain the existing operational activities described in Section 2.4 of the EIS.

The existing site would increase in area by 2.4 hectares for a total Project site area of 4.8 hectares. The majority of the Project site has been previously disturbed, however the Project would require the removal of some planted landscape trees and some grasses to accommodate the additional stockpiling/processing areas.

A description of the individual elements of the proposed Project including additional plant and equipment are summarised in Table B.1 and shown on Figure B.1 and Figure B.2.

Table B.1 Proposed project components

| Component | Description |
|-------------------------------------|---|
| Hardstands | Hardstands will be constructed in material processing areas and stockpile areas (will require some site levelling). Hardstands will consist of 200 mm thick recycled roadbase). Internal access roads will have a two coat seal. |
| Material processing areas | Processing areas for the crushers and screens, stockpiles of raw materials and |
| Raw Materials Stockpiles, Processed | stockpiles of processed material. |
| Material Stockpiles, and Processing | |
| Waste and Product stockpile areas | Waste and product stockpiles established with a stockpile height of up to 10 metres. It is anticipated that up to 150,000 t of material will be stored onsite at any one time. |
| Upgrade of existing facilities | The existing weighbridge and office would be upgraded and the existing lunch room and maintenance shed would be relocated to facilitate the new site layout. |
| Waste tracking system | The existing Wasteman software would be used to track all inbound/outbound loads. |
| Production compound | The relocated lunch room, toilet and maintenance shed would be grouped together to form a compound for production staff. |
| Retail area | This area would be restricted to light vehicles and small trucks with an area for tipping and an area containing concrete bays of products for sale. |
| Storage bays | Concrete storage bays constructed using 1 m ³ concrete blocks. |
| Concrete walls | An approximately 1 metre high concrete wall will be constructed close to the southern project site boundary using 1 m^3 concrete blocks. The wall will prevent stockpiled material encroaching on swale drains and moving offsite. Concrete walls may also be used to delineate other areas of the site. |
| Green waste pasteurisation | An aeration system using four electronically driven and computer-controlled fans to push air through movable perforated pipes underneath the pasteurisation piles will be implemented in the green waste area. This system allows more control of oxygen levels in the pasteurisation process compared to the tradition turnover process. |
| Wheel wash | A vehicle wheel wash bay would be constructed at the north western boundary of the site to respond to final location and layout of the site entry/exit point, as approved by LMCC, and to tie in to the modified internal access road layout. |
| Concrete washout bay | A wet concrete washout bay will be constructed consisting of a bunded, impermeable area with an isolated catchment. Wet concrete and agitator washout will be captured in the concrete washout bay. |
| Water management system | The existing Water Management System (WMS) will be upgraded involving resizing of existing sediment basins, new sediment basins, swale drains and a leachate dam and artificial wetland to treat nutrient runoff. |
| | Water tanks and associated poly pipe and pumps will be installed to allow collection and re-use of stormwater for dust suppression. Additional water tanks will be installed as required to capture rainwater for re-use onsite. |

| Component | Description |
|--|---|
| Trommel screening machine | Addition of a trommel screening machine for sorting of green waste. |
| Primary jaw crusher | The primary jaw crusher will be replaced on a like for like basis at some point in time as part of future operations. |
| Perimeter landscaping (mounds, fencing and lighting) | Landscape mounds would be established on the perimeter to limit visibility. A 1.8 m high security fencing and security lighting would also be installed. |
| Utilities | The existing Ausgrid connection is via a power pole in the north east corner of the site. The power supply will be extended to the south west corner of the site via an underground connection. |
| Pug mill | A pug mill may be installed in the future to allow fast mixing of materials to produce products such as road base. |
| Ballast wash facility | A processing area may be dedicated to a ballast wash facility to allow for processing of rail ballast. |

B1.1.2 Project staging

It is anticipated that the volume of materials recycled and products sold would increase over a period of time up to the maximum production level of 250,000 tpa. The daily and weekly volume of waste through the site would be dependent on market demand and would vary from day to day and week to week. However, the possible maximum daily volume based on peak traffic movements and assuming truck and dog capacity would be approximately 5,800 t and therefore weekly maximum throughput would be 34,800 t. Concrush propose to implement a compliance tracking register along with the existing waste tracking system to ensure that the annual production limit is complied with. To most efficiently meet the increase in demand for recycling of materials and Concrush products, it is proposed to stage the Project by undertaking some elements of the site upgrade once all approvals have been granted and implementing other elements of the Project as required when certain production levels are reached. Two Project stages and the associated approximate production level have been identified as follows:

- Stage 1 completed (refer to Figure B.1)
- Stage 2 at approximately 200,000 tpa up to 250,000 tpa (refer to Figure B.2).

Stage 1

Stage 1 would be implemented once all approvals have been granted. The key elements of Stage 1 are:

- Construction of all hardstand areas (processing areas and waste and product stockpiles)
- Creation of the retail area
- Widen site access and install sliding gate
- Re configuration of existing exit only weighbridge to allow for vehicle exit and entry to facilitate entry to the site
- Construct production compound by relocating maintenance shed and lunch room and toilet
- Augment the existing water management system to incorporate the leachate dam, constructed wetland, additional sediment basins, drainage swales, flood mitigation bund, water storage tanks and sprinkler systems
- Establish wheel wash, landscaping mounds, fencing, power line extension and lighting
- Two coat seal of internal access roads
- Replace primary jaw crusher.

Stage 2

Stage 2 would be implemented when production reaches approximately 200,000 tpa up to the Project limit of 250,000 tpa. The key elements of Stage 2 are:

- Relocation of Retain the existing exit weighbridge, construction of a new entry weighbridge and establishment of the new weighbridge office
- Re-configuration of existing exit only weighbridge to allow for vehicle exit and entry to facilitate entry to the site
- The existing entry weighbridge becomes the retail area weighbridge and the existing weighbridge office becomes the
 retail area weighbridge office
- Construction of a new exit onto Racecourse Road from the retail area for light vehicles (less than 2 t) only
- Two coat seal of remaining internal access roads from the wheel wash to site exit
- Establish pug mill
- Establish ballast wash facility
- Establish trommel screening machine for green waste
- Establish aeration system for green waste pasteurisation.





B1.1.3 Raw and processed material stockpiles and processing areas

A range of activities would be undertaken within the **material stockpiles and processing areas**. This would include trucks tipping, waste inspection, waste receival, stockpiling, mixing, grading, sorting, pulverising, primary crushing, electromagnetic steel capture, vacuum foreign waste removal (such as plastic and paper), sorting, multideck screening and sizing of material, secondary and tertiary crushing (cone crusher and impacters), shearing (stumps and logs), material volume measuring, material discharge using automated stockpiler and use of mobile loaders. Power generation systems including diesel and electric generators would be used within the material processing areas.

Dust would be controlled within the material processing areas through the use of sprays on the crushers and screens, as used in the existing operations, with a new sprinkler system to be established to manage potential dust from stockpiles. Sealing of the internal access road from the wheel wash to the site exit will also minimise dust emissions from the site.

As part of the RtS, the changes to the WMS have necessitated some alterations to the Project site layout. The increase in size of Sediment Basin 1 has resulted in minor changes to the shape of the two 'Processed Material Stockpiles' in Stages 1 and 2 of the Project. To accommodate the increase in size of Sediment Basin 2 the production compound (consisting of the maintenance shed, lunch room/toilet and car parking area) has been relocated approximately 20 metres to the north. The western end of the 'Raw Materials Stockpile and Processing Area' has been altered very slightly to accommodate the relocated production compound.

B1.1.4 Upgrade of existing facilities

To accommodate the revised site layout and increased production, the existing entry gate, driveway, weighbridge and site offices would be upgraded. The lunch room, toilet and maintenance shed would be relocated and grouped together in the south western portion of the Project site forming the production compound (refer to Figure B.1). These upgrades would be undertaken so that the required changes/infrastructure are in place to accommodate the increased production.

Site access

As part of Stage 1 the existing seven metre wide site entry would be widened to 15 metres and the existing swinging gates reconfigured to be a single sliding gate.

As part of Stage 2 the site access would be relocated to the north so that the access driveway is against the northern boundary of the Project site to maximise the usable area of the site. This alteration would tie in with the Stage 2 relocation of the weighbridges described below. Stage 2 would also involve establishing a new exit onto Racecourse Road from the retail area for light vehicles (less than 2 t) only.

Weighbridge and wheelwash

The current weighbridges provide for separate entry and exit weigh points. This arrangement will be maintained for Stage 1 of the Project, however, the exit weighbridge will be set up to allow both exit and entry traffic to facilitate trucks entering the site during busy times. This configuration is adequate to manage truck movements up to 200,000 tpa.

Stage 2 of the project involves relocating retaining the existing exit weighbridges and establishment of a new entry weighbridge. These weighbridges will be located further west within the site to enable efficient traffic movement from Racecourse Road and through the Project site. The new weighbridge arrangement would include a new weighbridge office incorporating offices, kitchenette and toilet facilities (refer to Appendix D for building plans).

The existing entry **and exit** weighbridge and weighbridge office will remain in their current locations and become the retail area weighbridge and office to be utilised by light vehicles only. This will allow greater separation of light and heavy vehicle movements.

The wheel wash proposed for Stage 1 would be constructed as part of Stage 2, to be located alongside a wet concrete wash out bay on the site's northern boundary. The internal access road from the wheel wash to the site exit point will be sealed to minimise dust emissions leaving the site.

Production compound

A production compound would be formed by relocating the existing lunch room, toilet and maintenance shed from the north eastern part of the site to the south western portion of the site to be closer to where the majority of production would occur. Relocating the existing facilities would also enable a reconfigured traffic flow off Racecourse Road. No utilities adjustments are required for the production compound as water supply would continue to be via water storage tanks and the toilet is a chemical treatment facility that is not connected to the sewerage system.

Power

Currently the site is connected to Ausgrid's main power supply along Racecourse Road via a power pole located in the north east corner of the site. The Project would include an underground extension of the internal power from the north east corner of the site to the south western portion of the site. This allows for power supply to the relocated lunch room/toilet and maintenance shed.

B1.1.5 Retail area

Access to the retail area would be restricted to light vehicles (cars, utes, trailers) for the general public as well as small trucks. Activities within this area would include tip off of green waste and demolition materials. The retail area would also contain 30 to 40 small bays containing different products and landscape materials for sale. The mulch storage bays would be roofed. Some products for sale would not be produced at Concrush but would be brought in to enable a 'one stop shop' approach for the general public's landscape needs. Products not produced at Concrush would include coloured pebbles and some soils.

Light vehicles would enter via the site driveway and pass over the light vehicle only weighbridge (from Stage 2 onwards) before entering the retail area. On exiting the retail area vehicles would again pass over the **retained exit** weighbridge (if required) before exiting via the site driveway. The existing weighbridge office would remain in its current location and become the retail area weighbridge office (refer Figure B.1).

B1.1.6 Water Management System (WMS)

The WMS has been designed to incorporate aspects of the existing WMS and to allow for substantial capture and re-use of stormwater onsite. Captured water would be used for dust suppression on stockpiles, hardstand areas and internal access roads. The key elements of the water management system are as follows (refer Figure B.1):

- separate contained catchment for the green waste area incorporating a leachate dam
- creation of artificial wetland for treatment of runoff from the green waste area
- two additional sediment basins and retention of existing basin for management of internal site runoff
- maintenance of some existing drainage lines and establishment of new swale drains
- maintaining existing 35,000 litre capacity water storage tanks and installation of an additional 75,000 litre capacity tanks for storage of recaptured stormwater, with provisional tanks to be installed to increase capacity
- extension of the existing stockpile sprinkler system incorporating sprinklers along the site perimeter on poles at 15 metre intervals to allow full coverage of existing and proposed stockpiles
- small portable pumps with flexible hose to allow for additional dust suppression across the site on an as needs basis
- addition of water cart with a capacity of 12,500 litres to replace the existing water cart (capacity 8,500 litres).

Stormwater would be re-used onsite for the following purposes:

- wetting down of stockpiles using sprinklers and soakers sprays
- wetting down of internal roads using sprays and water cart
- water sprays on crushing and screening plant
- washing of materials.

As part of the RtS, the WMS was revised to allow for increased onsite water detention through increased size of the two sediment dams. Sediment Basin 1 will be approximately 55 by 15 metres compared to the original 30 by 4 metres. Sediment Basin 2 will be approximately 52 by 14 metres compared to the original 16 by 6.6 metres.

B1.1.7 Perimeter landscaping

Some minor alterations would be made to the existing two metre high security fence/landscaped mound present along parts of the northern, eastern and western boundaries of the Project site. For example, adjustments to the front fence to accommodate the new access driveway.

The extended site boundaries would be treated in a similar manner. There is an existing two metre high fence along the western boundary with the rail corridor which would remain in place. Along the southern site boundary a new two metre high fence would be constructed with a swale drain constructed just within the fence and site boundary. To prevent stockpiled material from entering the swale drain, a row of concrete blocks would be placed on top of each other forming a physical barrier against which stockpiled material may be placed.

Along the extended eastern (front) boundary there would be a two metre high landscaped earth bund forming both a visual screen and a flood mitigation barrier to prevent potential 1 in 100 year flood waters entering the green waste area. Behind this earth bund the two metre high security fence would continue from the southern boundary.

B1.1.8 Traffic, access and car parking

Transportation of material

The waste material types currently received and distributed by Concrush would generally remain consistent with current operations. An additional waste type, washed and crushed glass would be received, processed and sold as part of the Project. The quantity of waste material recycled is proposed to increase to a maximum of 250,000 tpa.

Waste and recycled waste products would continue to be received and distributed via road. The key transport route to and from the north of the site is via Racecourse Road/The Weir Road/Northville Drive to George Booth Drive providing access to the M1 Motorway and the western suburbs of Newcastle (refer Figure B.3). The key route to and from the south of the site is via Racecourse Road/York Street/Toronto Road/Five Islands Road providing access to the western and eastern sides of Lake Macquarie (refer Figure B.3). No changes to existing traffic routes would occur as the result of the Project. The proposed increase to throughput capacity would result in an increase in the number of heavy vehicles accessing the facility. The potential impacts on traffic and transport as a result of the Project are discussed in Chapter 6.

Site access

Access to the Project site will continue to be via Racecourse Road. There will be staged changes to site access as part of the Project. Stage 1 will include widening the site access point. Stage 2 will include constructing a new exit onto Racecourse Road from the retail area for light vehicles (less than 2 t) only. Management of vehicles onsite will be improved by using a one-way traffic flow to enable safety and efficiency onsite, particularly during peak operational periods. Light and heavy vehicles will separate once entering (and upon leaving) the site, and will use different weighbridges (as required) to ensure the safety of drivers onsite.

Car parking

There are 11 existing light vehicle car parking spaces at the Concrush facility. Seventeen-car parking spaces will be established as part of Stage 1 of the Project, increasing to 20 23 car parking spaces in Stage 2. Parking at the project site includes provision of one disabled car parking space.

B1.1.9 Utilities and services

The Project site is currently serviced by electricity and telecommunications. The Project would include an underground extension of the internal power from the north east corner of the site to the south western portion of the site. This would allow for power supply to the production compound at the rear of the Project site.

Operational staff numbers are proposed to increase by **three** individuals representing a small increase in demand on the onsite chemical toilet facility. No changes to this system are proposed.

Plant and machinery onsite would continue to operate using a diesel fuel source.

The option of connection to the water mains supply and upgrade to existing electrical connection may be explored by Concrush in the future if there was to be a substantial change to requirements or operating conditions, however, this is not part of this Project.

B1.1.10 Workforce

The Concrush facility currently employs 17 full time staff and four casual staff. The Project proposes to increase staff numbers by **three**, **expected to increase to 20** full time employees when at full capacity.

B1.1.11 Hours of operation

The general Project operating hours will remain as 7.00 am to 5.00 pm Monday to Friday and 7.00 am to 4.00 pm Saturdays, closed Sunday. Evening works during the period 6.00 pm to 10.00 pm are proposed on an as needs basis such as servicing road or construction projects that are scheduled to be undertaken during the night to minimise disruptions to the community.

The proposed modification seeks to allow for:

- crushing and processing from 6:00 pm to 10:00 pm Monday to Saturday, resulting in crushing and processing between 7:00 am and 10:00 pm, permitted during northerly and easterly winds only
- unloading and dispatch of trucks in the night-time period between 10:00 pm and 7:00 am Monday to Sunday as required. This would result in unloading and dispatch of trucks 24 hours per day, seven days per weeks (on a required basis), to respond to market demand to meet short term project campaign needs, such as construction material required for night-time projects, or emergency situations.

Lighting would be provided in accordance with *Australian Standard (AS)* 4282—1997: Control of the obtrusive effects of outdoor lighting (Council of Standards Australia, 1997).

B1.1.12 Construction activities

Construction would be a relatively minor phase of the Project and would predominantly utilise the plant and equipment that is already onsite as part of the existing operations. The key construction activities for the Project would be undertaken over a total period of approximately 12 weeks covering both stages. Construction work hours would be within standard construction hours; 7.00 am to 6.00 pm Monday to Friday and 8.00 am to 1.00 pm on Saturdays.

The key construction tasks to be undertaken are:

Stage 1

- Establishment of hardstands areas for hardstands will be constructed appropriately to accommodate site drainage.
 The hardstands will consist of 200 mm of compacted road base material produced onsite by Concrush.
- Installation of 0.5 metre capping layer across southern portion of the Project site.
- Formation of walls and product bays 1 m³ concrete blocks that are received as waste by Concrush will be used to form a² 1 metre high wall along part of the southern site boundary. This wall will prevent stockpiled material from moving onsite. The concrete blocks will also be used to form the product bays in the retail area part of the site.
- Construction of wheel wash the truck wheel wash bay will be constructed immediately after the exit weighbridge.
 When the weighbridges are relocated further to the west within the site as part of Stage 2 of the Project, the wheel wash bay will also be relocated to be immediately after the exit weighbridge.
- Relocating maintenance shed and lunch room and toilet these facilities will be grouped together in the south western portion of the site to form the production compound.
- Formation of sediment basins and constructed wetland an excavator will be used to form the sediment basins and artificial wetland. The inlets, outlets and bank slopes of the sediment basins and artificial wetland will be constructed in accordance with the detailed design.
- Installation of water tanks.
- Perimeter treatments fencing, landscape mounds and lighting.

Stage 2 – key construction tasks

- Relocation and Establishment of main weighbridges further west within the site.
- The existing entry **and exit** weighbridges to remain in its current location and be reconfigured to become the entry/exit retail weighbridge. Existing weighbridge office to remain in current location.
- Construction of the new weighbridge office between the two main weighbridges constructed.
- Construction of a new exit onto Racecourse Road from the retail area for light vehicles (less than 2 t) only.
- Construction of a wheel wash alongside a wet concrete wash out bay on the site's northern boundary
- Two coat seal of internal access roads from the wheel wash to the site exit point to minimise dust emissions leaving the site.

Plant and equipment

The construction plant and equipment required would be similar to the existing operational plant and include:

- traxcavator
- grader
- front end loader
- excavator
- rollers (smooth drum and sheep foot)
- water cart
- hand tools.



Appendix C Statutory compliance table



C1 Statutory compliance

A statutory compliance table is provided to identify all the relevant statutory requirements and where they have been addressed in this Modification Report.

Table C.1 Statutory compliance

| Legislation | Requirement | Where addressed in this Modification Report |
|---|---|--|
| (NSW) Environmental Planning and Assessment Act 1979 (EP&A Act) | Provides the regulatory regime under which the Modification Report has been prepared and the project impacts are assessed. The Modification Report has been prepared in accordance with Section 4.55(2) of the EP&A Act. | Chapter 4 (Statutory context) |
| (NSW) Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) | Modification Report in accordance with Clause 99 of the EP&A Regulation. | Chapter 4 (Statutory context) |
| (NSW) Aboriginal Land Rights Act 1983 | This Act applies to Crown Lands that are, among other things, not lawfully needed for an essential public purpose; referred to as claimable Crown Land. | Section 6.7 (Aboriginal heritage) |
| (NSW) Biodiversity Conservation Act 2016 (BC Act) | Preparation of a biodiversity development assessment report (BDAR) to identify and assess biodiversity impacts under the provisions of the BC Act and calculate measures to offset those impacts by retiring biodiversity credits, determined using the Biodiversity Assessment Methodology (BAM). The proposed modifications would not result in an increase to the potential impacts assessed in the EIS and | Chapter 4 (Statutory context) Section 6.5 (Biodiversity) |
| | hence an amended BDAR would not be required for the project. | |
| (NSW) <i>Biosecurity Act 2015</i> (Biosecurity Act) | The Biosecurity Act introduces a responsibility for landowners or land managers to control and present the introduction and spread of these priority weeds, which is known as a General Biosecurity Duty. | Not applicable |
| (NSW) Contaminated Land Management Act 1997 (CLM Act) | The CLM Act outlines the circumstances in which notification to the NSW Environment Protection Authority (EPA) is required in relation to the contamination of land. | Section 6.11 (Contamination) |
| (NSW) Crown Land Management Act 2016 | The Act sets out the requirements for ownership, use and management of Crown Land in NSW, including where councils and other organisations can deal with Crown Land. | Not applicable |

| Legislation | Requirement | Where addressed in this Modification Report |
|--|---|--|
| (NSW) Dangerous Goods (Road and Rail Transport) Act 2008 (Dangerous Goods Act) | The Dangerous Goods Act regulated the transport of dangerous goods by road and rail in order to promote public safety and protect property and the environment. | Not applicable |
| (NSW) Fisheries Management Act 1994 (FM Act) | The FM Act aims to conserve, develop and share the fishery resources of the State for the benefit of present and future generations, and applies to all waters within the area occupied by the project. | Chapter 4 (Statutory context) |
| (NSW) Heritage Act 1977 | Heritage Council must be notified if a relic is uncovered or if an item listed on a Government Agency's Section 170 Heritage Register is demolished. Section 139 specifies that a person must not disturb or excavate land knowing, or suspecting, that the action may result in the discovery, exposure, movement, damage or destruction of a relic, unless the work is | Section 6.8 (Non-Aboriginal heritage) |
| | undertaken in accordance with an excavation permit. Section 146 requires that the discovery or location of a relic must be notified to the Heritage Council unless the Heritage Council is aware of the relic's location. required by reason of section 5.23 of the EP&A Act. | |
| (NSW) Land Acquisition (Just Terms Compensation) Act 1991 (Land Acquisition Act) | The Land Acquisition Act was introduced in relation to the acquisition of land on just terms by authorities of the State with the objective of simplifying and expediting the compulsory acquisition process while ensuring compensation on just terms for the owners of land that is acquired by an authority of the State when the land is not available for public sale. | Not applicable |
| (NSW) Local Land Services Act 2013 | Establishes regional Local Land Services (LLS) who are responsible for the integrated management of local land services including agricultural production, biosecurity, travelling stock reserves (TSRs) and other related aspects. | Not applicable |
| (NSW) National Parks and Wildlife Act 1974 (NPW Act) | Under the provisions of section 86 of the NPW Act, a person must not harm or desecrate a known Aboriginal object unless authorised by an Aboriginal heritage impact permit issues under section 90 of that Act. | Chapter 4 (Statutory context) Section 6.7 (Aboriginal heritage) |
| (NSW) Native Title Act 1994 | The Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010) stipulates that where relevant, consultation must be conducted with Native title holders or registered native title claimants in accordance with the <i>Native Title Act</i> <i>1994</i> . | Section 6.7 (Aboriginal heritage) |

| Legislation | Requirement | Where addressed in this Modification Report |
|--|---|---|
| (NSW) Protection of the Environment Operations Act 1997 (POEO Act) | The Act is administered by the EPA and establishes the procedures for environmental control, and for issuing environmental protection licences regarding matters such as waste, air, water and noise. Assessment of onsite noise sources is guided by the Noise Policy for Industry (NPfI) 2017 (EPA, 2017), which is applicable to industrial noise sources including electricity supply and generation. An environment protection licence (EPL) is required under Chapter 3 of the Act to undertake a scheduled activity or scheduled development work. The project is not a scheduled activity. | Chapter 4 (Statutory context) Section 6.1 (Noise and vibration) Section 6.11 (Contamination) |
| (NSW) Roads Act 1992 (Roads Act) | Part 9 of the Roads Act nominates the requirements for undertaking works within a public road, including the requirement to obtain consent under section 138 for carrying out works in, on or over a public road, and the digging up or disturbance of the surface of a public road. | Chapter 4 (Statutory context) Section 6.3 (Traffic) |
| (NSW) Rural Fires Act 1997 (RF Act) | The RF Act establishes the NSW Rural Fire Service, defines its functions, and makes provision for the prevention, mitigation and suppression of rural fires. Section 63 of the RF Act requires public authorities and owners and occupiers of land to prevent bushfires and to manage land they are responsible for. | Chapter 4 (Statutory context) |
| (NSW) Soil Conservation Act 1938 | Provisions for the conservation of soil resources and farm water resources enables areas to be designated as 'areas of erosion hazard' and allows the Soil Conservation Commissioner to issue notices aimed at preventing soil erosion or land degradation. | Chapter 4 (Statutory context) Section 6.4 (Soil and water management) |
| (NSW) Waste Avoidance and Resource Recovery Act 2001 (WARR Act) | The WARR Act aims to encourage the most efficient use of resources to reduce environmental harm in accordance with the principles of ecologically sustainable development. | Chapter 2 (Strategic context) Chapter 4 (Statutory context) Section 6.12 (Waste management) |
| (NSW) Water Management Act 2000 (WM Act) | Under the provisions of section 5.23(1) of the EP&A Act, a water use approval pursuant to section 89 of the WM Act, a water management work approval pursuant to section 90 of the WM Act, and an activity approval (other than an aquifer interference approval) pursuant to section 91 of the WM Act are not required and accordingly. | Chapter 4 (Statutory context) Section 6.4 (Soil and water management) |
| Legislation | Requirement | Where addressed in this Modification Report |
|--|--|--|
| (NSW) Work Health and Safety Act 2011 | The Act provides work health and safety regulations for the management of contaminated waste such as asbestos as well as consideration of health and safety hazards to onsite workers associated with normal construction operations. | Section 6.14 (Hazards and risks) |
| (Cth) Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) | Based on the project site, the design of the modifications and understanding of site conditions, it is anticipated that the project would not result in significant impacts on Commonwealth listed threatened species and ecological communities and an EPBC referral for the modification would not be required. | Chapter 4 (Statutory context) Section 6.5 (Biodiversity) |

| Table C.2 | NSW Environmental | Planning Instrument | (EPI) compliance |
|-----------|-------------------|---------------------|------------------|
| 10010 0.2 | | i lanning modiamone | |

| Environmental planning instrument | Requirement | Where addressed in this Modification Report |
|--|---|---|
| State Environmental Planning Policy (Planning Systems) 2021 | Under Clause 2.6 (1) of the Planning Systems SEPP, a development is classified SSD if: | Chapter 4 (Statutory context) |
| | (a) the development on the land concerned in, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and | |
| | (b) the development is specified in Schedule 1 or 2. | |
| | Schedule 1, Clause 23(3) of the Planning Systems SEPP identifies 'waste and resource management facilities' as SSD if it meets the following criteria: | |
| | Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste. | |
| | The approved project involves the expansion of an existing recovery and recycling facility to process up to 250,000 tpa and the proposed modifications will support the approved project such is permissible with consent and is considered a modification of the SSD approval. | |
| State Environmental Planning | The Biodiversity and Conservation SEPP aims to | Chapter 4 |
| Policy (Biodiversity and Conservation) 2021 | encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline. | (Statutory context) Section 6.5 (Biodiversity) |

| Environmental planning instrument | Requirement | Where addressed in this Modification Report |
|---|---|--|
| State Environmental Planning Policy (Resilience and Hazards) 2021 | Chapter 2 of this SEPP aims to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the <i>Coastal Management Act 2016</i> . Chapter 3 of this SEPP requires the consent authority to consider whether an industrial proposal is a potentially hazardous industry or a potentially offensive industry. Chapter 4 of this SEPP aims to provide for a state wide planning approach to the remediation of contaminated land. | Chapter 4 (Statutory context) Section 6.11 (Contamination) Section 6.14 (Hazard and risk) |
| State Environmental Planning Policy (Primary Production) 2021 | This SEPP aims to facilitate the orderly economic use and development of land for primary production and reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources. The SEPP is also intended to identify land which has been declared to be State Significant agricultural land (currently no land identified by the SEPP). | Not applicable. Project site zoned E5: Heavy Industrial |
| State Environmental Planning Policy (Transport and Infrastructure) 2021 | Under Division 23, Clause 2.153(1), a: Development for the purpose of waste or resource management facilities, other than development referred to in subsection (2), may be carried out by any person with consent on land in a prescribed zone. The project site is zoned E5 Heavy Industrial, which is a prescribed zone under Division 23, Clause 2.152. As | Chapter 4 (Statutory context) |

 Table C.3
 Requirements of State significant development guidelines – preparing a modification report

| Requirement | Where addressed in this Modification Report | | | |
|---------------------------------------|---|--|--|--|
| General requirements | | | | |
| Form | Part A – Chapters 1 to 9 | | | |
| | Part B – Appendix A to F | | | |
| Structure and length | Consistent with the indicative page limits | | | |
| Presentation | Consistent with requirement | | | |
| GIS data specifications | GIS data provided with application | | | |
| General map requirements | Consistent with requirement | | | |
| Accessibility and navigation | Conforms with the Web Content Accessibility Guidelines. | | | |
| The Modification Report | | | | |
| Introduction | Chapter 1 – Introduction | | | |
| Strategic Context | Chapter 2 – Strategic context | | | |
| Description of the modifications | Chapter 3 – Description of modifications and Appendix B | | | |
| Statutory context | Chapter 4 – Statutory context and Appendix C | | | |
| Assessment of impacts | Chapter 5 – Assessment of impacts and Appendix D, E, F | | | |
| Justification of the modified project | Chapter 6 – Justification of modified project | | | |

Appendix D Modification Noise Impact Asse

Modification Noise Impact Assessment (RCA, 2024)





MODIFICATION NOISE IMPACT ASSESSMENT

Concrush Pty Ltd 21 Racecourse Rd, Teralba

Prepared for CONCRUSH Prepared by RCA Australia RCA ref 13155-621/3 June 2024





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RCA ref 13155-621/3

17 June 2024

Concrush Pty Ltd 21 Racecourse Rd Teralba NSW 2284

Attention: Mr Kevin Thompson



Geotechnical Engineering Engineering Geology Environmental Engineering Hydrogeology Construction Materials Testing Environmental Monitoring Sound & Vibration Occupational Hygiene

CONSENT MODIFICATION NOISE IMPACT ASSESSMENT

1 EXECUTIVE SUMMARY

RCA have been engaged to prepare an updated noise impact assessment to support a Modification Report being prepared by WSP on behalf of Concrush Pty Ltd. RCA's recommendations regarding modifying the consent is summarised in **Table 1**.

| Summary of current condition | Concrush proposed modification | RCA's recommendation |
|---|--|---|
| B42. Operational hours: Monday – Saturday 7 am – 10pm and Sunday and Public Holidays 8 am – 6pm. Note: current limitations on evening operations. | Modify crushing limitations during evening operations Monday – Saturday. Propose operations between 10 pm – 7 am Monday – Sunday be limited to loading and unloading activities. | Crushing could occur during the evening under northerly and easterly wind conditions only (see Section 7.3). Unloading activities could occur 24 hours per day without noise impacts (see Section 4.3 and Section 7.1). Loading activities would likely generate noise impacts at night time (see Section 7.2). |
| B45. A noise wall must be constructed on east and southern boundaries | Remove both of these noise walls conditions. | Additional noise walls serve no additional benefit in terms of noise compliance. Condition B45 can be removed (see Section 7.4). |

| Table 1 | Proposed consent modification and RCA's recommendations |
|---------|---|
| | |

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2 INTRODUCTION

In 2020 Concrush Pty Ltd (Concrush) received approval from the Department of Planning, Industry and Environment to expand operations of the existing resource recovery facility to 250,000 tonnes per year of general solid waste with a maximum storage capacity of 150,000 tonnes at any one time (SSD 8753). Concrush are seeking to modify the development consent conditions to streamline operations. RCA Australia (RCA) have prepared this updated Noise Impact Assessment report to support a Modification Report prepared by WSP Australia.

3 SUMMARY OF EIS OPERATIONAL NOISE IMPACT ASSESSMENT

RCA prepared a Noise Impact Assessment in 2018 (RCA reference 13155-601/4) and a follow up report to respond to submissions following public exhibition (Response to Submissions report, RCA reference 13155-602/1, April 2019) to support the EIS prepared to assess Concrush's expansion project. Concrush received approval in 2020 (SSD 8753). RCA present the relevant operational noise assessment inputs and findings from the previous reports below.

3.1 SURROUNDING AREA AND RECEIVERS

The Concrush site is located on the western bank of Cockle Creek, and southeast of the Central Coast/Newcastle train line. The nearest residential areas are:

- Boolaroo (Oak Tree Retirement Village, Bunderra Estate) located approximately 230 m to the east of the Project area
- Argenton located approximately 1.1 km to the north-east of the Project area, and
- Teralba located approximately 1.3 km to the south-west of the Project area.

There are two residents located over 300 metres to the north of the Project area.

Receivers were grouped into five noise catchment areas (NCAs) according to receiver types and background noise monitoring undertaken for the EIS.





Figure 1 Project area () and noise catchment areas ()

NCA 3 and NCA 4 were classified based on future proposed development (active recreation and residential respectively). Identified receiver types are listed below.

| Receiver | Receiver type |
|----------|------------------------|
| NCA 1 | Residential – Suburban |
| NCA 2 | Residential – Urban |
| NCA 3 | Active recreation |
| NCA 4 | Residential – Urban |
| NCA 5 | Industrial Receiver |

Table 2Identified receiver types

3.2 **PREVAILING WEATHER**

RCA undertook seasonal wind and temperature inversion analysis for the EIS and found that temperature inversions were a feature of the area during winter nights and identified several directions of significant noise enhancing wind across the seasons. A summary table taken from RCA report 13155-601.4 is reproduced below.

| Table 3 | Summary of noise enhancing weather |
|---------|------------------------------------|
|---------|------------------------------------|

| Relevant weather | Day | Evening | Night |
|-----------------------------|--------------|----------------------------|---------------------|
| Significant wind directions | NE, E, W, NW | N, NE, E, SE, SW, W, NW | N, NE, E, SW, W, NW |
| Inversions | N/A | N/A | Yes |



Wind directions that will increase received noise at identified receivers are N, NW, W, SW and E. These directions are considered in this assessment including F stability class temperature inversions where required by the Noise Policy for Industry (NPI) (EPA, 2017).

3.3 OPERATIONAL NOISE CRITERIA

The original Noise Impact Assessment set project specific noise targets according to the NPI but found that those targets were not achievable even after implementing all feasible and reasonable noise mitigation measures. The noise assessment identified the achievable site noise levels for each NCA and are shown below. These levels were later adopted in Concrush's Operational Noise Management Plan (ONMP) (July 2020) which was endorsed by the Department of Planning.

| | | Project spec | | |
|---|----|--|--------------------------------------|---------------------------------------|
| Receiver Day L _{Aeq,15 min} dBA | | Evening L _{Aeq,15 min} dBA | Night L _{Aeq,15 min} dBA | Night L _{Amax,15 min} dBA |
| NCA 1 | 51 | 43 | 36 | 52 |
| NCA 2 | 56 | 47 | 37 | 52 |
| NCA 3 | 53 | 53 | 53 | - |
| NCA 4 | 54 | 48 | 42 | 52 |
| NCA 5 | 68 | 68 | 68 | - |

Table 4Operational noise criteria

Note that night time criteria shown above has come from the EIS despite the EIS Response to Submissions Report rescinding the request to operate at night time. The current ONMP therefore does not include night time noise criteria.

3.4 NIGHT TIME ROAD NOISE IMPACTS

The EIS prepared for the expansion project initially assessed potential road noise impacts due to proposed additional heavy vehicle movements along Racecourse Road during the night as a result of night time loading and unloading activities. Following the EIS, Concrush rescinded the request to operate at night time, but the road noise assessment prepared for the EIS remains relevant for this current assessment. The table below is an excerpt from the EIS and presents traffic counts logged for the EIS and estimated Concrush night time vehicle movements.

Table 5Current and predicted traffic movements taken from EIS

| | | Night (10 pm – 7 am) |
|----------------------------------|-------|----------------------|
| Current traffic on Racecourse | Light | 272 |
| Road | Heavy | 27 |
| Current Concrush traffic | Light | Nil |
| | Heavy | Nil |
| Predicted future Concrush | Light | Nil |
| traffic | Heavy | 90 |
| Des dista ditatal futura teaffia | Light | 272 |
| | Heavy | 117 |



The EIS assumed that the heavy vehicle route would be along Racecourse Road south of the site due to the height restriction placed by the rail crossing north of the site. There are no residences immediately south of the Concrush site. The residents that will be affected by additional traffic are those along York St, Teralba. This area is a 50 km/hr speed zone. Attended road traffic noise monitoring was conducted in preparing the EIS which found the sound exposure level (SEL) measured at a representative receiver distance of a single heavy vehicle passby on York Street (south of Concrush site) was 76 dBA. Applying the predicted total future traffic numbers shown above resulted in a night time $L_{Aeq,9hr}$ level of 55 dBA. This complies with the non-mandatory night time road noise objective of $L_{Aeq,9hr}$ 55 dBA set by the NSW Road Noise Policy (RNP) for sub arterial roads.

3.5 ANNOYING CHARACTERISTICS

RCA's assessment found that no equipment would generate noise that would trigger either low frequency or tonality penalties when assessed at any receiver in accordance with procedures outlined in the NPI.

4 REVIEW OF HISTORICAL COMPLIANCE DATA

4.1 SUMMARY OF NOISE COMPLAINTS RECEIVED

Concrush have not received any noise complaints from the community since the expansion project became operational in 2020. This demonstrates that Concrush have effectively managed their operational noise.

4.2 QUARTERLY DAYTIME NOISE SURVEY RESULTS

RCA has undertaken compliance noise monitoring on a quarterly basis since Quarter 3 2020. A summary table of compliance results over this almost four-year period is attached as **Appendix A** to this report and shows that there has been a single minor exceedance (1 dB) reported over the course of 97 individual day time compliance measurements. This minor exceedance in May 2023 was due to the green waste shredder which has since been taken off site. It is also noted that the particular green waste shredder in question was an older make, and that industrial plant are becoming quieter in general as technology improves.

Concrush engage a contractor to provide the green shredding on site and each contractor brings different plant to site with a different sound power. **Table 6** shows the varying sound powers measured on site by RCA of different shredding plant. It is shown that the October 2023 shredding contractor was using significantly quieter plant compared to the shredder that caused the minor offsite noise exceedance in May 2023.

| Measurement | Measured Green Shredder sound power, dBA |
|----------------|---|
| 2018 (for EIS) | 114 |
| May 2023 | 122 |
| October 2023 | 116 |

Table 6Measured green shredder sound powers



Concrush have also constructed a wall around the green waste shredding area. This wall was observed to be under construction when RCA attended site in October 2023 and a site photo is shown below. The wall stood at 1.8 m at the time of the photo.



Figure 2 Green waste area wall under construction

4.3 EVENING NOISE SURVEY RESULTS

Evening works is sporadic and only due to market demand which is typically at short notice. As a result, evening noise monitoring has not routinely been undertaken. RCA did however undertake evening noise monitoring on the 30th of October 2023 which captured heavy vehicles arriving and unloading. RCA had staff located at NCA 1 and NCA 3, as well as Concrush's onsite noise monitor recording noise concurrently. This allowed for a correlation between noise levels at the three locations to be estimated.

This survey found that a single truck unloading and then a front-end loader pushing material within a 15-minute period resulted in an $L_{Aeq,15 min}$ of approximately 30 dBA or less when measured at NCA 3 and less than 30 dBA when measured at NCA 1. When two trucks arrived within a 15-minute period, this resulted in an $L_{Aeq,15 min}$ less than 35 dBA when measured at NCA 3 and less than 30 dBA when measured at NCA 1. Survey time traces visually identify these activities and are attached in **Appendix B**.

This monitoring exercise demonstrated that unloading activities were not likely to generate noise levels at any residential receivers in excess of the adopted night time criterion or sleep disturbance screening levels, and is therefore supporting evidence to remove time restrictions on when Concrush can undertake unloading activities.



Evening monitoring was also undertaken the 16th and 17th of April. Despite deliveries being scheduled for the 16th of April, the only site activity that occurred that evening was the loader pushing stockpiles between 9:00 pm and 9:06 pm. RCA was receiving communication from site staff in real time to assist in identifying offsite noise contribution from site activities. RCA stationed staff at NCA 1 and NCA 2 for this measurement. A time trace of noise levels measured by RCA as well as the Concrush onsite noise monitor is provided in **Appendix C**. This shows that onsite noise levels from the loader were approximately 58 dBA which corresponded to noise levels of approximately 43 dBA at NCA1, meaning that the site noise L_{Aeq,15min} contribution at NCA1 averaged out to be below 40 dBA. Passing traffic meant that site noise was completely masked at NCA2.

Evening monitoring on the 17th of April 2024 demonstrated that trucks arriving, tipping, departing and the loader operating were all brief intermittent activities, that typically generated offsite instantaneous noise levels less than 45 dBA when measured at NCA1, NCA2 and NCA3. Truck movement activities typically only lasted a matter of seconds and loader activities lasting a few minutes. When averaged over a 15-minute period, all measurements indicated a site contribution of $L_{Aeq,15 min}$ less than 30 dBA. This would comply at all receiver locations.

The NPI provides a penalty for intermittency (only applicable to "night time") when noise from a site clearly modulates by at least 5 dB, several times over an assessment period during the night time. RCA's observations concluded that the intermittency penalty would not be applicable to unloading or loading activities.

Excerpts from RCA quarterly monitoring reports (reference 13155-620/1 and 13155/621/1) are provided below in **Table 7** to **Table 9**. They show evening unloading activities produce a site only L_{Aeq,15min} contribution of less than 30 dBA at nearby noise sensitive receivers.



| | Survey | | Ove | rall | | Site Site | | Site | Penalty for | Site L _{Aeq} 15min | Complies with | Noise Sources |
|--------------------|---------------------|----------------|----------------------------|---------------|---------------|-----------------------------|------------------------|--|--|--------------------------------------|-------------------|---|
| Survey Location | Date Start Time | LAmax 15min | L _{Aeq} 15 min | LA10 15min | LA90 15min | L _{Amax} 15 min | LAeq 15min Limit | -Aeq L _{Aeq 15min} 5min imit Contribution | annoying characteristics ¹ | Contribution including penalty | condition Y/N? | Level Range dB(A) |
| NCA 1 | 30/10/2023 21:30 | 84 | 58 | 50 | 40 | 44 | 43 | < 30 | Nil | < 30 | Y | Truck arrived on site but was inaudible. Visual inspection shows instantaneous noise could be no higher than 44 dBA briefly. Other: Road noise dominant. |
| NCA 1 | 30/10/2023 21:45 | 78 | 59 | 55 | 41 | 46 | 43 | < 30 | Nil | < 30 | Y | Truck arrived on site but was inaudible. Tailgate slam audible ~46 dBA. Loader reversing briefly ~40 – 45 dBA. Other: Road noise dominant. |
| NCA 1 | 30/10/2023 22:00 | 80 | 60 | 58 | 42 | 47 | 43 | < 30 | Nil | < 30 | Y | 2 x truck arrivals briefly barely audible |

Table 7Excerpt from results reported in RCA report 13155-620/0 November 2023, dBA



| | Survev | | Ove | rall | | Site | Site | Site | Penalty for | Site L _{Aeq 15min} | Complies | Noise Sources and Lovel |
|--------------------|---------------------|----------------|----------------|---------------|---------------|----------------------------|------------------------|--|--|--------------------------------------|-------------------|---|
| Survey Location | Date Start Time | LAmax 15min | LAeq 15 min | LA10 15min | LA90 15min | L _{Amax} 15min | LAeq 15min Limit | L _{Aeq 15min} Contribution | annoying characteristics ¹ | Contribution including penalty | condition Y/N? | Range |
| NCA1 | 16/04/2024 20:30 | 80 | 60 | 58 | 40 | Nil | 43 | Nil | Nil | Nil | Y | Loader ~43 dBA for less than 6 minutes. |
| NCA1 | 16/04/2024 20:45 | 79 | 57 | 51 | 40 | Nil | 43 | Nil | Nil | Nil | Y | General background noise included; insects, frogs bats possums |
| NCA1 | 16/04/2024 21:00 | 81 | 60 | 60 | 41 | 43 | 43 | <40 | Nil | <40 | Y | and distant road noise. Background Noise 40 - |
| NCA1 | 16/04/2024 21:15 | 85 | 61 | 59 | 39 | Nil | 43 | Nil | Nil | Nil | Y | 47 dBA. Passing trains both freight and passenger |
| NCA1 | 16/04/2024 21:30 | 77 | 58 | 56 | 40 | Nil | 43 | Nil | Nil | Nil | Y | 62 - 73 dBA. Passing car ~70 dBA. |
| NCA1 | 16/04/2024 21:45 | 81 | 60 | 61 | 39 | Nil | 43 | Nil | Nil | Nil | Y | Overhead Plane Noise 46 - 61 dBA. |
| NCA3 | 16/04/2024 21:00 | 81 | 68 | 72 | 57 | Nil | 53 | Nil | Nil | Nil | Y | General background |
| NCA3 | 16/04/2024 21:15 | 87 | 66 | 71 | 52 | Nil | 53 | Nil | Nil | Nil | Y | noise included; insects, frogs, bats, possums, and distant road poise |
| NCA3 | 16/04/2024 21:30 | 87 | 66 | 70 | 44 | Nil | 53 | Nil | Nil | Nil | Y | Background Noise 42 - 57 dBA. |
| NCA3 | 16/04/2024 21:45 | 81 | 64 | 68 | 43 | Nil | 53 | Nil | Nil | Nil | Y | Site Inaudible |

Table 8Excerpt from results reported in RCA report 13155-623/0 June 2024, readings taken on 16/04/2024, dBA



| | Survev | | Over | rall | | Site | Site | Site | Penalty for | Site L _{Aeq 15min} | Complies | Noise Sources and Level |
|--------------------|---------------------|----------------|----------------|---------------|---------------|----------------------------------|---|--|--|--------------------------------------|-------------------|--|
| Survey Location | Date Start Time | LAmax 15min | LAeq 15 min | LA10 15min | LA90 15min | LAeq LAmax 15 min Limit | L _{Aeq} ^{15min} Limit | L _{Aeq 15min} Contribution | annoying characteristics ¹ | Contribution including penalty | condition Y/N? | Range |
| NCA1 | 17/04/2024 20:30 | 80 | 59 | 59 | 40 | Nil | 43 | Nil | Nil | Nil | Y | Road Noise ~53-80 dBA Insects ~40-45 dBA |
| NCA1 | 17/04/2024 20:45 | 80 | 62 | 66 | 41 | Nil | 43 | Nil | Nil | Nil | Y | Resident arrived home. Dogs barking Road Noise ~53-80 dBA Insects ~40-45 dBA |
| NCA1 | 17/04/2024 21:00 | 76 | 58 | 55 | 40 | Nil | 43 | Nil | Nil | Nil | Y | Residents talking, distant cheering, and reverse beeping at the same time. Road Noise ~53-76 dBA Insects ~40-45 dBA |
| NCA1 | 17/04/2024 21:15 | 77 | 58 | 53 | 40 | 44 | 43 | <30 | Nil | Nil | Y | Site truck arrival ~44 dBA Road Noise ~53-77 dBA Insects ~40-45 dBA |
| NCA1 | 17/04/2024 21:30 | 78 | 59 | 62 | 40 | 43 | 43 | <30 | Nil | Nil | Y | Site truck brake ~43 dBA Road Noise ~53-78 dBA Insects ~40-45 dBA |
| NCA1 | 17/04/2024 21:45 | 76 | 58 | 60 | 38 | 46 | 43 | <30 | Nil | Nil | Y | Site truck ~46 dBA Plane overhead. Road Noise ~53-76 dBA Insects ~40-45 dBA |

Table 9Excerpt from results reported in RCA report 13155-623/0 June 2024, readings taken on 17/04/2024, dBA

Concrush Pty Ltd 21 Racecourse Rd, Teralba Consent Modification Noise Impact Assessment RCA ref 13155-621/3 June 2024



| | Survey | | Ove | rall | | Site | Site | Site | Penalty for | Site L _{Aeq 15min} | Complies | Noise Sources and Level |
|--------------------|---------------------|----------------------------|----------------------------|---------------------------|---------------------------|-----------------|---------------------------------|--|--|--------------------------------|-------------------|---|
| Survey Location | Date Start Time | L _{Amax} 15min | L _{Aeq} 15 min | L _{A10} 15min | L _{A90} 15min | LAmax 15 min | LAeq 15min Limit Limit | L _{Aeq 15min} Contribution | annoying characteristics ¹ | including penalty | condition Y/N? | Range |
| NCA2 | 17/04/2024 20:19 | 82 | 66 | 71 | 54 | Nil | 53 | Nil | Nil | Nil | Y | Road Noise ~54-82 dBA |
| NCA2 | 17/04/2024 20:34 | 82 | 67 | 72 | 55 | Nil | 53 | Nil | Nil | Nil | Y | Road Noise ~54-82 dBA |
| NCA2 | 17/04/2024 20:49 | 86 | 68 | 72 | 53 | Nil | 53 | Nil | Nil | Nil | Y | Road Noise ~54-82 dBA |
| NCA2 | 17/04/2024 21:04 | 88 | 67 | - | - | 45 | 53 | <30 | Nil | Nil | Y | Site trucks ~40-45 dBA Road Noise ~54-88 dBA |
| NCA3 | 17/04/2024 21:24 | 82 | 63 | 51 | 43 | 47 | 47 | <30 | Nil | Nil | Y | Site tipping noise ~47 dBA |
| NCA3 | 17/04/2024 21:39 | 79 | 64 | 56 | 43 | 51 | 47 | <30 | Nil | Nil | Y | Site truck brake ~51 dBA |



5 SSD 8753 NOISE RELATED CONDITIONS AND PROPOSED MODIFICATIONS

A summary of noise related conditions and proposed modifications is presented in **Table 10**.

| Table 10 | Summary of current consent conditions and proposed modifications |
|----------|--|
| | |

| Summary of current condition | Concrush proposed modification |
|---|--|
| A26. All plant must be maintained and operated in an efficient manner | No change |
| B42. Operational hours: Monday – Saturday 7 am – 10pm and Sunday and Public Holidays 8 | Modify crushing limitations during evening operations Monday – Saturday. |
| am – 6pm. Note: current limitations on evening operations. | Propose operations between 10 pm – 7 am Monday – Sunday be limited to loading and unloading activities |
| B43. Lists exceptions to the approved hours. These are based on inaudibility of the works or during emergencies | No change to exceptions, noting that Concrush hope to modify the operational hours. |
| B43. Relates to construction | No change |
| B45. A noise wall must be constructed on east and southern boundaries | Remove both of these noise walls conditions. |

This noise impact assessment will investigate the proposed modifications above.

6 UPDATED NOISE IMPACT ASSESSMENT

The site layout and the particular plant on site have changed since RCA prepared a noise model to support the EIS assessing the expansion of the facility. RCA attended site on the 24th of May 2023 to take noise measurements of current crushing and screening plant. Noise measurements captured the following crushing plant working together at the primary processing location:

- Jaw crusher
- Cone crusher
- Two screens
- Two excavators

A water cart and front-end loader were also observed to be moving around the crushing area.

The noise model prepared for the EIS was then updated to reflect Concrush's proposed day, evening and night time activities and to account for the crushing plant that is currently operating on site. Additionally, a new mobile crusher and feeding excavator (which were not operating on the 24th of May) have been modelled within the southern raw material stockpiles and processing area. The sound power of the mobile crusher has been taken to be 111 dBA (provided by manufacturer). Operational noise modelling scenarios are outlined in **Table 11**. Noise modelling was undertaken using software CadnaA, with 0.5 ground absorption and under prevailing weather conditions discussed in **Section 3.2** according to the CONCAWE algorithm. The noise model does not include the 1.8 m high green waste area wall observed to be under construction.

After consultation with both the Department of Planning, Housing and Infrastructure and the EPA, RCA have decided to present noise modelling results with stockpiles onsite (which act as noise barriers) and without stockpiles (including green waste) onsite for completeness. It should be kept in mind though, that a scenario where there are no stockpiles on site has never been seen by RCA in the almost four years of undertaking quarterly compliance monitoring. RCA note that stockpiles are a natural result of the Concrush business, and having no stockpiles could only mean that the business is not operating, and therefore not making any noise. So, while RCA present the "no stockpile" scenario for completeness, we feel that this is very unrealistic, and the results are therefore meaningless.

| | | No. of plant included in each 15-minute scenario | | | | | | |
|--|--|--|------------------------|--|--|--|--|--|
| Plant modelled | Adopted sound power, dBA | Adopted sound power, dBA shredding and sales | | Proposed night work | | | | |
| Trucks entering/exiting or receiving product | 98 dBA moving point source (taken from EIS) | 4 | 2 | 2 | | | | |
| Cars entering/exiting | 87 dBA moving point source (taken from EIS) | 4 | - | - | | | | |
| Water cart circuit around stockpiles | 98 dBA moving point source (taken from EIS) | Circuit around site | Circuit around site | - | | | | |
| Wheeled loaders working at stockpiles | 111 dBA point source (taken from EIS) | 2 (full 15 minutes) | 1 (full 15 minutes) | 1 (operating 5 minutes per 15 minutes) | | | | |
| Small loader at sales | 102 dBA point source (taken from EIS) | 1 (full 15 minutes) | - | - | | | | |
| Primary processing area crushing (Jaw & Cone crusher, vacuum pumps, 2x screens and 2 x excavators) | 111 dBA point source (measured onsite, May 2023) | 1 (full 15 minutes) | 1 (full 15 minutes) | - | | | | |

| Table 11 | Noise model scenarios |
|----------|-----------------------|
|----------|-----------------------|



| | | No. of plant include | d in each 15-min | ute scenario |
|---|--|--|--------------------------|------------------------|
| Plant modelled | Adopted sound power, dBA | Full production, green waste shredding and sales | Proposed evening work | Proposed night work |
| Green shredder & feeding excavator | 116 dBA point source (measured onsite, October 2023) | 1 (full 15 minutes) | - | - |
| Tipping truck | LAmax 118 dBA point source (taken from EIS) | 2 | 2 | 2 |
| Fans in green waste area | 82 dBA point source (taken from EIS) | 4 (full 15 minutes) | 4 (full 15 minutes) | 4 (full 15 minutes) |
| Secondary processing area: recently acquired mobile crusher | 111 dBA point source (manufacturer data) | 1 (full 15 minutes) | 1 (full 15 minutes) | - |
| Secondary processing area: excavator to feed mobile crusher | 105 dBA point source (taken from EIS) | 1 (full 15 minutes) | 1 (full 15 minutes) | - |

7 NOISE MODEL RESULTS

The following sections present noise model results for proposed night time, evening and daytime operations.

7.1 NIGHT TIME UNLOADING CADNA MODELLING

This section assesses 24-hour loading and unloading activities to support a request to modify the existing operating consent conditions. Before assessing the significant night time wind directions, we first prepare a validated computer noise model based on the unloading activities and weather conditions that were present during RCA's attended monitoring during the evening of the 30th of October 2023. This survey was reported in RCA report 13155-620/0 November 2023. An excerpt from the results table is shown in **Table 7**, with time traces shown in **Appendix B**. The wind was noted to be mostly calm, and the sky was mostly clear during this evening. No temperature inversion was present.

Site activities and conditions observed on the 30^{th} of October 2023 were then modelled in CadnaA. The L_{Aeq,15 min} site contribution at NCA 1 was predicted to be 27 dBA which supports the operators attended monitoring assessment of less than 30 dBA.



| Unloading noise sources | Modelled operating duration | Modelled weather conditions | NCA 1 Predicted LAeq,15 min, dBA | NCA 1 predicted L _{Amax} , dBA |
|----------------------------|---|---|-------------------------------------|---|
| 2 x trucks entering site | Moving point source, two instances during 15-minute period | 15° C, Calm, | | |
| Tipping | Less than 5 seconds, with L _{Amax} of 118 dBA | 70° relative humidity, no temperature | 27 dBA | 46 dBA |
| FEL moving material | 30 seconds during 15-minute period | Inversion | | |

 Table 12
 Validated noise model of unloading activities

Site arrivals would be staggered over the night and the observations above were based on two arrivals within a single 15-minute period. To be conservative, RCA have doubled the noise source inputs discussed above to represent four arrivals in any single 15-minute period. A noise model was then prepared to account for significant wind directions (discussed in **Section 3.2**) including an F stability class temperature inversion. **Table 13** presents the predicted results for night time unloading with stockpiles.

| Receiver | Criteria | N 2 m/s wind, F stability class | E 2 m/s wind, F stability class | SW 2 m/s wind, F stability class | W 2 m/s wind, F stability class | NW 2 m/s wind, F stability class | Worst case L _{Amax} |
|------------------|---|--|--|---|--|---|------------------------------------|
| NCA1 | L _{Aeq,15min} 36 L _{Amax} 52 | 30 | 30 | 35 | 34 | 34 | 51 |
| NCA2 North | L _{Aeq,15min} 37 L _{Amax} 52 | 34 | 30 | 36 | 34 | 36 | 48 |
| NCA2 South | L _{Aeq,15min} 37 L _{Amax} 52 | 34 | 30 | 34 | 34 | 35 | 48 |
| NCA3 | L _{Aeq,15min} 53 | 38 | 34 | 40 | 39 | 39 | 55 |
| NCA4 | L _{Aeq,15min} 42 L _{Amax} 52 | 31 | 26 | 32 | 31 | 32 | 46 |
| NCA5 Industry | L _{Aeq,15min} 68 | 20 | 21 | 17 | 16 | 17 | 37 |

Table 13Night time unloading noise results with stockpiles, dBA

Night time unloading activities were modelled and found to comply with noise targets at all receivers. This is consistent with the operator's observations from recent compliance monitoring discussed previously, and indicates that unloading activities can occur 24 hours a day without causing noise impacts. For completeness, **Table 14** presents the predicted results for night time unloading without stockpiles. RCA have already stated that this is considered a very unlikely, and unrealistic operating scenario, since stockpiles are a natural part of the Concrush business.

Concrush Pty Ltd



| Receiver | Criteria | N 2 m/s wind, F stability class | E 2 m/s wind, F stability class | SW 2 m/s wind, F stability class | W 2 m/s wind, F stability class | NW 2 m/s wind, F stability class | Worst case L _{Amax} |
|------------------|---|--|--|---|--|---|------------------------------------|
| NCA1 | L _{Aeq,15min} 36 L _{Amax} 52 | 30 | 30 | 35 | 34 | 34 | 51 |
| NCA2 North | L _{Aeq,15min} 37 L _{Amax} 52 | 39 | 35 | 40 | 39 | 40 | 55 |
| NCA2 South | L _{Aeq,15min} 37 L _{Amax} 52 | 40 | 35 | 39 | 40 | 40 | 56 |
| NCA3 | L _{Aeq,15min} 53 | 38 | 34 | 40 | 39 | 39 | 55 |
| NCA4 | L _{Aeq,15min} 42 L _{Amax} 52 | 35 | 30 | 35 | 35 | 35 | 51 |
| NCA5 Industry | L _{Aeq,15min} 68 | 20 | 21 | 17 | 16 | 17 | 37 |

 Table 14
 Night time unloading noise results without stockpiles, dBA

It is seen that night time unloading noise without the stockpiles would potentially lead a 3 dB exceedance of the night time L_{Aeq} noise criteria and a 4 dB exceedance of the sleep disturbance criteria for NCA2 receivers, under noise enhancing conditions. RCA note that this hypothetical site noise contribution at NCA2 is still more than 20 dB lower than the L_{Aeq} contribution measured from road traffic (see **Table 9**) and is therefore unlikely to cause a noise impact.

7.2 NIGHT TIME LOADING ACTIVITIES

The big difference between the modelled loading and unloading activities is that RCA have assumed that the loader is now operating for five minutes out of the 15-minute assessment period. Noise predictions for loading are presented below.

| Receiver | Criteria | N 2 m/s wind, F stability class | E 2 m/s wind, F stability class | SW 2 m/s wind, F stability class | W 2 m/s wind, F stability class | NW 2 m/s wind, F stability class | Worst case L _{Amax} |
|---------------|---|--|--|--|--|---|------------------------------------|
| NCA1 | L _{Aeq,15min} 36 L _{Amax} 52 | 37 | 37 | 41 | 41 | 40 | 51 |
| NCA2 North | L _{Aeq,15min} 37 L _{Amax} 52 | 39 | 34 | 39 | 39 | 39 | 48 |
| NCA2 South | L _{Aeq,15min} 37 L _{Amax} 52 | 39 | 35 | 38 | 39 | 39 | 48 |
| NCA3 | L _{Aeq,15min} 53 | 441 | 41 | 45 | 45 | 45 | 55 |
| NCA4 | L _{Aeq,15min} 42 L _{Amax} 52 | 37 | 32 | 37 | 37 | 37 | 46 |

Table 15Night time loading activities with stockpiles, dBA



| Receiver | Criteria | N 2 m/s wind, F stability class | E 2 m/s wind, F stability class | SW 2 m/s wind, F stability class | W 2 m/s wind, F stability class | NW 2 m/s wind, F stability class | Worst case L _{Amax} |
|------------------|---------------------------|--|--|--|--|---|------------------------------------|
| NCA5 Industry | L _{Aeq,15min} 68 | 26 | 27 | 23 | 23 | 23 | 37 |

It is seen that operating the loader for at least five minutes generates predicted noise exceedances at NCA 1 and NCA 2 for the majority of significant wind directions. RCA note that this assessment is based on a large diesel loader and that future models will likely be quieter. **Table 16** presents the predicted results for night time loading without stockpiles for completeness.

| Receiver | Criteria | N 2 m/s wind, F stability class | E 2 m/s wind, F stability class | SW 2 m/s wind, F stability class | W 2 m/s wind, F stability class | NW 2 m/s wind, F stability class | Worst case L _{Amax} |
|------------------|---|--|--|--|--|---|------------------------------------|
| NCA1 | L _{Aeq,15min} 36 L _{Amax} 52 | 37 | 37 | 41 | 41 | 40 | 51 |
| NCA2 North | L _{Aeq,15min} 37 L _{Amax} 52 | 45 | 41 | 45 | 45 | 45 | 55 |
| NCA2 South | L _{Aeq,15min} 37 L _{Amax} 52 | 46 | 42 | 45 | 46 | 46 | 56 |
| NCA3 | L _{Aeq,15min} 53 | 44 | 41 | 45 | 45 | 45 | 55 |
| NCA4 | L _{Aeq,15min} 42 L _{Amax} 52 | 41 | 36 | 41 | 41 | 41 | 51 |
| NCA5 Industry | L _{Aeq,15min} 68 | 26 | 27 | 23 | 23 | 23 | 32 |

 Table 16
 Night time loading activities without stockpiles, dBA

7.3 EVENING CRUSHING

This scenario assesses primary and secondary crushing areas, including a single front-end loader operating near the primary crushing area for the full 15 minutes as well as two heavy vehicle arrivals to either load or unload (the loading scenario is captured with the front-end loader operating the full period). Noise predictions are presented below for the significant wind directions.

| Table 17 | Evening crushing and loading/ unloading activities with stockpiles, dB | Α |
|----------|--|---|
|----------|--|---|

| Receiver | Criteria | N 3 m/s wind, D stability class | E 3 m/s wind, D stability class | SW 3 m/s wind, D stability class | W 3 m/s wind, D stability class | NW 3 m/s wind, D stability class |
|------------|---------------------------|--|--|---|--|---|
| NCA1 | L _{Aeq,15min} 43 | 43 | 43 | 48 | 48 | 45 |
| NCA2 North | L _{Aeq,15min} 47 | 46 | 41 | 46 | 46 | 47 |
| NCA2 South | L _{Aeq,15min} 47 | 47 | 42 | 46 | 47 | 47 |



| Receiver | Criteria | N 3 m/s wind, D stability class | E 3 m/s wind, D stability class | SW 3 m/s wind, D stability class | W 3 m/s wind, D stability class | NW 3 m/s wind, D stability class |
|----------|---------------------------|--|--|---|--|---|
| NCA3 | L _{Aeq,15min} 53 | 46 | 46 | 52 | 52 | 52 |
| NCA4 | L _{Aeq,15min} 48 | 43 | 37 | 44 | 44 | 44 |
| NCA5 | L _{Aeq,15min} 68 | 38 | 41 | 35 | 35 | 35 |

It was found that crushing could only occur under northerly or easterly wind conditions without causing a noise exceedance. Again, this is based on existing plant and RCA note that future plant will likely be quieter. Evening loading and unloading activities without crushing already have approval. Table 18 presents the predicted results for evening activities without stockpiles for completeness.

| Receiver | Criteria | N 3 m/s wind, D stability class | E 3 m/s wind, D stability class | SW 3 m/s wind, D stability class | W 3 m/s wind, D stability class | NW 3 m/s wind, D stability class |
|------------|---------------------------|--|--|---|--|---|
| NCA1 | L _{Aeq,15min} 43 | 43 | 43 | 48 | 48 | 45 |
| NCA2 North | L _{Aeq,15min} 47 | 53 | 48 | 54 | 54 | 54 |
| NCA2 South | L _{Aeq,15min} 47 | 55 | 49 | 54 | 55 | 55 |
| NCA3 | L _{Aeq,15min} 53 | 46 | 46 | 52 | 52 | 52 |
| NCA4 | L _{Aeq,15min} 48 | 49 | 43 | 49 | 49 | 50 |
| NCA5 | L _{Aeq,15min} 68 | 38 | 41 | 35 | 35 | 35 |

Table 18 Evening crushing and loading/ unloading activities without stockpiles, dBA

7.4 DAY TIME FULL OPERATIONS WITHOUT ADDITIONAL NOISE WALLS

This scenario assesses full operations, including green waste shredding, and is presented without the south or eastern noise wall that is currently required (Condition B45) but does have the shredder behind a 3 m tall bund to represent piles of mulch observed on site. The 1.8 m wall east of the green waste area previously discussed has not been modelled to test whether additional noise walls are required.

53

48

36

53

48

36

| Table 19Daytin | me full operations with | th stockpiles, dB | A | |
|----------------|---------------------------|---------------------------------------|--|---------------------------------------|
| Receiver | Criteria | W 3 m/s wind, D stability class | NW 3 m/s wind, D stability class | E 3 m/s wind, D stability class |
| NCA1 | $L_{Aeq,15min}$ 51 | 50 | 47 | 44 |
| NCA2 North | L _{Aeq,15min} 56 | 52 | 52 | 46 |
| NCA2 South | L _{Aeq,15min} 56 | 53 | 53 | 47 |

| Table 19 | Daytime full operations | with stockpiles, dBA |
|----------|-------------------------|----------------------|
|----------|-------------------------|----------------------|

LAea.15min 53

LAeq,15min 54

L_{Aeq,15min} 68

NCA3

NCA4

NCA5



> 47

41

43

It was found that no additional noise barrier was required on the east or southern boundary to avoid noise impacts from daytime full operations. This supports Concrush's request to remove consent condition B45. These results are consistent with the results of routine compliance noise monitoring undertaken starting in 2020. **Table 20** presents the predicted results for daytime operations without stockpiles, including no green waste stockpiles, for completeness.

| Receiver | Criteria | W 3 m/s wind, D stability class | NW 3 m/s wind, D stability class | E 3 m/s wind, D stability class |
|------------|---------------------------|---------------------------------------|--|---------------------------------------|
| NCA1 | L _{Aeq,15min} 51 | 51 | 47 | 45 |
| NCA2 North | L _{Aeq,15min} 56 | 58 | 58 | 51 |
| NCA2 South | L _{Aeq,15min} 56 | 60 | 60 | 54 |
| NCA3 | L _{Aeq,15min} 53 | 57 | 57 | 50 |
| NCA4 | L _{Aeq,15min} 54 | 53 | 53 | 46 |
| NCA5 | L _{Aeq,15min} 68 | 37 | 37 | 44 |

 Table 20
 Daytime full operations without stockpiles, dBA

Noise levels during daytime operations without stockpiles are predicted to exceed the daytime criteria for NCA2 and NCA3 with westerly and north-westerly wind conditions. Again, it is important to note that the levels predicted in **Table 20** represent the unlikely scenario where there are no stockpiles on site and are not supported by quarterly compliance monitoring that has been undertaken since 2020. The discrepancy between the predictions shown in **Table 20** and site observations made since 2020 strongly supports RCA's assertion that this "no stockpile" scenario is very unlikely.

7.5 RESULTS SUMMARY

This noise assessment made a few important findings. These are:

- Condition B45 regarding noise walls along the eastern and southern boundaries is not required to achieve compliance with the adopted daytime criteria and would not serve to mitigate proposed evening or night time operations. Condition B45 can therefore be removed.
- Noise modelling and attended monitoring conducted on the 30th of October 2023 and the 16th and 17th of April 2024 all indicate that unloading activities can occur 24 hours a day without causing noise impacts to any nearby noise receivers.
- Noise modelling indicates that loading activities would cause noise impacts at night time under the majority of prevailing wind conditions identified. RCA note however that Concrush are committed to a process of decarbonization and look for opportunities to replace old plant with newer, cleaner plant such as the new electric mobile crusher. There is a general trend that the newer technology is also quieter, and so operational noise levels are expected to trend downwards as older plant are replaced.
- Crushing activities could occur during the evening period under northerly and easterly wind conditions without causing noise impacts based on the existing plant. Again, as these plants are replaced with quieter models, crushing noise levels will decrease.

RCA's recommended operating conditions are summarised below in Table 21.



| Activitico | Recommended operating periods | | | | | | | |
|--|-------------------------------|---|-------|--|--|--|--|--|
| Activities | Day | Evening | Night | | | | | |
| Full operations (crushing at primary and secondary location, green waste shredding, trucks loading and unloading, sales) | Already have approval | No | No | | | | | |
| Crushing & loading / unloading | Already have approval | During Northerly and Easterly winds only | No | | | | | |
| Loading only | Already have approval | Already have approval | No | | | | | |
| Unloading only | Already have approval | Already have approval | Yes | | | | | |

 Table 21
 Summary of RCA's recommended operating periods

8 **RECOMMENDATIONS**

RCA support modifying the consent as outlined above but note that the current Operational Noise Management Plan will need to be updated including review of the quarterly noise monitoring procedures.

9 CONCLUSION

RCA have updated the Noise Impact Assessment previously prepared for the EIS which assessed Concrush's proposed Expansion Project. This updated assessment is based on minor site layout changes and current plant on site. This assessment supports Concrush's request to remove Condition B45 regarding an eastern and southern noise wall and also supports Concrush's request to operate unloading activities 24 hours a day. It was found however that crushing activities could not occur during night time and that crushing activities could only occur during the evening under northerly and easterly wind conditions while achieving evening noise criteria. It was also found that loading activities in isolation would likely generate noise impacts at night time, based on current plant.

Yours faithfully

RCA AUSTRALIA

A. Rees

Alex Rees Senior Acoustic Consultant



REFERENCES

- [1] Noise Impact Assessment (prepared for EIS), RCA Australia, reference 13155-601/4
- [2] Operational Noise Management Plan for Concrush Pty Ltd Teralba Facility, RCA Australia, dated 21/07/2020

GLOSSARY

Concrush Pty Ltd

21 Racecourse Rd, Teralba

RCA ref 13155-621/3 June 2024

Consent Modification Noise Impact Assessment

| dB (A) | Unit of sound pressure level, modified by the A-weighting network to represent the sensitivity of the human ear. |
|-----------------|---|
| SPL (Lp) | The incremental variation of sound pressure from the reference pressure level expressed in decibels. |
| L _{eq} | Equivalent continuous noise level averaged over time on an equivalent energy basis. |
| L ₁ | Average Peak Noise Level in a measurement period. |
| L ₁₀ | Average Maximum Noise Level in a measurement period. |
| L ₉₀ | Average Minimum Noise Level in a measurement period. |
| 1/3 Octave | Division of frequencies into bands of width one-third of an octave. Sound data can be calculated for each division. |



Appendix A

Summary table of historical compliance monitoring

| Survey Location | | | Ove | erall | | Site Site LAeq 15min LAeq 15min in Limit Contribut | Site | Complies with condition Y/N? | | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|--|---------------------------------|---|--|--|
| | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | | L _{Aeq 15min} Contribution | | Noise Sources | | |
| Quarter 3 2020 | | | | | | | | | | | |
| NCA1 | 28/09/2020 13:15 | 65 | 85 | 67 | 56 | 51 | NIL | Y | Site was inaudible. Other: Background noise coming from construction works at the bridge. Birds ~ 63 dBA Cars ~ LAmax 75 dBA Trucks ~ LAmax 85 dB | | |
| NCA2 | 28/09/2020 13:45 | 56 | 65 | 57 | 54 | 56 | NIL | Y | Site was inaudible. Other: Constant noise from construction works at the bridge. | | |
| NCA3 | 28/09/2020 14:11 | 58 | 68 | 61 | 53 | 53 | NIL | Y | Site was inaudible. Other: Road traffic was dominant noise source. | | |
| NCA1 | 28/09/2020 14:37 | 67 | 86 | 70 | 58 | 51 | NIL | Y | Site was inaudible. Background noise from construction works at the bridge. Other: Birds ~ 65 -70 dBA Cars ~ 75 dBA Trucks ~ 80- 86 dB | | |

| | Survey LocationSurvey Date and Start TimeOveraLocationLAeq 15minLAmax 15minL 15min | Overall | | | | Site | Site | | | |
|--------------------|---|---------------------------|---------------------------|---------------------------------|--|------------------------------|---------------|---|---|--|
| Survey Location | | L _{A10} 15min | L _{A90} 15min | L _{Aeq} 15min Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources | | | |
| NCA2 | 28/09/2020 15:04 | 58 | 71 | 60 | 55 | 56 | NIL | Y | Site was inaudible. Other: Constant noise from construction works at the bridge. Aircraft ~ 66 dBA | |
| NCA3 | 28/09/2020 15:26 | 59 | 71 | 61 | 55 | 53 | NIL | Y | Site was inaudible. Other: Road traffic was dominant noise source. | |
| Quarter 4 2020 | | | | | | | | | | |
| NCA1 | 10/12/2020 11:50 | 66 | 78 | 69 | 59 | 51 | NIL | Y | Site was inaudible. Other: Background noise coming from Cicadas and construction works @ bridge. Car Passbys ~ 73 dBA Passenger Train ~ 69 dBA Freight Train ~ 71 – 74 dBA | |
| NCA2 | 10/12/2020 12:17 | 64 | 85 | 59 | 53 | 56 | NIL | Y | Site was inaudible. Other: Background noise coming from Cicadas. Car Passby entering bridge work site ~ 84 dBA Passenger Train ~ 70 dBA | |

| Survey Survey Dat Location Start Tin | | Overall | | | | Site | Site | | |
|---|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|----------------|---|
| | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | condition Y/N? | Noise Sources |
| NCA3 | 10/12/2020 12:41 | 61 | 86 | 64 | 56 | 53 | NIL | Y | Site was inaudible. Other: Road traffic coming from TC Frith Rd was the dominant background noise source. |
| NCA1 | 10/12/2020 13:08 | 63 | 87 | 68 | 54 | 51 | NIL | Y | Excavator was occasionally audible but not measurable due to masking from ambient acoustic environment. Other: Background noise coming from Cicadas. Car Passbys ~ 70 dBA Passenger Train ~ 64 dBA Cicadas Close by ~ 68 dB |
| NCA2 | 10/12/2020 13:35 | 58 | 76 | 58 | 53 | 56 | NIL | Y | Excavators were occasionally audible and observed to be working but not measurable due to masking from ambient acoustic environment Other: Background noise coming from Cicadas + road noise. Passenger Train ~ 69 dBA Truck Passby ~ 75 dBA |

| | | Overall | | | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|---------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA3 | 10/12/2020 13:59 | 62 | 72 | 65 | 58 | 53 | NIL | Y | Site was inaudible. Other: Road traffic coming from TC Frith Rd and Cicadas were the dominant background noise source |
| | | | | | | Quarter 1 20 | 21 | | |
| NCA1 | 08/03/2021 14:03 | 64 | 83 | 68 | 45 | 51 | NIL | Y | Site was inaudible. Other: Background noise coming from insects and birds ~ 44 dBA Car and Truck Passbys ~ 50 - 80 dBA |
| NCA2 | 08/03/2021 13:30 | 63 | 76 | 65 | 58 | 56 | NIL | Y | Site was inaudible. Other: Background noise coming from generator on bridge and constant traffic noise ~ 54 dBA Trains ~ 68 - 75 dBA |
| NCA3 | 09/03/2021 14:30 | 59 | 72 | 60 | 54 | 53 | NIL | Y | Site was inaudible. Other: Road traffic was the dominant background noise source |

| | | | Ove | erall | | Site | Site | | | | | | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|---------------------------------|--|--|--|--|--|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources | | | | | |
| | | | | | | | | | Site was inaudible. | | | | | |
| | | | | | | | | | Other: | | | | | |
| NCA1 | 09/03/2021 14:05 | 64 | 83 | 68 | 44 | 51 | NIL | Y | Background noise coming from insects and birds | | | | | |
| | | | | | | | | | ~ 45 - 48 dBA | | | | | |
| | | | | | | | | | Car & Truck Passby ~ 68 - 83 dBA | | | | | |
| | | | | | | | | | Site was inaudible. | | | | | |
| NCA2 | 09/03/2021 15:00 | | 79 | 64 | 59 | 56 | NIL | Y | Other: | | | | | |
| | | 63 | | | | | | | Background noise coming from road noise ~ 50 dBA | | | | | |
| | | 15.00 | 15.00 | 15.00 | 13.00 | 13.00 | 13.00 | 10.00 | | | | | | |
| | | | | | | | | | Truck/Car Passby ~ 55 - 72 dBA | | | | | |
| | | | 82 | 62 | 50 | 53 | NIL | Y | Site was inaudible. | | | | | |
| NCA3 | 09/03/2021 | 61 | | | | | | | Other: | | | | | |
| | 14:32 | | 02 | 02 | | | | | Road traffic was the dominant background noise source | | | | | |
| | | | | | | Quarter 2 20 | 21 | | | | | | | |
| | | | | | | | | | Site was inaudible. | | | | | |
| | | | | | | | | | Other: | | | | | |
| NCA1 | 13/04/2021 | 52 | 72 | 53 | 13 | 51 | NII | v | Insects and birds ~ 43 dBA | | | | | |
| NOAT | 12:15 | 52 | 12 | 53 | 43 | 51 | | Y | Car Passbys ~ 66 - 72 dBA | | | | | |
| | | | | | | | | | Helicopter ~ 54 – 65 dBA | | | | | |
| | | | | | | | | | Bridge work noise ~ 48 – 52 dBA | | | | | |

| | | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq} 15min Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA2 | 13/04/2021 12:46 | 62 | 79 | 65 | 57 | 56 | NIL | Y | Site was inaudible. Other: Excavator and tree trimming all measurement ~ 65 dBA |
| NCA3 | 13/04/2021 13:15 | 52 | 68 | 53 | 49 | 53 | NIL | Y | Site was inaudible. Other: Highway noise ~ 50 – 56 dBA Car passby & Train ~ 62 – 68 dBA |
| NCA1 | 13/04/2021 13:45 | 53 | 72 | 50 | 44 | 51 | NIL | Y | Site was inaudible. Other: Insects and birds ~ 43 dBA Car Passbys ~ 69 - 72 dBA Train ~ 63 – 71 dBA Bridge work noise ~ 49 – 55 dBA |
| NCA2 | 13/04/2021 14:32 | 60 | 68 | 62 | 56 | 56 | NIL | Y | Site was inaudible. Other: Excavator and tree trimming all measurement ~ 65 dBA |
| NCA3 | 13/04/2021 15:00 | 57 | 83 | 53 | 49 | 53 | NIL | Y | Site was inaudible. Other: Highway noise ~ 50 – 55 dBA Bridge work noise ~ 54 – 58 dBA Train ~ 76 dBA Door Closing ~ 83 dBA |

| Survey Survey Location Start | | Overall | | | | Site | Site | | | | |
|---------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|--|--|--|
| | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources | | |
| Quarter 3 2021 | | | | | | | | | | | |
| NCA1 | 13/07/2021 14:35 | 58 | 71 | 67 | 63 | 51 | NIL | Y | Site was inaudible. Other: Insects/ Birds ~ 47 - 57 dBA Car Passby ~ 70 dBA Train Passby ~ 71 dBA Bridge work noise ~ 52 – 57 dBA Wind on trees ~ 51 dBA | | |
| NCA2 | 13/07/2021 15:01 | 64 | 73 | 68 | 66 | 56 | NIL | Y | Site was inaudible. Other: Traffic ~ 67 - 73 dBA Wind on trees ~ 60 dBA | | |
| NCA3 | 13/07/2021 15:25 | 67 | 88 | 78 | 63 | 53 | NIL | Y | Site was inaudible. Other: Car passby ~ 66 dBA Freight Train ~ 76 - 88 dBA Passenger Train ~ 61 - 71 dBA Birds ~ 64 dBA | | |
| NCA1 | 13/07/2021 15:58 | 55 | 81 | 63 | 52 | 51 | NIL | Y | Site was inaudible. Other: Insects and birds ~ 50 - 59 dBA Car Passbys ~ 51 - 81 dBA Distant traffic ~ 43 dBA Bridge work noise ~ 51 – 58 dBA | | |
| | Survey Date and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq} 15min Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA2 | 13/07/2021 16:22 | 64 | 80 | 69 | 67 | 56 | NIL | Y | Site was inaudible. Other: Traffic ~ 62 - 80 dBA Birds ~ 66 - 70 dBA |
| NCA3 | 13/07/2021 16:40 | 65 | 84 | 77 | 67 | 53 | NIL | Y | Site was inaudible. Other: Highway traffic ~ 50 dBA Car Passby ~ 59 dBA Freight Train ~ 84 dBA Passenger Train ~ 68 - 75 dBA Birds ~ 53 - 56 dBA |
| | | | | | | Quarter 4 20 | 21 | | |
| NCA1 | 14/10/2021 12:50 | 56 | 77 | 53 | 41 | 51 | NIL | Y | Site was inaudible. Other: Insects/ Birds ~ 47 - 57 dBA Car Passby ~ 63-76 dBA Train Passby ~ 77 dBA Neighbouring House ~ 50-60 dBA Highway Noise ~ 55 dBA |
| NCA2 | 14/10/2021 13:25 | 61 | 71 | 63 | 57 | 56 | NIL | Y | Site was inaudible. Other: Train Passby ~ 63 - 71 dBA Birds ~ 63 dBA Highway Noise ~ 54-63 dBA |

| | Survey Date and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA3 | 14/10/2021 13:45 | 59 | 82 | 59 | 49 | 53 | NIL | Y | Site was inaudible. Other: Car Passby 65-82 dBA Train Passby 65 - 80 dBA Birds 55-60 dBA Wind in Trees ~ 55 dBA Highway Noise 55-65 dBA |
| NCA1 | 14/10/2021 14:15 | 53 | 77 | 49 | 43 | 51 | NIL | Y | Site was inaudible. Other: Insects and birds 50 - 59 dBA Car Passbys 65 - 77 dBA Distant traffic 55-60 dBA |
| NCA2 | 14/10/2021 14:45 | 59 | 67 | 62 | 56 | 56 | NIL | Y | Site was inaudible. Other: Highway Noise 55-60 dBA Car Passbys 60-65 dBA House Noise ~ 52 dBA Birds 55 - 60 dBA |
| NCA3 | 14/10/2021 15:05 | 65 | 84 | 61 | 53 | 53 | NIL | Y | Site was inaudible. Other: Highway traffic ~ 55 dBA Car Passby ~ 69 dBA Train Passby ~ 84 dBA Birds 55 - 65 dBA |
| | | | | | | Quarter 1 20 | 22 | | |

| | Survey Date and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA1 | 16/03/2022 14:27 | 58 | 78 | 56 | 48 | 51 | NIL | Y | Site was inaudible. Other: Insects/ Birds 45 - 50 dBA Car Pass by 63 - 76 dBA Train Pass by 70 - 77 dBA Distant road noise 48- 58 dBA |
| NCA2 | 16/03/2022 13:35 | 62 | 82 | 58 | 50 | 56 | NIL | Y | Site was inaudible. Other: Train Pass by 75 - 83 dBA Truck entering & leaving 55 -70 dBA |
| NCA3 | 16/03/2022 14:55 | 60 | 71 | 62 | 57 | 53 | NIL | Y | Site was inaudible. Other: Birds 50-60 dBA Main Rd/Frith St noise 55-68 dBA |
| NCA1 | 16/03/2022 15:45 | 56 | 80 | 53 | 48 | 51 | NIL | Y | Site was inaudible. Other: Truck U-turn 63 - 72 dBA Distant traffic 48-55 dBA Dogs Barking ~ 55 dBA Impact Noise ~ 66 dBA |

| | Survey Date and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA2 | 16/03/2022 15:15 | 56 | 83 | 52 | 52 | 56 | NIL | Y | Site was inaudible. Other: Train Pass by – 66 – 78 dBA Truck leaving site 57-68 dBA Distant traffic 50 – 56 dBA |
| NCA3 | 16/03/2022 16:11 | 58 | 68 | 61 | 53 | 53 | NIL | Y | Site was inaudible. Other: Birds 48 - 55 dBA Main Rd/Frith St noise 55-65 dBA |
| | | | | | | Quarter 2 20 | 22 | | |
| NCA1 | 06/05/2022 13:58 | 57 | 74 | 55 | 43 | 51 | NIL | Y | Site was inaudible. Other: Insects/ Birds 40 - 45 dBA Vehicle Passby 70 - 73 dBA Train Passby 68 - 71 dBA Plane ~ 56 dBA |
| NCA2 | 06/05/2022 14:42 | 63 | 87 | 57 | 50 | 56 | NIL | Y | Site was inaudible. Other: Train Passby 63 - 85 dBA Birds 50 - 55 dBA Highway Noise 54-63 dBA Emergency Siren ~ 73 dBA |

| | | Overall | | | | Site | Site | | |
|--------------------|-------------------------------|--|----|------------------------------|---------------|--------------|------|---|---|
| Survey Location | Survey Date and Start Time | Start Time LAeq LAmax LA10 LA90 LAeq 15min LAeq 15min Contribution Condition Y 15min | | Complies with condition Y/N? | Noise Sources | | | | |
| NCA3 | 06/05/2022 14:23 | 63 | 71 | 65 | 58 | 53 | NIL | Y | Site was inaudible. Other: Vehicle Passby 65-76 dBA Highway Noise 55-68 dBA |
| NCA1 | 06/05/2022 15:14 | 60 | 76 | 65 | 44 | 51 | NIL | Y | Site was inaudible. Other: Insects and birds 45 - 55 dBA Vehicle Passbys 65 - 73 dBA Trains 70 – 75 dBA Distant traffic 40 - 45 dBA |
| NCA2 | 06/05/2022 15:40 | 53 | 65 | 54 | 50 | 56 | NIL | Y | Site was inaudible. Other: Trains 60-65 dBA Highway Noise 55-60 dBA Road noise 50-54 dBA Birds 50 - 60 dBA |
| NCA3 | 06/05/2022 16:02 | 64 | 73 | 66 | 60 | 53 | NIL | Y | Site was inaudible. Other: Highway traffic 55 - 70 dBA Vehicle Passby ~ 70 dBA |
| | | | | | | Quarter 3 20 | 22 | | |

| | Survey Date and | | Ove | erall | | Site Site | | Site | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA1 | 19/09/2022 13:30 | 60 | 82 | 65 | 44 | 51 | NIL | Y | Site was inaudible. Other: Insects and birds 45 - 55 dBA Vehicle Passbys 65 - 73 dBA Trains 70 – 82 dBA Distant traffic 40 - 45 dBA |
| NCA2 | 19/09/2022 12:25 | 63 | 87 | 57 | 50 | 56 | NIL | Y | Site was inaudible. Other: Train Passby 63 - 87 dBA Birds 50 - 55 dBA Highway Noise 54-63 dBA Emergency Siren ~ 73 dBA |
| NCA3 | 19/09/2022 13:00 | 61 | 72 | 64 | 56 | 53 | NIL | Y | Site was inaudible. Other: Vehicle Passby 60-65 dBA Scrapping Metal 60-69 dBA |
| NCA1 | 19/09/2022 14:30 | 54 | 88 | 52 | 45 | 51 | NIL | Y | Site was inaudible. Other: Insects/ Birds 40 - 45 dBA Vehicle Passby 70 - 75 dBA Train Passby 68 - 88 dBA |

| | Survey Date and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA2 | 19/09/2022 15:14 | 61 | 79 | 64 | 56 | 56 | NIL | Y | Site was inaudible. Other: Trains 60-79 dBA Highway Noise 55-60 dBA Road noise 50-54 dBA Birds 50 - 60 dBA |
| NCA3 | 19/09/2022 14:00 | 63 | 70 | 65 | 69 | 53 | NIL | Y | Site was inaudible. Other: Highway traffic 55 - 70 dBA Vehicle Passby ~ 70 dBA |
| | | | | | | Quarter 4 20 | 22 | | |
| NCA1 | 18/10/2022 9:00 | 63 | 81 | 68 | 44 | 51 | NIL | Y | Site was inaudible. Other: Insects/ Birds 40 - 45 dBA Vehicle Passby 70 - 81 dBA Train Passby 62 - 64 dBA |
| NCA2 | 18/10/2022 9:30 | 68 | 85 | 69 | 62 | 56 | NIL | Y | Site was inaudible. Other: Train Passby 63 - 85 dBA Birds 46 - 66 dBA Highway Noise 50-77 dBA |

| | Survey Date and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|---------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA3 | 18/10/2022 10:00 | 63 | 84 | 53 | 44 | 53 | NIL | Y | Site was inaudible. Other: Vehicle Passby 65-84 dBA Train Passby 62 - 64 dBA Ride on Mower 66 – 70 dBA |
| NCA1 | 18/10/2022 10:45 | 67 | 98 | 63 | 49 | 51 | NIL | Y | Site was inaudible. Other: Dog bark 50 - 64 dBA Vehicle Passbys 52 - 74 dBA Truck Passby 80 – 98 Toy Plane 50 - 54 dBA Distant traffic 40 - 45 dBA |
| NCA2 | 18/10/2022 11:15 | 55 | 79 | 51 | 44 | 56 | NIL | Y | Site was inaudible. Other: Trains 62-68 dBA Road Noise 55-60 dBA Loud Engine Revs 50-79 dBA Birds 48 - 56 dBA |
| NCA3 | 18/10/2022 11:45 | 65 | 84 | 67 | 59 | 53 | NIL | Y | Site was inaudible. Other: Highway traffic 60 - 72 dBA Vehicle Passby ~ 72 dBA Train Passby 62 - 83 |
| | | | | | | Quarter 1 20 | 23 | | |

| | Survey Date and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA1 | 06/02/2023 12:15 | 60 | 80 | 73 | 44 | 51 | NIL | Y | Site was inaudible. Other: Insects/ Birds 49-53 dBA Vehicle Passby 63-80 dBA Water vehicles 53-65 dBA |
| NCA2 | 06/02/2023 12:45 | 57 | 77 | 52 | 47 | 56 | NIL | Y | Site was inaudible. Other: Train Passby 63-77 dBA Birds 46–52 dBA Road traffic 47-55 dBA |
| NCA3 | 06/02/2023 13:15 | 69 | 94 | 69 | 60 | 53 | NIL | Y | Site was inaudible. Other: Vehicle Passby 65-94 dBA Road noise 57-75 dBA |
| NCA1 | 06/02/2023 14:00 | 65 | 84 | 69 | 50 | 51 | NIL | Y | Site was inaudible. Other: Vehicle Passby 52-74 dBA Truck Passby 70–84 dBA Distant traffic 45 - 55 dBA |
| NCA2 | 06/02/2023 14:30 | 62 | 85 | 56 | 49 | 56 | NIL | Y | Site was inaudible. Other: Road Noise 55-60 dBA Passing vehicle 57-83 dBA |

| | Survey Data and | | Ove | erall | | Site Site | | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|---------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA3 | 06/02/2023 15:00 | 69 | 88 | 71 | 61 | 53 | NIL | Y | Site was inaudible. Other: Heavy Vehicle 60-86 dBA Road Noise 56 - 72 dBA |
| | | | | | | Quarter 2 20 | 23 | | |
| NCA1 | 24/05/2023 14:45 | 64 | 82 | 68 | 41 | 51 | <40 | Y | Site noise was typically inaudible. Occasional impact noises were audible but could not be quantified due to masking from other noise sources. Other: Distant Road 42-48 dBA Road Noise 66-76 dBA Birds/Insects 53-65 dBA |
| NCA2 | 24/05/2023 16:30 | 54 | 73 | 55 | 50 | 56 | ~50 | Y | Constant noise from green shredder ~50 dB, typically masked by other noise sources. Occasional impact noise ~60dB Other: Train Pass-by 65-70 dBA Birds 46–52 dBA Road traffic 52-60 dBA |

| | | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq} 15min Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA3 | 24/05/2023 16:15 | 56 | 69 | 59 | 51 | 53 | NIL | Y | Site perceptible but not measurable due to other noise sources. Other: Birds 50-60 dBA Road noise 56-68 dBA |
| NCA1 | 24/05/2023 15:45 | 68 | 89 | 72 | 47 | 51 | NIL | Y | Site was inaudible. Other: Vehicle Pass-by 60-79 dBA Rail 55-60 dBA |
| NCA2 | 25/05/2023 10:15 | 68 | 85 | 70 | 62 | 56 | 57 | Ν | Green shredder was audible but mostly masked by traffic. Periods of quiet traffic indicate 1 dB site exceedance. Other: Heavy Vehicle 60-86 dBA Road Noise 56 - 72 dBA |
| NCA3 | 25/05/2023 10:45 | 56 | 70 | 58 | 52 | 53 | ~50 | Y | Green shredder audible. Other: Distant traffic. |
| | | | | | | Quarter 3 20 | 23 | | |
| NCA1 | 21/07/2023 10:45 | 66 | 85 | 68 | 47 | 51 | NIL | Y | Site was inaudible. Other: Heavy Vehicle 75-85 dBA Road Noise 64-79 dBA Birds/Insects 50-58 dBA |

| | Sumrey Data and | | Ove | erall | | Site | Site | | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|---------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources |
| NCA2 | 21/07/2023 9:30 | 72 | 84 | 76 | 66 | 56 | NIL | Y | Site was inaudible. Other: Birds 46–52 dBA Road traffic 65-72 dBA Heavy Vehicle 74-84 dBA |
| NCA3 | 21/07/2023 10:00 | 57 | 79 | 56 | 51 | 53 | 50 | Y | Site crushing noise (48 – 52 dB) was mostly masked by other noise sources. Other: Birds ~ 52-57 dBA Road noise ~ 54-60 dBA |
| NCA1 | 21/07/2023 12:45 | 66 | 85 | 70 | 43 | 51 | NIL | Y | Site was inaudible. Other: Distant Road Noise ~ 46-50 dBA Rail ~ 65-74 dBA |
| NCA2 | 21/07/2023 11:30 | 73 | 94 | 76 | 65 | 56 | NIL | Y | Site was inaudible. Other: Birds ~ 46–52 dBA Road traffic ~ 65-72 dBA Heavy Vehicle ~ 74-80 dBA |
| NCA3 | 21/07/2023 12:00 | 56 | 84 | 55 | 48 | 53 | 50 | Y | Site crushing noise (48 – 52 dB) was mostly masked by other noise sources. Occasionally impact noise 56 dBA. Other: Heavy Vehicle ~ 60-86 dBA Road Noise ~ 50 - 54 dBA |

| | n Survey Date and Start Time LAeq LAmax LA10 LA90 LAeq 15min Limit LAeq 15min Limit | | Ove | erall | | Site | Site | | |
|--------------------|---|--|------------------------------|---------------|----|----------------|-------|---|--|
| Survey Location | | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources | | | | | |
| | | | | | | Quarter 4 2023 | - Day | | |
| NCA1 | 31/10/23 09:30 | 64 | 81 | 69 | 44 | 51 | < 40 | Y | Occasional impact noise ~45 dBA Site crushing <40 dBA (masked by other noise sources) Other: Road Noise ~ 65-81 dBA Birds/Insects ~ 47-50 dBA |
| NCA2 | 31/10/23 10:30 | 71 | 85 | 75 | 64 | 56 | Nil | Y | Site was inaudible (masked by road noise). Other: Road traffic ~ 58-85 dBA |
| NCA3 | 31/10/23 09:15 | 65 | 82 | 71 | 49 | 53 | 50 | Y | Site crushing noise (48 – 51 dB) was mostly masked by other noise sources. Other: Train ~ 56-82 dBA Distant Traffic ~ 52-58 dBA |
| NCA1 | 31/10/23 12:00 | 66 | 94 | 69 | 52 | 51 | < 40 | Y | Site crushing noise < 40 dB was mostly masked by other noise sources. Other: Road Noise ~ 64-94 dBA Generator ~ 53 dBA |
| NCA2 | 31/10/23 11:30 | 73 | 90 | 76 | 65 | 56 | Nil | Y | Site was inaudible (masked by road noise). Other: Road traffic ~ 59-90 dBA |

| | | | Ove | erall | | Site | Site L _{Aeq 15min} Contribution | Complies with condition Y/N? | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq} 15min Limit | | | Noise Sources |
| NCA3 | 31/10/23 09:30 | 56 | 74 | 54 | 48 | 53 | 50 | Y | Site crushing noise (48 – 52 dB) was mostly masked by other noise sources. Occasional impact noise 56 dBA. Other: Train ~ 58-68 dBA Distant Traffic ~ 50 - 59 dBA |
| NCA3 | 31/10/23 11:00 | 57 | 79 | 55 | 48 | 53 | 50 | Y | Site crushing noise (48 – 52 dB) was mostly masked by other noise sources. Occasional impact noise 56 dBA. Other: Council Truck ~ 60-77 dBA Distant Traffic ~ 52 - 58 dBA |
| | | | | | Qu | arter 4 2023 - E | vening | | |
| NCA 2 | 30/10/2023 20:45 | 68 | 80 | 73 | 54 | 47 | Nil | Y | Site was waiting for delivery. No site noise. |
| NCA 2 | 30/10/2023 21:00 | 68 | 84 | 72 | 53 | 47 | Nil | Y | Other: Road traffic and cicadas dominant noise sources. |
| NCA 3 | 30/10/2023 21:30 | 52 | 73 | 50 | 45 | 53 | < 30 | Y | Truck arriving on site briefly audible ~50 dBA. Other: Train 52 – 73 dBA Road traffic 48 – 52 dBA |

| | | | Ove | erall | | Site L _{Aeq 15min} Limit | Site L _{Aeq 15min} Contribution | Complies with condition Y/N? | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|--|------------------------------|---|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | | | | Noise Sources |
| NCA 3 | 30/10/2023 21:45 | 66 | 83 | 51 | 43 | 53 | ~ 30 | Y | Truck arriving on site briefly audible ~50 dBA. Loader ~ 50 dBA briefly Other: Train 52 – 83 dBA Road traffic 48 – 52 dBA |
| NCA 3 | 30/10/2023 22:01 | 53 | 73 | 51 | 45 | 53 | < 35 | Y | Trucks arriving on site briefly audible ~ 53 and 50 dBA. Other: Road traffic 48 – 52 dBA |
| NCA 1 | 30/10/2023 21:15 | 89 | 80 | 54 | 41 | 43 | Nil | Y | Site waiting for deliveries. No site noise. Other: Road noise, train and birds dominant noise sources. |
| NCA 1 | 30/10/2023 21:30 | 58 | 84 | 50 | 40 | 43 | < 30 | Y | Truck arrived on site but was inaudible. Visual inspection shows instantaneous noise could be no higher than 44 dBA briefly. Other: Road noise dominant. |
| NCA 1 | 30/10/2023 21:45 | 59 | 78 | 55 | 41 | 43 | < 30 | Y | Truck arrived on site but was inaudible. Tailgate slam audible ~ 46 dBA. Loader reversing briefly ~ 40 – 45 dBA. Other: Road noise dominant. |

| | | | Ove | erall | | Site L _{Aeq 15min} Limit | Site L _{Aeq 15min} Contribution | Complies with condition Y/N? | | | | |
|----------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|--|------------------------------|--|--|--|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | | | | Noise Sources | | | |
| NCA 1 | 30/10/2023 22:00 | 60 | 80 | 58 | 42 | 43 | < 30 | Y | 2 x truck arrivals briefly barely audible | | | |
| Quarter 1 2024 - Day | | | | | | | | | | | | |
| NCA1 | 28/02/24 09:30 | 61 | 79 | 66 | 45 | 51 | Nil | Y | Site Inaudible Other: Road Noise 52-79 dBA Passing train 58-69 dBA | | | |
| NCA2 | 28/02/24 10:45 | 70 | 84 | 74 | 63 | 56 | Nil | Y | Site was inaudible (masked by road noise). Other: Road Noise 56-84 dBA | | | |
| NCA3 | 28/02/24 10:15 | 51 | 70 | 51 | 44 | 53 | 43 | Y | Site noise (40 – 45 dB) was mostly masked by other noise sources. Occasional impact noise 51 dBA. Other: Council truck 55-70 Train 53-66 dBA Distant Traffic 47-55 dBA | | | |
| NCA1 | 28/02/24 11:45 | 63 | 84 | 66 | 40 | 51 | Nil | Y | Site Inaudible Other: Road Noise 52-84 dBA Passing train 58-72 dBA | | | |
| NCA2 | 28/02/24 12:45 | 70 | 86 | 73 | 59 | 56 | Nil | Y | Site was inaudible (masked by road noise). Other: Road traffic 59-86 dBA | | | |

| | | | Ove | erall | | Site L _{Aeq 15min} Limit | Site L _{Aeq 15min} Contribution | Complies with condition Y/N? | | | | | |
|-------------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|--|------------------------------|---|--|--|--|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | | | | Noise Sources | | | | |
| NCA3 | 28/02/24 12:15 | 57 | 78 | 51 | 44 | 53 | 42 | Y | Site noise (40 – 45 dB) was mostly masked by other noise sources. Occasional impact noise 54 dBA. Other: Train 53-77 dBA Distant Traffic 47-56 dBA | | | | |
| Quarter 2 2024 – Evening 16/04/2024 | | | | | | | | | | | | | |
| NCA1 | 16/04/2024 20:30 | 60 | 80 | 58 | 40 | 43 | Nil | Y | | | | | |
| NCA1 | 16/04/2024 20:45 | 57 | 79 | 51 | 40 | 43 | Nil | Y | | | | | |
| NCA1 | 16/04/2024 21:00 | 60 | 81 | 60 | 41 | 43 | <40 dBA | Y | Only site noise was due to loader operating between 9:00 pm – 9:06 pm. | | | | |
| NCA1 | 16/04/2024 21:15 | 61 | 85 | 59 | 39 | 43 | Nil | Y | General background noise included insects, frogs, bats, | | | | |
| NCA1 | 16/04/2024 21:30 | 58 | 77 | 56 | 40 | 43 | Nil | Y | Passing trains both freight and passenger 62 - 73 dBA. | | | | |
| NCA1 | 16/04/2024 21:45 | 60 | 81 | 61 | 39 | 43 | Nil | Y | Passing car ~70 dBA. Site only audible from soft reverse beeping ~42-46 dBA Overhead Plane Noise 46 - 61 dBA. | | | | |
| NCA3 | 16/04/2024 21:00 | 68 | 81 | 72 | 57 | 53 | Nil | Y | | | | | |
| NCA3 | 16/04/2024 21:15 | 66 | 87 | 71 | 52 | 53 | Nil | Y | | | | | |
| NCA3 | 16/04/2024 21:30 | 66 | 87 | 70 | 44 | 53 | Nil | Y | | | | | |

| | | | Ove | erall | | Site | Site | | | | | |
|---------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|---------------------------------|---|--|--|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | L _{Aeq 15min} Contribution | Complies with condition Y/N? | Noise Sources | | | |
| NCA3 | 16/04/2024 21:45 | 64 | 81 | 68 | 43 | 53 | Nil | Y | | | | |
| Quarter 2 2024 – Day 17/04/2024 | | | | | | | | | | | | |
| NCA1 | 17/04/2024 09:30 | 65 | 85 | 69 | 45 | 51 | <40 | Y | Site heard occasionally, although not dominant. Occasional reverse beeps and track noises. Bird noise was constant. | | | |
| | 00.00 | | | | | | | | Road noise ~60-85 dBA | | | |
| | | | | | | | | | Resident working in yard 60 – 65 dBA. | | | |
| NCA1 | 17/04/2024 11:15 | 64 | 81 | 69 | 46 | 51 | <40 | Y | Site barely audible, not dominant. Loader in operation on site audible, not dominant ~47 dBA Road noise ~59-81 dBA | | | |
| NCA2 | 17/04/2024 10:30 | 71 | 81 | 74 | 65 | 56 | Nil | Y | Site was inaudible (masked by road noise). Other: Road Noise 58-81 dBA | | | |
| NCA2 | 17/04/2024 12:15 | 72 | 89 | 74 | 64 | 56 | Nil | Y | Site was inaudible (masked by road noise). Other: Road Noise 58-89 dBA | | | |
| NCA3 | 17/04/2024 10:00 | 56 | 76 | 53 | 47 | 53 | <47 | Y | Site heard intermittently, less than background. Birds ~44-52 dBA Road noise ~48-76 dBA | | | |

| | | | Ove | erall | | Site | Site L _{Aeq 15min} Contribution | Complies with condition Y/N? | | | | | |
|-------------------------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------------|--|------------------------------|--|--|--|--|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | L _{Aeq 15min} Limit | | | Noise Sources | | | | |
| NCA3 | 17/04/2024 11:45 | 64 | 82 | 67 | 48 | 53 | <48 | Y | Site barely audible, not dominant. Council truck ~56-82 dBA Birds ~44-52 dBA Road noise ~49-75 dBA | | | | |
| Quarter 2 2024 – Evening 17/04/2024 | | | | | | | | | | | | | |
| NCA1 | 17/04/2024 20:30 | 59 | 80 | 59 | 40 | 43 | Nil | Y | No site noise. Road Noise ~53-80 dBA Insects ~40-45 dBA | | | | |
| NCA1 | 17/04/2024 20:45 | 62 | 80 | 66 | 41 | 43 | Nil | Y | No site noise. Resident arrived home. Dogs barking Road Noise ~53-80 dBA Insects ~40-45 dBA | | | | |
| NCA1 | 17/04/2024 21:00 | 58 | 76 | 55 | 40 | 43 | <30 | Y | Site truck arrival 40 – 45 dBA less than 20 seconds. Residents talking, distant cheering, and reverse beeping at the same time. Road Noise ~53-76 dBA Insects ~40-45 dBA | | | | |
| NCA1 | 17/04/2024 21:15 | 58 | 77 | 53 | 40 | 43 | <30 | Y | Site truck arrival ~44 dBA for less than 10 seconds. Road Noise ~53-77 dBA Insects ~40-45 dBA | | | | |

| | | | Ove | erall | | Site L _{Aeq 15min} Limit | Site L _{Aeq 15min} Contribution | Complies with condition Y/N? | |
|--------------------|-------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|--|------------------------------|--|
| Survey Location | Survey Date and Start Time | L _{Aeq} 15min | L _{Amax} 15min | L _{A10} 15min | L _{A90} 15min | | | | Noise Sources |
| NCA1 | 17/04/2024 21:30 | 59 | 78 | 62 | 40 | 43 | <30 | Y | Site truck brake compression briefly ~43 dBA Road Noise ~53-78 dBA Insects ~40-45 dBA |
| NCA1 | 17/04/2024 21:45 | 58 | 76 | 60 | 38 | 43 | <30 | Y | Site truck ~46 dBA Plane overhead. Road Noise ~53-76 dBA Insects ~40-45 dBA |
| NCA2 | 17/04/2024 20:19 | 66 | 82 | 71 | 54 | 53 | Nil | Y | Road Noise ~54-82 dBA |
| NCA2 | 17/04/2024 20:34 | 67 | 82 | 72 | 55 | 53 | Nil | Y | Road Noise ~54-82 dBA |
| NCA2 | 17/04/2024 20:49 | 68 | 86 | 72 | 53 | 53 | Nil | Y | Road Noise ~54-82 dBA |
| NCA3 | 17/04/2024 21:24 | 63 | 82 | 51 | 43 | 47 | <30 | Y | Site tipping noise briefly ~47 dBA |
| NCA3 | 17/04/2024 21:39 | 64 | 79 | 56 | 43 | 47 | <30 | Y | Site truck brake compression briefly ~51 dBA |

Evening survey time traces 30th October 2023

30-October-2023 9:32 pm truck arrival



- NCA1 LAeq,1sec - NCA3 LAeq,1sec - Onsite LAeq,1s

30-October-2023 Truck and loader events



- NCA1 LAeq,1sec - NCA3 LAeq,1sec - Onsite LAeq,1s



30-October-2023 Truck arrivals 10:03 pm and 10:13 pm

- NCA1 LAeq,1sec - NCA3 LAeq,1sec - Onsite LAeq,1s

Evening survey time traces 16th April 2024

16–April–2024 pushing aggregates 9:00 pm - 9:06 pm



- NCA1 LAeq,1sec - NCA2 LAeq,1sec - Onsite LAeq,1s

Evening survey time traces 17th April 2024

17–April–2024 1st truck



- NCA1 LAeq,1sec - NCA2 LAeq,1sec - Onsite LAeq,1s

Concrush 17–April–2024 9:21pm Truck Arrival



— NCA1 LAeq,1sec — NCA2 LAeq,1sec — NCA3 LAeq,1sec — Onsite LAeq,1sec

Concrush 17–April–2024 9:26 pm Truck tipping









Concrush 17–April–2024 Tipping and other site noise



Day time L_{Aeq,15 min} levels during full operations under 3 m/s Westerly winds



Winter night time $L_{Aeq,15 min}$ levels during unloading under 2 m/s South Westerly winds


Appendix E

Updated Social Impact Assessment (Umwelt, 2024)







CONCRUSH FACILITY MODIFICATION CONSENT REPORT

Social Impact Assessment

FINAL

August 2024

CONCRUSH FACILITY MODIFICATION CONSENT REPORT

Social Impact Assessment

FINAL

Prepared by Umwelt (Australia) Pty Limited on behalf of **Concrush Pty Limited**

Project Manager: Sarah Bell Report No. R01/24275 Date: August 2024 Date:

Project Director: Dr Piers Gillespie August 2024





This report was prepared using Umwelt's ISO 9001 certified Quality Management System.



Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

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Document Status

| Rev No. | Reviewer | | Approved for Issue | | |
|---------|------------|------------|--------------------|------------|--|
| | Name | Date | Name | Date | |
| V1 | Sarah Bell | 13/07/2024 | Dr Piers Gillespie | 13/07/2024 | |
| V2 | Sarah Bell | 25/07/2024 | Dr Piers Gillespie | 25/07/2024 | |
| V3 | Sarah Bell | 29/07/2024 | Dr Piers Gillespie | 29/07/2024 | |
| V4 | Sarah Bell | 27/08/2024 | Dr Piers Gillespie | 27/08/2024 | |



Authors Declaration

As outlined in Appendix B of the NSW Department of Planning, Housing and Infrastructure (DPHI) Social Impact Assessment Guideline for State Significant Projects (the SIA Guideline) (DPE, 2023), suitably qualified and experienced practitioner/s should be involved in the preparation of SIA. A suitably qualified person must have:

- Suitable qualifications in a relevant social science discipline.
- Proven experience over multiple years.
- Substantial competence in social science research methods and SIA practices.

This SIA Report has been technically reviewed by SIA practitioner, Piers Gillespie. The Technical Director declares that this report, completed on 22 August 2024:

Was prepared by an author with suitable qualifications, proven experience and competence in SIA practice, and relevant professional memberships as outlined in Table AD.1.

- Was prepared in accordance with the EIANZ Code of Ethics and Professional Conduct (EIANZ, 2021).
- The author understands their legal and ethical obligations in the preparation of the SIA.
- None of the information included in the SIA is false or misleading.
- The SIA contains all relevant information.

AD 1: Authors Technical Qualifications

| Requirement | Sarah Bell, SIA Technical Manager | Piers Gillespie, SIA Technical Director | | |
|--|---|---|--|--|
| Suitable qualifications | PhD Human Geography, Honours First Class – Human Geography, Bachelor of Development Studies – Urban and Regional Development | PhD in political ecology and anthropology from the Australian National University Master's Degrees in both International Law and International Politics ESG (Environment Social Governance) accreditation with the Australasian Institute of Mining and Metallurgy (AusIMM) | | |
| Proven experience in SIA practice and social science methods | 8 years | 15 years | | |



ii

| Requirement | Sarah Bell, SIA Technical Manager | Piers Gillespie, SIA Technical Director |
|-------------------------|-----------------------------------|---|
| Professional membership | N/A | Certified Mediator, National Mediator Accreditation System (NMAS), Australia Certificate in Social Impact Assessment, Community Insights Group and University of Strathclyde Certified Environmental Practitioner |
| | | Scheme, Specialist Environmental Advisory Committee Member (Social Impact Assessment). |
| Signature | Jarah Beel | PARallof |



Abbreviations

| Abbreviation | Definition |
|--------------------------|---|
| ABS | Australian Bureau of Statistics |
| AHIMS | Aboriginal Heritage Information Management System |
| AQMP | Air Quality Management Plam |
| Concrush | Concrush Pty Ltd |
| Crown Land Act | NSW Crown Land Management Act 2016 |
| CSP | Community Strategic Plan |
| CSEP | Communications and Stakeholder Engagement Plan |
| Cth DCCEEW | Commonwealth Department of Climate Change, Energy, the Environment and Water |
| DA | An application made seeking consent for SSD under Part 4 of the EP&A Act |
| dB(A) | A-weighted noise or sound power level in decibels |
| DPE | NSW Department of Planning and Environment [former] |
| DPHI | NSW Department of Planning, Housing and Infrastructure [current] |
| DPIE | NSW Department of Planning, Industry and Environment [former] |
| EIS | Environmental Impact Statement |
| EPA | NSW Environment Protection Authority |
| EP&A Act | NSW Environmental Planning and Assessment Act 1979 |
| EPBC Act | Commonwealth Environment Protection and Biodiversity Conservation Act 1999 |
| EPL | Environment Protection Licence |
| FTE | Full time equivalent |
| На | Hectares |
| IN1 | General Industrial |
| Km | Kilometres |
| LEP | Local Environmental Plan |
| LGA | Local Government Area |
| LMCC | Lake Macquarie City Council |
| m | Metres |
| NCA | Noise Catchment Area |
| NIA | Noise Impact Assessment |
| NSW | New South Wales |
| NSW DCCEEW | NSW Department of Climate Change, Energy, the Environment and Water |
| РМ | Particle Matter |
| Proposed Modification | The proposed modification to the Concrush Resource Recovery Facility Expansion Project |



| Abbreviation | Definition | |
|----------------------|---|--|
| RCA | RCA Australia | |
| Rd | Road | |
| SAL | Suburb and Locality | |
| SEARs | Secretary's Environmental Assessment Requirements | |
| SIA | Social Impact Assessment | |
| SSD | State Significant Development | |
| St | Street | |
| The approved project | Concrush Resource Recovery Facility Expansion | |
| The project site | Concrush's Teralba facility | |
| TIS | Traffic Impact Statement | |
| Тра | Tonnes per annum | |
| Umwelt | Umwelt (Australia) Pty Ltd | |



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- Appendix B Current and Recommended Mitigation Measures
- Appendix C SIA Guideline Review Questions



1.0 Introduction

Concrush is a concrete building and materials recycling facility in Teralba, situated within the Lake Macquarie Local Government Area (LGA) of New South Wales (NSW). In March 2020, the Concrush Resource Recovery Facility Expansion (the 'Approved Project') was approved under SSD-8753 by a delegate of the Minister for Planning and Public Spaces. This approval allowed for the receival and processing of up to 250,000 tonnes per annum (tpa) of general non-putrescible solid waste. The Approved Project licence currently includes the processing of up to 5,000 tonnes of garden and wood waste annually, and provision for up to 200 tonnes of garden and wood waste to be stored onsite at any one time.

This Report documents the process and outcomes of the Social Impact Assessment (SIA) undertaken for the proposed Modification (the 'Project') to the above Approved Project for the Concrush Facility. The Modification aims to streamline operations and maintain environmental outcomes at the Teralba project site, and includes changes to hours of operation, site layout and storage, and processing capacity limits, with further details provided in **Section 1.1**. This SIA forms part of the Modification Report as required under Part 4 of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act). The SIA has been prepared to address the requirements of the NSW Department of Planning, Housing and Infrastructure (DPHI) Social Impact Assessment Guideline for State Significant Projects (2023) (the SIA Guideline).

1.1 Project Description

As outlined above, Concrush is a locally owned resource recovery facility in the Lake Macquarie region which primarily manufactures road bases and aggregates from demolished concrete, bricks and tiles, and also makes mulches from recycled green waste. Concrush's Teralba facility is located at 21 Racecourse Road, Teralba NSW (part Lot 2 DP220347) as shown in **Figure 1.1** below. The project site covers an area of approximately 2.4 hectares (ha) and is located between Cockle Creek to the east and the Main North Rail Line to the west (see **Figure 1.2**).





Figure 1.1 Site location

Source: (WSP, 2024)







Source: (WSP, 2024)



1.1.1 Description of the Proposed Modification

The proposed Modification seeks consent for improvements to streamline operations and maintain environmental outcomes at the Teralba site. The proposed Modification includes changes to site operations and modifying the storage and processing capacity limits. Specifically, the proposed Modification seeks to modify the hours of operation at the site to allow for:

- Crushing and processing in the evening period between 6:00 pm and 10.00 pm; Monday Saturday. This would result in the ability to undertake crushing and processing between 6:00 pm and 10:00 pm, permitted only during northerly and easterly winds.
- Unloading and dispatch of trucks in the night-time period between 10:00 pm and 7:00 am; Monday to Sunday as required. This would not result in an overall increase in traffic movements. Loading to be undertaken between 7 am and 10 pm and cannot occur in the night-time period between 10:00 pm and 7:00 am. The traffic generation assessed for the approved current licence includes ten car movements per hour and 26 truck movements per hour into and out of the project site. This number would remain the same; however, the changes to operational hours would result in the ability to unload and dispatch trucks 24 hours per day, seven days per weeks, to respond to periodic market demand.
- Increase the processing capacity limit for garden and wood waste to 10,000 tpa.
- Increase the storage capacity limit for garden and wood waste to 2,000 tpa stored onsite at any one time.
- As part of internal site layout changes, remove the requirement for a noise wall along the eastern and southern boundary of the project site, as is not required to achieve compliance with the daytime noise criteria, and would not serve to mitigate proposed evening or night-time operations.
- Operate evening and night-time lighting in response to local government and industry demand for recycling and construction materials.
- Modify internal site layout including the location of the wheel wash, weighbridge, water tanks, car
 parking, removing the light vehicle exit point, and updating the 'Processed Material Stockpiles' and
 'Raw Material Stockpiles and Processing Area' to be classified as 'Raw Materials Stockpiles, Processed
 Material Stockpiles, and Processing Area' to allow for improved management and processing of the
 stockpiles through additional operational and site flexibility.
- Provide an additional four water tanks to the south of the site office to increase potential capacity of the upgraded internal water management system at the project site.

1.2 Purpose of the Proposed Modification

In 2020, Concrush was approved for the Concrush Resource Recovery Facility Expansion (the approved project, EPA Licence Number 13351). The approved Project aimed to increase waste processing to 250,000 tpa and storage to 150,000 tonnes; expand the site by 2.4 ha; and modify/improve existing machinery and operations. It was anticipated during the EIS assessment that the volume of materials recycled, and products sold would increase over a period up to the maximum production level of 250,000 tpa. The approved Project was staged to efficiently meet increased recycling demand, with site upgrades and implementations carried out as production levels were reached.



Stage 1 is now constructed and began operations in March 2023. Construction for Stage 2, which aims to increase operations to the 250,000 tpa figure above, has commenced. The current Modification Application seeks to further streamline operations and maintain environmental outcomes to meet the approved capacity (further detailed in **Section 1.1.1**). The proposed Modification application to modify (SSD-8753) is made under Section 4.55(2) of the EP&A Act. It is considered substantially the same development as the current approved project as the proposed modification would be carried out within the assessed project site footprint and in accordance with the existing operating consent.

The proposed Modification would allow for the continuation of the Stage 2 development, through streamlining operations and modifying some of the approved activities, predominantly:

- an increase in the hours of operation (enabling 24/7 receival and dispatch of material)
- an increase in green waste processing and storage (modifying the tonnage limits at any one time on site).

Table 1.1 outlines the approved Project, including elements which have already been constructed and completed; elements that are approved but not constructed; and the proposed Modifications to the approved Project. More details on the approved Project components are in Section 1.4 of the Modification report.



| Approved and completed | Approved but not completed | Proposed Modification | | |
|--|--|--|--|--|
| Construct and commission of a new site entry/exit as approved by Lake Macquarie City Council (LMCC) Upgrade Water Management System, including constructing two sediment basins, a leachate dam, constructed wetland, install sprinklers and tanks Construct maintenance shed and lunchroom/toilet, with available parking Establish 'Raw Material Stockpiles" and "Processing area Stockpiles' areas Establish 'Green Waste Raw and Processed" area Establish site amenities and retail area Construct heavy vehicle weighbridge and weighbridge office to the west of the site entry/exit point Lining of Sediment Dam 1 Establish landscape bund along part of the eastern boundary Establish an Ausgrid connection at the site. | Construct wheel wash Providing a roof on retail product area Two coat seal of internal access road from new wheel wash to site exit Commissioning new weighbridges Construct noise wall along entire southern extent Construct noise wall along the eastern boundary. | Relocate wheel wash Two coat seal internal access road from wheel wash to site exit Remove requirement for noise wall Remove requirement for 'Light Vehicle Exit' point Modify internal site layout Rename 'Raw Material Stockpiles" and "Processing area Stockpiles" areas to "Raw Materials Stockpiles, Processed Material Stockpiles, and Processing Area' Modify limit of green waste processed and stored onsite at any one time within the 'Green waste processed and stored onsite at any one time within the 'Green waste processed' area Crushing and processing in the evening period between 6:00 pm and 10.00 pm; Monday to Saturday. This would result in the ability to undertake crushing and processing between 6:00pm and 10:00 pm, grmitted only during northerly and easterly winds Unloading and dispatch of trucks in the night-time period between 10:00 pm and 7:00 am; Monday – Sunday as required. Loading to be undertaken between 7 am and 10 pm only, and not in the night-time period between 10:00 pm and 7:00 am. Increase processing capacity limit for garden and wood waste to 10,000 tpa stored onsite at any one time Remove the requirement for a noise wall along the eastern and southern boundary of the project site, as it is not required to achieve compliance with the daytime noise criteria and would not serve to mitigate proposed evening or night-time operations Operate evening and night-time lighting in response to local government and industry demand Provide an additional four water tanks on site. | | |

Table 1.1 Approved and Completed Project Elements; Approved but not Completed Elements; and Proposed Modification Elements



This SIA Report further builds upon the previous SIA Report undertaken in 2020 to assess the community and stakeholder impacts of the approved Project. Social impacts that were assessed in relation to the approved project included:

- Impacts to social amenity including traffic, air quality (dust), noise, visual and other environmental impacts, such as those relating to water, biodiversity, and greenhouse gases (GHG).
- Impact to community values, sense of place and sustainability including, population change, impacts on housing availability and community infrastructure, economic impacts, sense of community and recreational values.
- According to the State significant development guidelines preparing a modification report (DPIE, 2022), a Modification Report assesses the economic, environmental, and social impacts of a modified project. This SIA thus outlines changes in the social locality and context since 2020 and considers and assesses the potential social impacts of the Modification as outlined above.

1.3 Report Structure

This SIA Report is structured as follows:

- Section 1.0: Introduction, including information on the proposed Modification Overview
- Section 2.0: Assessment Requirements, Methodology, Stakeholder Identification and Engagement Mechanisms
- **Section 3.0**: Social Baseline, consisting of the community profile and identification of development challenges and opportunities
- **Section 4.0**: Assessment and Prediction of Social Impacts, containing a thematic overview of community and stakeholder engagement outcomes
- Section 5.0: Social Impact Evaluation, presenting a technical assessment of the proposed Modification's social impacts (positive and negative)
- **Section 6.0**: Social Impact Management Plan, providing a framework and overview of the approach to social impact management for the proposed Modification



2.0 SIA Methodology

2.1 Assessment Requirements

A 'best practice' approach to the SIA has been adopted and addresses the DPHI *Social Impact Assessment Guideline for State Significant Projects* (hereafter referred to as the SIA Guideline) (2023) and the *Undertaking Engagement Guidelines for State Significant Projects* (2024) with this process illustrated in **Figure 2.1. Appendix C** outlines the responses to the SIA Guideline Review Questions confirming the requirements of the Guideline have been fulfilled.



Figure 2.1 SIA and EIA Process

Source: (DPE, 2023).

According to the SIA Guideline and as outlined in **Figure 2.2**, social impacts can be grouped according to several different categories and may involve impacts and changes to people's way of life, community, accessibility, culture, health and wellbeing, surroundings, livelihoods, and decision-making systems. This SIA will directly focus on these categories to better understand how people (people includes individuals, households, groups, communities, organisations, and the NSW population generally) believe that the Modification will impact them, both positively and negatively, in the future. These categories are outlined below.





Figure 2.2 Social Impact Categories

Source: (DPE, 2023) ©Umwelt, 2024.

While some social impacts may directly occur because of the Project, others may be indirectly caused by changes in the biophysical environment and biophysical impacts, as outlined in **Figure 2.3**. An overview of this can be seen in the adaption below of the project intervention figure developed by Slootweg et al., (2001). Slootweg shows how there are both biophysical changes and social change processes that occur because of a project intervention but shows that there are also social impacts (secondary) that can occur because of the biophysical impacts of the project intervention as well. The multi-faceted way that a project intervention can impact a local community needs to be considered as part of social impacts that can be caused. Consequently, best practice SIA compels a consideration of both the direct and indirect social impacts that result from a project intervention.





Figure 2.3 Direct and Indirect Social Impacts

Source: Umwelt, 2023, Adapted from Slootweg et al, 2013 (p.28).

As is the case with any type of project change, some individuals or groups within the community may benefit due to the project, while others may experience negative impacts. Social impacts may also manifest as *tangible* impacts, these being impacts that may have a material outcome on the lives of individuals and communities, and more *intangible* impacts, such as justified fears or aspirations associated with a project:

'Social impacts may be physically observable or may manifest as rational or justified fears or aspirations; may be experienced positively and negatively by different stakeholders; and may be tangible or more intangible.' (DPE, 2023)

If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively through project design or management measures to reduce the degree of disruption to those affected. If positive impacts are predicted, the aim of the SIA is to identify how benefits and opportunities might be further enhanced and realised.

Ongoing monitoring and evaluation are also key components of a SIA process, to identify any unanticipated impacts that may arise because of the project, and which may not have been anticipated, and to monitor social impacts, should the project proceed.

Figure 2.4 outlines the methodology utilised for the social impact assessment outlined here.





SCOPING

- Prepare a community and stakeholder engagement strategy that outlines recommended and requested engagement activities, materials and proposed responsibilities.
- Identify the extent of the Project's social locality, which includes the specific geographies and communities relevant to the SIA, which are unique to the Project and its potential impacts.
- Develop a social baseline of the locality in which the Project is located to
 understand the current social environment and the communities, groups and
 individuals potentially affected by a project. This profile is created using both
 primary and secondary data and is essential for identifying and predicting social
 impacts.
- Engage key stakeholders to validate social baseline and inform initial prediction and evaluation of likely social impacts.

IMPACT ASSESSMENT AND PREDICTION

- Work collaboratively with the Project team to ensure that relevant stakeholders (individuals and groups) are aware of the Project and have been provided with an opportunity to provide input.
- Undertake specific SIA engagement to identify key social impacts from the perspectives of those likely to be most affected/interested in the project, particularly any vulnerable or marginalised groups.
- Undertake an assessment of the social impact(s) of each project activity, providing an evidence base for impact significance through review of relevant literature and other technical studies.
- Identify mitigation and/or enhancement measures in collaboration with impacted stakeholders to reduce negative impacts and enhance social/community benefits and outcomes.
- Determine social impact rankings/significance with consideration of likelihood and magnitude dimensions – extent, duration, severity or scale, intensity or importance and level of stakeholder concern/interest - combining stakeholder and expert perceptions of risk and impact.

SOCIAL IMPACT MANAGEMENT AND REPORTING

- Identify relevant/ appropriate management and enhancement measures, utilising stakeholder input identified as part of the impact assessment and prediction phase.
- Ensure key stakeholders and communities are aware of the outcomes of key technical studies, including the SIA, and how significant impacts are to be managed and enhanced; including any residual impacts post management.
- Develop a Social Impact Management Framework and Plan that outlines how social impacts associated with the Project will be managed and monitored throughout the development lifecycle.
- Prepare the SIA to DPHI requirements.

Figure 2.4 SIA Methodology Summary

Source: (DPE, 2023) ©Umwelt, 2024

2.2 Proposed Modification Stakeholders

SIA involves the participation and collaboration of people that may have an interest in, or those that are affected by, a project. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live nearby the resource or Project
- have an interest in the proposed action or change
- use or value a resource



- are interested in the use of the resource
- may be forced to relocate because of the Project.

To identify key stakeholders, Umwelt undertook a stakeholder identification process as part of the SIA. This process involved identifying stakeholders with an interest in the proposed Modification, or those that may be directly and/or indirectly affected, including any potentially vulnerable or marginalised groups. A variety of qualitative research processes were undertaken to develop this stakeholder list including multiple discussions with the proponent, consideration and agreement on the social locality, input from the local Council, a desktop and literature review, relevant media analysis pertaining to the existing Concrush operation and the surrounding community, meeting with relevant community members, snowballing and triangulation of stakeholders received during initial research and community engagement. These stakeholders are identified in **Table 2.1**.

| Stakeholder Group | Stakeholders | | | |
|--|--|--|--|--|
| Project Neighbours | 2 residents, located adjacent the Concrush site. | | | |
| Proximal Residents | Residents of the Bunderra Estate (including Oak Tree Retirement Village residents). | | | |
| Broader Community | Residents and commercial stores in Boolaroo and Teralba (~2,000) including roads users and cyclists. | | | |
| Residents along the haulage Route | Approximately 90 residents in Teralba and Barnsley (including those along Racecourse Road, York Street, The Weir Road and Northville Drive). | | | |
| Employees | Concrush workforce. | | | |
| Local Government | Lake Macquarie City Council (LMCC). | | | |
| Education and Community Teralba Public School Groups Barnsley Public School. | | | | |
| Local Businesses and Service Providers | Oak Tree Retirement Village Teralba Bowling Club Waterview Aged Care Facility Anglicare CA Brown. | | | |
| Industry | National Strategic Constructions I Can Dig It Excavations Solmer Civil Pty Ltd Jackson Haulage Pty Ltd Lucky's Scrap Metal. | | | |
| Proximal Development | Cockle Creek precinct- Hunter and Central Coast Development Corporation Weemala Residential Development Victoria Street (NSW) Pty Ltd- subdivision Billy's Lookout- McCloy Group. | | | |

|--|

Source: (Umwelt, 2024)



2.3 Engagement Mechanisms

Engagement activities undertaken to help provide local insight and feedback in relation to the SIA focused on providing information on the proposed Modification and the NSW planning process, seeking to listen to and understand the perceived social impacts of the proposed Modification from the selected stakeholders, and gathering community suggestions and input on potential management measures to address (and maximise where appropriate) these predicted perceived, direct, and indirect social impacts. Because people within a community have differing and busy lives, different engagement approaches were used to provide stakeholders who may be impacted by or interested in the proposed Modification an opportunity to have their say and raise any concerns. This is outlined further in both **Table 2.2** and in **Section 4.0** below on the community and individual concerns raised.

A range of engagement mechanisms (refer to **Table 2.2**) was used to obtain the input of various stakeholder groups who feel they will be, or are likely to be, impacted by the Modification.



| Mechanism | Stakeholder Group | Purpose | Description | Date | Engaged | | | |
|--|--|---|---|--|--|--|--|--|
| Information Provision | | | | | | | | |
| Project Newsletter 1 (see Appendix A) | Proximal landholders Broader community (Teralba and Boolaroo) Residents along the haulage route Local Businesses and service providers | To inform stakeholders about key proposed Modification updates/ information and invitation to complete SIA survey with their feedback, concerns, potential opportunities | Project newsletter containing information regarding Concrush's current operations and proposed changes to previous consent (i.e. proposed Modification). Project newsletter also contained invitation for community members to complete an SIA survey as well as contact details for a social consultant and Concrush. The Village Manager at Oak Tree Retirement Villages sent out the Project Newsletter to residents with instruction to contact Umwelt if they require further information. | Delivered week commencing 01/04/24 | 01/04/24: 1,800+ newsletters delivered to broader community in Teralba and Boolaroo 19/04/24: Project Newsletter distributed to residents of Oak Tree Retirement Village | | | |
| Haulage Route letter | All residents along the haul route | To inform targeted stakeholders along the southern and northern haulage route in Teralba and Barnsley of the proposed changes to truck movements. | Haulage route letter contained direct invitation to contact Concrush/Umwelt regarding any potential impacts, concerns, or opportunities regarding the proposed Modification. A copy of the Project newsletter 1 was also included for background information. | Delivered week commencing 08/04/24 | 90 haulage route letters (including those along Racecourse Road, York Street, The Weir Road and Northville Drive) | | | |

Table 2.2 Information Provision and Engagement Mechanisms undertaken for the preparation of the SIA



| Mechanism | Stakeholder Group | Purpose | Description | Date | Engaged |
|--|--|---|---|--|---|
| Project Newsletter 2 (See Appendix A) | Proximal landholders Broader community (Teralba and Boolaroo) Residents along the haulage route Local Businesses and service providers | To inform stakeholders regarding current assessment process, and outcomes of technical assessments. To consult and provide opportunity for people to voice concerns, consider opportunities related to the proposed Modification application. | Project newsletter containing updates regarding the SIA/ EIS assessment and outcomes, or technical studies as raised by stakeholders through other mechanisms. | Delivered week commencing 24/06/24 | 27-28/06/2024: ~2,000 newsletters delivered to broader community in Teralba and Boolaroo, including residents along the haul route and proximal landholders 27/06/24: 40 emails with a digital copy of Project Newsletter 2 were sent to stakeholders including SIA engagement participants who provided their email. 02/07/2024: 61 hard copies were collated and distributed to residents of Oak Tree Village |
| Engagement Mechani | isms | | | | |
| SIA Survey | Proximal landholders Broader community (Teralba and Boolaroo) Residents along the haulage route | To consult with various stakeholder groups to identify impacts and develop mitigation strategies. | SIA survey prompted respondents to state any potential impacts or opportunities regarding the proposed Modification as well as help inform mitigation, enhancement or additional management measures. Due to initial interested response from the community, the close date of the survey was extended by an | 27/03/24 – 13/05/24 | 27/03/24: SIA Survey opened. 11/04/24: Community member picked up 20 printed versions of the SIA survey to provide to other community members. 19/04/24: Hard copy SIA surveys were distributed to the residents of Oak Tee Retirement Village |



| Mechanism | Stakeholder Group | Purpose | Description | Date | Engaged |
|------------------------------------|--|---|---|------------------------|--|
| | | | extra month to allow adequate time for community members to contribute to the SIA. | | 13/05/24: SIA Survey closed with 206 completed. |
| Face to Face and Group meetings | Proximal landholders Local businesses | To consult proximal landholders about key project information and identify impacts and develop mitigation strategies. | Face-to-face meetings with project neighbours and proximal residents to consult with them on impacts. | 02/04/24 – 18/07/24 | Face-to-face meetings with landholders on 11/04/24, 16/04/24 and 18/07/24. 19/04/24: in-person group meeting with 40 attendees at Oak Tree Village. |
| Phone Calls & Emails | Broader Community Proximal landholders Local businesses Broader community | To inform stakeholders about key information requested about the proposed Modification. To consult and provide opportunity for people to voice concerns and consider opportunities related to the proposed Modification application. | Stakeholders were provided a mobile number and email address to raise concerns or request information from Concrush / Umwelt regarding the proposed Modification. Phone calls returned and discussions undertaken with interested members of the community. | 01/04/24 – 18/07/24 | 6 responses were received in response to Project Newsletter 1. 2 response was regarding request for Project Newsletter 2. |

Source: (Umwelt, 2024)



In summary, engagement with community stakeholders has included telephone calls, semi-structured interviews, group meetings, emails and the distribution of the Project Information Sheet 1 and 2 as detailed below:

- April 2024: Delivery of Project Newsletter 1 to Teralba and Boolaroo SAL during the week of 2 April 2024. Project Newsletter 1 contained information regarding the proposed modification and invitation to complete the SIA survey. Predicted interest in the proposed Modification increased after the first round of Project Newsletters that were delivered within Teralba and Boolaroo.
- Due to the interest in the proposed Modification, engagement was increased to include a targeted delivery of haulage route letters to residential properties along the haulage route during the week of 8 April 2024, with a direct invitation to call or email regarding potential impacts or opportunities associated with the proposed Modification.
- Phone calls with community members occurred in subsequent weeks with discussions regarding further request for information, notification that Project Newsletter 1 had been posted to local Facebook community pages.
- Email correspondence from community members included request for Project Newsletter 1, further clarification on the assessment process, inquiries into cultural heritage assessments, requests for information on traffic movements.
- Meetings with each proximal landholder on the 11 April 2024, 16 April 2024, 18 July 2024.
- Meetings with 40 residents of the Oak Tree Retirement Village occurred 19 April 2024.
- June 2024: Delivery of Project Newsletter 2 to Teralba and Boolaroo SAL during the week of the 26 June 2024 as well as digital copies to SIA participants who provided their contact details. Project Newsletter 2 contained further details on the proposed Modification including changes from the existing consent, information about the assessment process itself, information on outcomes of the key studies being undertaken, key issues identified from the community engagement process, and how to find out more information about the proposed Modification application.

Table 2.3 summarises stakeholder groups that have participated in the proposed Modification's planning and assessment process to date through the engagement mechanisms outlined above, and whose feedback and input has informed the SIA.



| Stakeholder Group | Number of Participants/ Times Contacted | Number of Participants Engaged |
|--|--|--------------------------------|
| Proximal Landholders | 2 | 2 |
| Local Community | 2,000 | 205 ¹ |
| Residents along the Haulage Route | 90 | |
| Local Government | 1 | 1 |
| Education and Community Groups | 2 | 0 |
| Local Businesses and Service Providers | 4 | 1 |
| Industry | 5 | 0 |
| Total | 2,104 | 208 |

Table 2.3 Number of Participants Consulted by Stakeholder Group

Source: (Umwelt, 2024)

Note: Some participants were engaged via multiple mechanisms and therefore may be counted more than once.

2.4 Assessment Limitations

The following limitations to the study are noted:

- The views of the community represented throughout the report are based on the sample of community members and stakeholders consulted and do not necessarily represent the views of all community members.
- The SIA did not include direct primary insights from Traditional Owner groups and relied on inputs from the Modification Report and the previous SIA undertaken during Stage 1 of the approved Expansion Project.
- Elements of the SIA have been developed based on knowledge and information collected from secondary data sources and ongoing community engagement. It is assumed that secondary data sources contain valid and accurate data. Multiple data sources have been used to provide a deeper understanding.
- The proposed Modification seeks approval to have the flexibility to increase the operating and transport hours of the facility so that where there is additional demand for local aggregate product, this can be met. As the increased operating hours will be subject to market demand, which is unknown at this time, there are several uncertainties regarding the magnitude of social impacts, including how often and for what duration the request for an increase in operational hours would actually occur.

¹ Participants in the SIA survey identified themselves as 'resident/community member'.



3.0 Social Locality and Baseline

A baseline social profile gathers knowledge of primary and secondary data sources to increase levels of understanding of the existing social and economic context, in which a project is based. The profile is a necessary component of the SIA and provides a foundation of data/information from which impacts associated with the project may be predicted.

Data sources utilised in the preparation of the profile include:

- ABS Australian Census of Population and Housing (ABS, 2021).
- Local and State Government reports.
- Relevant research reports and publications, including an Economic Impact Assessment for the proposed Modification.
- Review of relevant print and selected online media.

The profile outlines:

- Features of the locality identified as being of value, importance or high sensitivity in social terms.
- Relevant current and anticipated social change processes or social trends within the locality.
- History of the operation and how communities near the project site and within the surrounding region have experienced the project and others like it.

3.1 Social Locality

The social baseline profile has been compiled based on the definition of the proposed Modification's social locality or 'area of social influence'.

The social locality for the proposed Modification has been defined at both a localised and regional scale, given the likely social impacts that may be experienced because of the proposed Modification both locally and across the broader region as defined in **Table 3.1**.

A social locality or 'area of social influence' is defined as the area considered to be impacted by a project, based on a range of direct and indirect, tangible and intangible impacts (DPE, 2023). The project site, and key townships are illustrated in **Figure 3.1**. The proposed Modification is located in Lake Macquarie LGA, in the suburb of Teralba. The nearest residential areas include:

- Boolaroo located approximately 330 m to the south-east of the Project area.
- Barnsley located approximately 1 km to the north-east of the Project area.
- Teralba located approximately 1.3 km to the south-west of the Project area.

In addition, there are several residential housing developments being developed or recently developed including:



- Bunderra Estate, in Boolaroo that includes 76 local residential estate which includes the Oak Tree Retirement Village.
- Billy's Look Out, in Teralba which once completed will include 531 new homes.
- Weemala at the Lake development, 6 stage multi use development that will contain over 500 residential lots (stage 2 is currently under construction).

 Table 3.1
 Social Locality and Justifications

| Settlement Aspect | Township/Locality/Community& Population | Reason for inclusion |
|--|--|--|
| Immediate neighbours of the project site | 2 neighbours located within 400 m of the project site | The neighbours to the Concrush facility are likely to highest impacts from the proposed Modification. |
| Host Suburb and Locality (SAL) including, and surrounding, the project site, including landholders and neighbours of the project site | Teralba (2,654) | It provides indicative insights into the characteristics of landholders likely to experience the highest impacts from the proposed Modification. |
| Neighbouring Suburbs and Localities (SAL) to the proposed Modification and along the transport routes | Boolaroo (1,636) located approximately 330 m to the south- east of the project site. Barnsley (1,735) located approximately 2.9 km to the north- west of the project site and located along the haulage route. | These settlements are included due to their physical proximity which indicates that they may be most likely to be impacted by the proposed Modification and are located along the transport routes. |
| Local Government Area (LGA) | Lake Macquarie (213,845) | The host LGA which encompasses the broader community which may experience social and economic benefits/ impacts from the proposed Modification. |
| Immediate surrounding transport routes | York Street Racecourse Road The Weir Road Northville Drive | These roads will likely see traffic changes due to the proposed Modification, with traffic along York St, Racecourse Rd and The Wier Rd experiencing potential changes in truck traffic at night. |
| Proximal Developments | Cockle Creek precinct- Hunter and Central Coast Development Corporation Weemala Residential Development Victoria Street (NSW) Pty Ltd Billy's Lookout- McCloy Group | The increase in housing developments demonstrates social context changes since the approved project. |

Source: (Umwelt, 2024)

Figure 3.1 illustrates the social locality utilising the justifications outlined in **Table 3.1**. The pink shaded area are the suburb and locality (SAL) boundaries, as defined by the ABS, which may be impacted by the proposed Modification. The blue shaded area is the indicative social locality which considers stakeholders most impacted by the proposed Modification including those along the transport route and key proximal stakeholders.



1,000



Image Source: ESRI Basemap (2023) | Data Source: NSW DFSI (2023)



3.2 Social Baseline

Table 3.3 outlines the socio-economic profile indicators for the social locality as defined by ABS boundaries. This is a key part of the SIA because it provides information on the demographic and societal make-up of the social locality relative to other areas nearby or within the state. This enables a better understanding of how people within the social locality may be impacted by the Project, and how local mitigations, controls and opportunities can be developed that are context specific.

Throughout this section, **Table 3.2 is** coloured coded to show where the SALs and LGA attributes are lower (red) or higher (green) than NSW metrics as show in **Table 3.3.** An interpretation of the results from **Table 3.3** is provided after the table.

| Colour | Meaning |
|--------|--|
| | Figure lower than NSW average or median |
| | Figure higher/ on par with NSW average or median |

Table 3.2 Table Colour Scheme Meaning

Source: (Umwelt, 2024)

Table 3.3Demographic Summary of Host/Nearby Suburbs, Lake Macquarie LGA and NSW (ABS,2021)

| Capital | Teralba SAL | Barnsley SAL | Boolaroo SAL | Lake Macquarie LGA | NSW |
|--|-------------|--------------|--------------|-----------------------|-----------|
| Human Capital | | | | | |
| Population | 2,654 | 1,735 | 1,636 | 213,845 | 8,072,163 |
| Median age (years) | 37 | 39 | 39 | 42 | 39 |
| Post-secondary education (%) | 22.8% | 22.7% | 21.1% | 21.3% | 23.8% |
| Family composition (families with children %) | 36% | 38% | 25% | 30% | 32% |
| Family composition (families without children %) | 26% | 27% | 28% | 29% | 26% |
| Tenure – owned (%) | 26.9% | 34.3% | 29.5% | 37.1% | 31.5% |
| Tenure – mortgage (%) | 47.9% | 51.3% | 34.0% | 36.3% | 32.5% |
| Tenure – rented (%) | 22.0% | 13.0% | 28.1% | 23.2% | 32.6% |
| Physical Capital | | | | | |
| Occupied private dwellings (%) | 96.2% | 96.4% | 95.1% | 93.7% | 90.6% |



| Capital | Teralba SAL | Barnsley SAL | Boolaroo SAL | Lake Macquarie LGA | NSW |
|--|--|---|--|--|--|
| Travel to work – car (%) | 58.0% | 62.4% | 59.6% | 56.0% | 43.1% |
| Economic | | | | | |
| Top three industries of employment (%) | Healthcare and social assistance: 19.2% Construction: 11.5% Retail trade: 8.6% | Healthcare and social assistance: 15.2% Construction: 13.1% Retail trade: 11.0% | Healthcare and social assistance:19.4% Construction: 9.9% Retail trade:9.9% | Healthcare and social assistance: 19.1% Construction: 11.2% Retail trade: 9.4% | Healthcare and social assistance: 14.4% Professional, scientific and technical services: 8.9% Education and training: 8.7% |
| Largest occupation of employment (%) | Professionals: 22.0% | Technicians and Trades Workers: 20.8% | Professionals: 17.8% | Professionals: 21.5% | Professionals: 25.8% |
| Unemployed (%) | 4.3% | 4.4% | 3.9% | 4.6% | 4.9% |
| Median weekly household income (\$) | 2,060 | 1,784 | 1,504 | 1,623 | 1,829 |
| Median weekly rent (\$) (April 2024) | 685 | 580 | 590 | 590 | 750 |
| Median House Price (\$) and % change past 12 months (May 2024) | \$845, 000 -4.2% | \$764, 250 -2.3% | \$905, 000 +22.3% | \$880, 000 +3.52% | \$920, 000 +2.33% |
| Median Monthly Mortgage repayments (\$) | 2,167 | 1,733 | 1,907 | 1,950 | 2,167 |
| Social Capital | | | | | |
| Born overseas (%) | 8.9% | 5.3% | 9.4% | 10.8% | 29.3% |
| Language other than English spoken at home (%) | 6.6% | 4.1% | 6.5% | 7.2% | 29.5% |
| Aboriginal and Torres Strait Islander (%) | 5.9% | 7.3% | 4.6% | 5.5% | 3.4% |
| Volunteering (%) | 8.8% | 7.1% | 8.8% | 13.2% | 13.0% |
| Different address 5 years ago (%) | 52.8% | 25.7% | 54.5% | 34.1% | 37.6% |

Source: (ABS, 2021; realestate.com.au, 2024; real estate investar, 2024)



As outlined above, the Concrush Resource Recovery Facility Expansion was approved in March 2020 by a delegate of the Minister for Planning and Public Spaces. As part of the EIS for the approved project, an SIA was completed in 2017-2018. Since this time, there has seen some population changes around the project site. The SIA for the proposed Modification considers these changes, analysing the social context using 2016–2021 ABS data. It also considers current and anticipated social trends within the locality, as well as the history of the operation. This includes the experiences of communities near the project site and within the surrounding region with this project, as well as the experiences of communities in previous SIAs undertaken by Umwelt for peri-urban quarries. This approach ensures a thorough understanding of the potential social impacts of the proposed Modification.

Table 3.4 outlines the key takeaways from **Table 3.3**. It also presents a comparison of the changes in population since the 2016 ABS census, and outlines developments which have occurred since the approved Project in 2020.

| Summary | Description |
|--------------------------------|--|
| Social Baseline Summary | The age profile in Lake Macquarie LGA were older compared to NSW while Teralba SAL, Barnsley SAL Boolaroo were younger or on par with NSW. |
| | Proportion of properties being rented in the SALs and LGA is lower when compared to NSW (32.6%). |
| | • There is a higher proportion of people who own their house with a mortgage compared to NSW (32.5%). Higher levels of homeownership have been related to place identity. Those who own their homes were more likely to become more attached to their homes and the area they live in (Anton & Lawrence, 2014). |
| | • There is a high proportion of the population in the social locality who travel by car compared to NSW (43.1%). Indicating a higher flow of traffic in the local and broader area. |
| | • The cost of living in the SALs, except Teralba and Lake Macquarie LGA is lower than that of NSW as demonstrated by lower median weekly rents and lower monthly mortgage repayments. Teralba SAL demonstrated on par cost of living with broader NSW. |
| | • The SALs were more transient especially in Teralba and Boolaroo SAL, with over half of the population living at a different address five years ago from 2021. |
| | • The top three industry sectors in the SALs and LGA provide more than 35% of local employment- includes health care and social assistance, construction and retail trade. |
| | • More people travel to work in the LGA by car than the NSW average. |
| Changes in social context (ABS | • The population of Lake Macquarie LGA has grown from 197,371 to 213,845, increasing by 7.7% between 2016 and 2021. |
| 2016-2021) | • The percentage of people who have completed post-secondary education decreased from 23% to 21.3%. |
| | • Family composition in Lake Macquarie LGA changed significantly, with the ratio of percentage of families with children to percentages of families without children decreasing from 42%/40% in 2016 to 30%/29% in 2021. |
| | • Unemployment in Lake Macquarie decreased from 7% to 4.6% indicating a tighter labour market. |
| | • The median weekly household income increased greatly, rising from \$1,296 per week in 2016 to \$1,623 per week in 2021. |
| | • Median weekly rent increased from \$320 to \$590, and similarly median monthly mortgage repayments increased from \$1,733 to \$1,950 between 2016 and 2021. |

Table 3.4Social Locality


| Summary | Description |
|---------|---|
| | • The percentage of people reporting living at a different address 5 years ago significantly decreased from 60% in 2016 to 34.1% in 2021. |
| | • The percentage of people born overseas in Lake Macquarie LGA decreased from 15% to 10.8%. |
| | • The percentage of people who reporting a language other than English being spoken at home also decreased from 9% in 2016 to 7.2% in 2021. |
| | • The percentage of people identifying as Aboriginal and Torres Strait Islander increased from 4% to 5.5%. |
| | • Volunteering in Lake Macquarie LGA decreased from 18% in 2016 to 13.2% in 2021. |

Source: (ABS, 2021; ABS, 2016; Riddle, 2022; Bevan, 2017)

Since 2020 when the Concrush expansion Project was approved, the area of Boolaroo and Teralba has seen a rise in residential and infrastructure developments. These include:

- The continued development of houses within the Bunderra Estate which is a 76-lot residential development with construction starting in 2017/18. This was outlined in the previous SIA as a potential impacted stakeholder.
- The Oak Tree Retirement Village (within the Bunderra Estate) located east of the Concrush site was constructed in 2023 with 61 units.
- The construction of the Barnsley Weir Bridge which connects Teralba, Killingworth and Barnsley. The Weir Bridge opened in July 2022 and is utilised by Concrush for the northern transport route.
- The opening of the wholesale store Costco in 2021.
- The release of new housing developments including Weemala at the Lake announced in 2023 (east of Concrush), Billy Lookout (further outlined in **Table 3.5**)

The increase in residential developments in the past four years since 2020, has seen a rise in local population near the Concrush site. More people are also using the Weir Bridge, resulting in increasing traffic along the haulage routes. These changes to the social locality will be considered in **Section 4.0** below.

3.3 Proximal Developments

In addition to the social and economic baseline context, there are several other developments which have been recently constructed or currently being considered within the region, which could result in changes to the community, or which may have further cumulative effects. **Table 3.5** outlines proximal developments in the region which may have a cumulative impact with the proposed Modification.



Table 3.5Proximal Developments

| Project | Distance from project site | Description | Assessment |
|---|-------------------------------|---|-------------|
| Cockle Creek precinct- Hunter and Central Coast Development Corporation | 645 m northeast | Green Capital Group is currently undertaking works at Cockle Creek to establish subdivided lots. | In planning |
| | | The works are enabling up to 500 new homes in the area after the group settled 55 ha for a multi-staged residential development. | |
| Weemala Residential Development | 1.14 km east | The subdivision of 1 into 137 Lot Subdivision in 6 stages for residential and mixed-use precincts | DA approved |
| Victoria Street (NSW) Pty Ltd | 1.7 km southeast | Subdivision of the existing parcel of land into 19 residential allotments and construction of associated internal subdivision road | DA Approved |
| Billy's Lookout- McCloy Group | 3.3 km south | Subdivision of 70.9ha of land for residential development. Once complete this new neighbourhood will house 531 new homes. | DA Approved |

Source: (Lake Macquarie City Council, 2024)

As outlined in the *Undertaking Engagement Guidelines for State Significant Projects* (DPHI, 2024), engagement undertaken for the proposed Modification needs to be proportionate to the scale and likely impacts of the proposed Modification, and the likely interest the community might have regarding the proposed Modification. As **Section 1.2** explains, apart from the change to hours of operation, the proposed Modification does not seek to substantially change the approved project area but improve onsite operations to increase operational capacity to the approved 250,000 tpa in accordance with the existing consent. Therefore, significant efforts were not made to engage with developers as listed in **Table 3.5** due to the nature of the proposed Modification, noting that the Victoria Street subdivision would have received both Project Newsletters at the address as part of the proposed Modification engagement. Furthermore, the Noise Impact Assessment as outlined in **Section 4.1.2.2** identifies that the Weemala Residential Development (NCA 4), Cockle Creek Precinct (NCA3) will not have any noise exceedances. Regarding Billy's Lookout, this subdivision is located a distance of 3.3km south of the project site, even further beyond the existing Teralba suburb as illustrated in **Figure 3.1** above. In addition, Concrush has an existing relationship with these developers, which will continue should the proposed Modification is approved.

It is further noted that participants in the survey highlighted concerns regarding the potential future residents of these housing developments. These perceived impacts have been captured within **Section 4.0**. The SIA has also evaluated the likely social impacts of future residents in **Section 5.0**, and mitigation measures have been proposed to minimise impacts on these future residents if the housing developments proceed to completion. If they do proceed, Concrush will inform developers of the existing mitigations that already exist for sensitive receptors close to the existing facility.



3.4 Operational Context as it relates to existing community complaints

A complaints register is an important process management and community engagement tool. Concrush has maintained a register recording any complaints made for each month of the year between December 2015 and May 2024. As shown in **Figure 3.2** below, a total of ten complaints were received in relation to Concrush's operations during this time. There have been minimal complaints except for 2018, when five were received. The major issues of these complaints related to water and dust coming off site.



Figure 3.2 Number of complaints between 2015–2024

Source: (Concrush, 2024)

Figure 3.2 illustrates the nature of the complaints recorded. Six complaints focused on water, with one reporting dirty water flowing into Cockle Creek, and five relating to road wetting carried out for dust minimisation. The road wetting was said to be making cars dirty and causing mud. The second most common complaint was dust blowing off the site, with one person saying the dust was coming into their house. Another two complaints were received, one relating to odours from diesel fumes and the other regarding concerns about product quality.





Figure 3.3 Nature of complaints, 2015-2024

Source: (Concrush, 2024) N = 10

During engagement for the SIA, 156 participants provided responses when asked about whether they had any existing concern with the current Concrush facility. Some participants noted they were previously unaware of the Concrush facility, while one-third of responses stated they had no concern with the current operations.

'No, as it exists it's a good business.' - Resident / Community Member

'No. I accept the trucks and traffic that comes with the business that predates my time in Teralba.' - Resident / Community Member

'No, go for gold.' - Resident / Community Member

Other survey respondents stated concerns surrounding the existing operations and impacts. Key concerns with the current operations included dust pollution and traffic and trucks decreasing road safety.

'Trucks parked at end of street drawing water, residue on surfaces, noise, increased traffic.'-Resident / Community Member

'Dust and grit generated from trucks delivering and materials process falling from trucks onto the road and cycle path causing dust and grit problems and when it rains this turns to sludge and runs off into Cockle Creek.'- Resident / Community Member



'Yes, the road dust makes it very difficult to see line markings on the road and I find very dangerous when driving in that area at night.' - Resident / Community Member

'Dust and pollution that is all over the weir road and in the air - lots more trucks accessing suburban roads and going straight past schools.' - Resident / Community Member

'[The Concrush] Site is not taken care of and is an eye sore for the community. No environmental practices considered nor noise reduction strategies in place.' - Resident / Community Member

'The mess left on Racecourse Road by vehicles tracking material offsite creates mud and dust and is dangerous for cyclists.' - Resident / Community Member



4.0 Assessment and Prediction of Social Impacts

This section documents the impacts (both positive and negative) related to the proposed Modification, as identified through engagement with key stakeholders and the community. A key component of SIA is understanding impacts from the perspectives of those that may be most affected or involved.

The subsequent sections draw on several information sources to evaluate the social impacts associated with the proposed Modification. Such sources include community and stakeholder feedback provided engagement for the SIA, outcomes of the social baseline analysis, existing literature and documents relating to social impacts associated with similar developments, technical reports to identify likely social impacts associated with the proposed Modification, and strategies to mitigate and manage these impacts. Direct quotes from community members have also been used to illustrate specific impacts as relevant.

4.1 Summary of Social Impacts

Figure 4.1 illustrates the frequency of social impacts raised throughout community and stakeholder engagement for the proposed Modification which has informed the identification and prioritisation of social impacts. As outlined in **Section 2.3**, engagement mechanisms utilised included online and hard copy community surveys, personal interviews, and feedback provided through phone calls and emails, with 208 stakeholders including: proximal landholders, local community members, residents along the haulage route and local businesses.² The frequency of reported social impacts is determined by whether participants mentioned the impact or rated it between 3 (moderate) to 5 (extreme/transformational) in the survey. Of note, stakeholders consulted raised both positive (coloured green) and negative (coloured blue) impacts relating to the proposed Modification.

As outlined in **Figure 4.1**, impacts to social amenity due to noise, dust and visual and potential health and wellbeing concerns relating to sleep disruption and air quality were the key negative social impacts identified. Key positive impacts however related to increased capacity for green waste, employment and procurement benefits and ongoing opportunities for community investment and support.

The following sections further discuss and evaluate these social impacts, their predicted significance, and outline the proposed mitigation, enhancement or management strategies to address them.

² To protect the privacy of some stakeholders including the Project neighbours (n=2), all participants have been classified as Resident/ Community Member





Figure 4.1 Perceived Social Impacts Associated with the proposed Modification

Source: (Umwelt, 2024)

*N=203



During engagement, participants were asked to rate their overall concern in relation to Concrush's proposed Modification, on a scale from not concerned at all, to extremely concerned. As illustrated in **Figure 4.2**, 72% of respondents were extremely concerned with the proposed Modification.



Figure 4.2 Overall Level of Concern in Relation to Concrush's Proposed Modification*

Source: (Umwelt, 2024)

*N=184

As **Figure 4.3** demonstrates, participants were also asked to rate their level of significance with some identified potential positive impacts associated with the proposed Modification. Over one-third of participants rated the continued community investment and support for local groups/ organisations, increased employment opportunities due to increased operational hours, and continued employment and procurement for residents and businesses as a minimal potential positive social impact associated with the proposed Modification. Around 25% of participants however identified that the positive impacts relating to increase green waste capacity was considered an extreme/transformational or major positive impact of the proposed Modification.







Source: (Umwelt, 2024)

*N=185

Figure 4.4 outlines the significance rating provided by participants for the prompted potential negative impacts associated with the proposed Modification. Over 70% of respondents ranked the impact of **additional noise generated by changes to traffic movements between 10 pm and 7 am causing sleep disturbance and impacts to social amenity** as an extreme/transformational impact. Furthermore, over one-third of respondents ranked the **potential for increased dust from increased operational hours** as an extreme/ transformational impact. Over half of respondents ranked **additional noise / vibration generated by on site operations (i.e. increased crushing and processing hours) between 6.00 am and 10.00 pm causing impacts to social amenity and sleep disturbance** as an extreme/ transformational impact.





Figure 4.4 Potential Negative Social Impacts Associated with Proposed Modification*

Source: (Umwelt, 2024)

*N=185

Interviews, meeting notes, phone calls and email correspondence with stakeholders were also utilised to further validate responses regarding social impacts allowing multiple perspectives on the proposed Modification and allowing for the multifaceted impacts and opportunities to be better understood.

The following section expands on the positive and negative impacts raised during engagement and through an assessment of the proposed Modification, categorising them according to the social impact categories of livelihoods, community, way of life, accessibility, culture, health and wellbeing, surroundings, livelihood, decision making systems (including engagement), as outlined in the SIA Guideline (DPE, 2023).

4.1.1 Way of Life

Potential impacts to way of life may include changes to how people live, work, and play within their communities and any changes in community composition, cohesion, character, function, resilience, and sense of place because of a project.



4.1.1.1 Changes to Sense of Place because of increased operational hours creating a more industrial area

As outlined in **Section 3.0**, Lake Macquarie LGA is currently experiencing population growth which has increased the demand for homes with the LGA, which is reported to required 12,000 new dwellings by 2041 (Lake Macquaire City Council, 2023). The redevelopment of historically industrial land to residential demonstrates the revitalisation of areas such as Boolaroo (located east of the project site) to residential hubs as outlined in **Section 3.2** (Lake Macquaire City Council, 2023). The increase in residential estates has seen a rise in families with children living within the local area between the 2016 to 2021 census (refer to **Section 3.2**).

Teralba has been characterised historically as a coal mining township (Link, 2023). Early industries in Teralba included coal mining, gravel quarries, and market gardens including the Gartlee Mine, Rhondda Colliery, the Amos Bros Quarry and the Northern Colliery (Hisotrical encounters, n.d.). In 2002, Concrush was established in Teralba after recognising the need for a construction and demolition recycling facility in the Lake Macquarie region (Concrush, n.d.). In 2022, Lake Macquarie City Council approved the Heritage Conservation Area Plan, the plan outlined development controls to ensure future residential and business developments in Teralba are in-keeping with the suburb's unique character, a late 19th century lakeside village, with links to the areas heritage character (Umwelt, 2021).

During engagement residents and community members described the feeling of living within the suburbs of Teralba and Boolaroo as a 'local residential community'. The suburbs were described as home to families and older communities. It was stated by stakeholders that the Concrush facility no longer fits in with the character of the area.

'...don't push your luck by trying to disturb our part time peace and quiet...'-Resident/ Community Member

'Think of the family's living in Teralba and Barnsley...'-Resident/ Community Member

'Happy to see recycling, but not at expense of my family's lifestyle/quality of life.' -Resident/ Community Member

'The industrial area on racecourse road already significantly negatively impacts quality of life to the community in Boolaroo and Teralba.' - Resident/ Community Member

'This is a residential area, not a full-time industrial area, with lights, dust and noise.'- Resident/ Community Member

'Move the site to a more appropriate location away from residential areas.'-- Resident/ Community Member

As stated by some of participants, potential or perceived impacts to place identity can be viewed as a threat, with this threat most likely focused on the symbolic, aesthetic and affective attributes of a place, and the perceived 'fit' of these attributes with proposed changes or developments (Devine-Wright, 2011). While Concrush has been operating since 2002, and the Teralba area has a history of industry, stakeholders were concerned for the future of the area as the rise in proximal residential developments has seen the area move away from industrial into residential family areas. As noted in **Section 3.2**, there has been a significant increase in population in the Lake Macquarie LGA. Between the 2016 and 2021 Census,



Lake Macquarie LGA has experienced an 8.7% increase in families. This has been associated with the increase in new residential developments in Boolaroo as well as the increase in aged care facilities. Stakeholders stated that the proposed Modification would negatively affect this transition.

'We didn't move here to put up with a nonstop [Concrush] facility going 24/7 affecting our retirement & peaceful lifestyle'- Resident/ Community Member

'This [proposed Modification] will further decrease the community's quality of life.' -Resident/ Community Member

'Industry disruption creep[ing] into residential areas affecting residents and families'-Resident/ Community Member

'[The proposed Modification] Lowers the overall appear of an area that is undergoing rejuvenation'-Resident/ Community Member

'Concrush has historically operated in a low residential dense area. That is changing thus the operations of Concrush need to decrease and move not increase and expand.' -Resident/ Community Member

'Emphasis on the residential area that they [Concrush] impact, must be highly regarded. They [Concrush] need to take the business operations to an industrial area that can support the proposal [Modification] and be away from communities that have paid high costs for the benefit of living in such areas'-Resident/ Community Member

The project site is located on land zoned as IN1, General Industrial. As outlined in the Lake Macquarie Local Environmental Plan (2014) the objectives of the zone include:

- To provide a range of industrial, warehouse, logistics and related land uses.
- To ensure the efficient and viable use of land for industrial uses.
- To minimise any adverse effect of industry on other land uses.
- To encourage employment opportunities.
- To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.
- To enable ancillary commercial uses if the uses will not undermine the function of existing and future urban centres.

As outlined in **Section 1.1.1**, the proposed Modification would be within the existing project site and align with the above objectives of the land zoning.

To manage the potential impacts raised above relating to the way of life for the local community, it is recommended that Concrush continue to manage the complaints register and investigate and manage noise complaints as they occur in a rapid manner. Research from the CSIRO on the Gas Industry Social and Environmental Research Alliance (GISERA) project, and years of both peer and non-peer reviewed research from the renowned risk communications expert Dr Peter Sandman, has underlined the importance of



responsiveness in reducing concerns about Projects impacts when near communities (CSIRO, n.d.; Sandman, Miller, Johnson, & Weinstein, 1993). The current Operational Noise Management Plan will be updated in line with the proposed Modification and will include sharing of results, via the Concrush webpage. If the proposed Modification is approved, the implementation of the noise monitoring planning and on-site lighting will be in line with Australian standards and will provide community stakeholders with access to noise information which would increase community understanding about the noise monitoring mitigations and results.

4.1.2 Surroundings

As outlined in the SIA Guideline (DPE, 2023), impacts relating to surroundings and social amenity can include changes in ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment and aesthetic value and amenity.

4.1.2.1 Reduced air quality impacting social amenity

Stakeholders raised concerns regarding the increase in dust emissions from the Concrush site as a result of proposed Modification impacting their social amenity. Concerns were also raised about the potential reduction in air quality, impacting physical health of the local community as well as amenity and way of life dust settling on cars and houses. Further concerns relating to air quality related to the odour which is emitted from the site. Concerns relating to impacts from air quality on health and wellbeing are further discussed in **Section 4.1.4.1**.

The approved project is for the staged expansion and increase in the processing capacity of the existing resource recovery facility to 250,000 tonnes per annum (tpa) of general solid waste (non-putrescible) with a maximum storage capacity of 150,000 tonnes at any one time. The proposed Modification would provide more efficient operations onsite to allow Concrush to increase their operating capacity to the approved 250,000 tpa. Therefore, proximal residents may experience an increase in dust to what is currently occurring. It is noted however that the proposed Modification would be consistent with the activities assessed as part of the already approved project, although now over extended operational hours as outlined in the Modification Report (WSP, 2024).

'The amount of dust and air pollution from the site now is bad, for them to operate more hours is insane. I've never seen a tanker water the roads down. The place is a dust bowl.'- Resident/ Community Member

'There is a significant enough dust issue in Teralba and this does not need to be exacerbated.' -Resident/ Community Member

Further concerns relating to air quality surrounded the management of crushing during northerly and easterly winds.

'It [Project newsletter] states, work [crushing] would be undertaken with Northern or Easterly winds. This would directly affect our property with additional dust.'- Resident/ Community Member



Potential dust impacts would be managed through the implementation of the Air Quality Management Plan (AQMP), which outlines measures to reduce air quality impacts including:

- avoid conducting potential odour generating activities during south westerly or westerly wind and during early morning periods in low wind,
- cover transported loads leaving the site,
- odour monitoring and complaint management,
- turning of windrows³ during green waste pasteurisation⁴
- investigating odour monitoring complaints.

Further measures which will be utilised to manage air quality impacts from the site include the:

- use of atomising water sprays on crushing and screening equipment,
- two coat seal on haul roads,
- minimising drop heights between the extractor and loader bucket,
- maintenance of a clean entry ingress, dust suppression of stockpiles by water spraying on an as needed basis (such as average wind speed higher than 18 km/h from a north or north westerly direction), and
- the cessation of dust emitting activities to occur when there are average wind speeds greater than 36 km/h.

The approved project (Umwelt, 2018) also included the construction of a wheel wash on at the site exit to reduce potential dust from exiting the site. The Modification Report notes that with these mitigation in place air quality impacts will be adequately managed, however as discussed in **Section 6.0** it will be important for Concrush to regularly engage with project neighbours and proximal residents regarding their experiences of impacts.

4.1.2.2 Changes to noise impacting amenity due to increase in operational hours

Local community members characterised the local area at night as a 'quiet residential area'. During SIA engagement additional noise / vibration generated by on site operations at night causing impacts to social amenity and sleep disturbance was raised as a key concern by participants, with 57% rating this impact to be of extreme/transformation significance (refer to **Figure 4.4**).

As outlined in **Section 3.4**, stakeholders raised concern regarding existing noise from Concrush including truck movement to and from the project site, impacting amenity during approved operational hours. Existing noise has not been assessed as part of the SIA, though it is noted that Concrush undertakes quarterly noise monitoring in accordance with the requirements of *AS 1055-2018 -Acoustics - Description and Measurement of Environmental Noise* and the *Noise Policy for Industry (NPfl)* (RCA, 2024). The results of the quarterly noise monitoring are uploaded to the Concrush website for public viewing.

³ Windrows are large piles of green waste that are left to decompose over time.

⁴ The turning of windrows during pasteurisation assists in the decomposition of green waste and stabilises the windrow.



Concrush's 2024 Quarter 2 Noise Monitoring (RCA, 2024) report found that the Concrush site was only briefly audible during intermittent evening activities (i.e. 6 pm to 10 pm) from the NCA1 receptor. The noise assessment undertaken during Q2 2024 found that the Concrush site complied with noise targets at all the monitoring stations.

Participants raised concern that increased noise at night would impact the night-time amenity of the surrounding residential area. Similarly, the increased truck movements during the night generating noise and impacting the residential amenity of the area was a key concern, with 71% of participants (N=131) rating this as an extreme/transformational impact.

'The use of airbrakes in town [Teralba] as they pass your house is quite loud and disruptive'-Resident/ Community Member

'The hours that they [Concrush] want to operate and the number of trucks that will be coming past our house. Now, all trucks that come past our house are noisy and speed past our house at least now we get a break from the noise of the trucks if they [Concrush] changed the hours of operation we wouldn't get any peace.' - Resident/ Community Member

'Yes, movement to trucks 24 hours along Racecourse Rd will create noise for a large section of Boolaroo.'- Resident/ Community Member

'We are getting close to the end of freight and coal trains going past as they will soon be bypassing. Now to have the trucks creating that noise will be detrimental to our community.'-Resident/ Community Member





Figure 1 Project area (
) and noise catchment areas (
)

Figure 4.5 Noise Catchment Areas

Source: (WSP, 2024)



A noise impact assessment (NIA) was undertaken by RCA (RCA, 2024), to determine the potential noise impacts of the proposed Modification on the local community. Noise modelling found that under the majority of wind conditions, some night-time loading activities would have some noise impacts at nearby sensitive receivers (refer to **Table 4.1**); however, noise levels would be expected to trend downwards as Concrush replaces older, diesel plant with newer, quieter plants. **Table 4.1** outlines the modelling results for night-time loading activities under different wind conditions and highlights the likely exceedances (identified in blue) across some noise catchment areas (NCAs). Given the modelling outcomes in **Table 4.1**, RCA have recommended that that no loading activities are to occur during night-time hours, loading will therefore only occur between 7 am and 10 pm to minimise noise impacts for surrounding community members.

| Receiver | Criteria dBA⁵ | N 2 m/2 wind, F stability class ⁶ | E 2 m/2 wind, F stability class | SW 2 m/s wind, F stability class | W 2 m/s wind, F stability class | NW 2 m/s wind, F stability class | Worst case LAmax |
|-------------------|--|---|--|---|--|---|---------------------|
| NCA1 | L _{Aeq} ⁷ , 15 min 36 L _{Amax} 52 | 37 | 37 | 41 | 41 | 40 | 51 |
| NCA 2 North | L _{Aeq, 15 min} 37 L _{Amax} 52 | 39 | 34 | 39 | 39 | 39 | 48 |
| NCA 2 South | L _{Aeq, 15 min} 37 L _{Amax} 52 | 39 | 35 | 38 | 39 | 39 | 48 |
| NCA 3 | L _{Amax} 53 | 41 | 41 | 45 | 45 | 45 | 55 |
| NCA 4 | L _{Aeq, 15 min} 42 L _{Amax} 52 | 37 | 32 | 37 | 37 | 37 | 46 |
| NCA 5 Industry | L _{Aeq, 15 min} 68 | 26 | 27 | 23 | 23 | 23 | 37 |

Table 4.1 Night-time Loading Activities with Stockpiles

Source: RCA, 2024

Modelling also found that evening crushing could only occur under northerly or easterly wind conditions due to predicted noise exceedances at NCA 1 and NCA 2 (refer to **Figure 4.5)** for the majority of significant wind directions. Modelling for daytime full operations found that noise levels would not require the use of noise barriers or other controls.

Modelling of unloading activities as outlined in **Table 4.2** found that these activities will comply with noise targets at all sensitive receivers during night-time hours. Therefore, RCA has concluded that unloading activities can occur during night-time hours (i.e. 24 hrs a day). However, it is noted that noise generated during unloading night-time activities may still be audible for near neighbours and therefore have an impact on social amenity.

⁵ Unit of sound pressure level, modified by the A-weighting network to represent the sensitivity of the human ear.

⁶ Moderately stable conditions.

⁷ Equivalent continuous noise level averaged over time on an equivalent energy basis.



| Receiver | Criteria | N 2 m/s wind, F stability class | E 2 m/s wind, F stability class | SW 2 m/s wind, F stability class | W 2 m/s wind, F stability class | NW 2 m/s wind, F stability class | Worst case LAmax |
|---------------|--|--|--|---|--|---|---------------------|
| NCA1 | L _{Aeq, 15min} 36 L _{Amax} 52 | 30 | 30 | 35 | 34 | 34 | 51 |
| NCA2 North | L _{Aeq, 15min} 47 L _{Amax} 52 | 34 | 30 | 36 | 34 | 36 | 48 |
| NCA2 South | L _{Aeq, 15min} 37 Lamax 52 | 34 | 30 | 34 | 34 | 35 | 48 |
| NCA3 | L _{Aeq, 15min} 53 | 38 | 34 | 40 | 39 | 39 | 55 |
| NCA4 | L _{Aeq, 15min} 42 L _{Amax} 52 | 31 | 26 | 32 | 31 | 32 | 46 |
| NCA5 | L _{Aeq, 15min} 68 | 20 | 21 | 17 | 16 | 17 | 37 |

Table 4.2 Night-time Unloading Noise Results with Stockpiles

Source: RCA, 2024

To manage the proposed Modification noise impacts, Concrush will continue with the existing noise monitoring program to assess the effectiveness of the proposed mitigation measures in achieving the predicted noise levels. Concrush will undertake initial noise monitoring of the day, evening and night-time activities to compare the actual noise levels against the predicted noise levels. Concrush will not use crushers after 10pm and ensure truck engines are turned off while waiting on site during night-time hours to reduce noise impacts of the proposed Modification.

In addition, Concrush will engage with the two nearest neighbours (NCA 1) regarding property mitigation measures to reduce noise impacts, including the possibility of installation of air conditioner units or other controls. Ongoing regular engagement with nearby neighbours to understand feedback on the effectiveness of these mitigation measures would be essential and is committed to by Concrush. It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification.

4.1.2.3 Reduced Visual amenity

The proposed Modification would require additional operational lighting to meet the increase in proposed operational hours including artificial lighting during evening and night-time operations. The visual impact of the light pollution because of the proposed Modification was raised by some proximal residents and community members.

'Additional lighting and 24hr operation is not ideal for residents nearby.'- Resident/ Community Member

Furthermore, as outlined in **Figure 4.4**, 46% of participants (N=85), considered the disturbance from light pollution from project site due to increased operational hours as an extreme/ transformational impact.



The proposed Modification would take place within the existing project site footprint; therefore, the visual impacts of the area are not expected to vary from those assessed in the approved EIS (Umwelt, 2018). According to the Modification Report (WSP, 2024), the use of additional artificial lighting required to accommodate additional evening and night-time operations is not expected to have major impacts and would be managed within existing mitigation measures contained in the EIS. This includes a:

- landscaped 2-m earth bund along the eastern boundary of the project site
- outdoor lighting required during extended operational hours at the project site will be installed and/or operated in accordance with Australian Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting (Council of Australian Standards, 1997).

Concrush is advised to engage with the proximal residents on potential visual impacts of the proposed Modification. Further mitigations could include additional tree planting and landscaping on- and offsite, developing a strategic lighting plan with the use of increased yellow lighting at night, and collaborating with local residential developers to develop lighting mitigation strategies for future residents if required.

4.1.2.4 Reduced safety at night due to changes in traffic

Stakeholders raised safety concerns regarding the existing operations impacts traffic and road quality. Current safety issues with truck movements to and from the site along the Weir Road and entering into an 80 km/h road. As outlined in **Section 3.2** across the SALs and LGA there is a greater proportion of people who travel to work by car, therefore utilising roads such as the haulage route on a regular basis. Furthermore, there has been concerns raised regarding the current operations with participants raising that dust on the roads creates a safety hazard for motorists, further outlined in **Section 3.4**. These concerns further links to the current road conditions which were considered not suitable for heavy vehicle traffic.

'Yes, the road dust [from Concrush] makes it very difficult to see line markings on the road and I find very dangerous when driving in that area at night. '- Resident/ Community Member

'Dust and pollution that is all over the Weir Road and in the air - lots more trucks accessing suburban roads and going straight past schools'- Resident/ Community Member

'You [Concrush] have trucks pulling out onto an 80 km/h road, leaving dust and debris over the road making it dangerous. They have a street sweeper which attempts to clean up the debris, but as it travels at 10 km/h it makes it dangerous to drive along the road. '- Resident/ Community Member

'Trucks coming in and out of facility are not always aware of the traffic around them; they are late to indicate, pull out slowly and exit turning out in front of traffic travelling 80km.'- Resident/ Community Member

'I have existing significant concerns with noise and vibrations from heavy vehicles driving along Racecourse Rd to/from Concrush. '- Resident/ Community Member

'Not necessarily the Concrush facility, but the truck drivers going in and out of there pull out onto heavy oncoming traffic and then have to go under the speed limit. It's highly frustrating. '- Resident/ Community Member



'I am not in favour of trucks at night at all. The road is so busy already. Weir bridge has contributed to the increase in traffic, but also from people trying to avoid Edgeworth.'- Project Neighbour

The increase in hours which trucks may travel to and from the project site was highlighted as impacting the safety of other road users along the transport routes. These concerns were also highlighted as flow on impacts from the existing operational concerns relating to traffic.

'Increased risk of traffic hazards caused by more trucks travelling through residential areas at all times.'- Resident/ Community Member

'Unsafe traffic movements during night-time hours making the roads less safe'- Resident/ Community Member

'[A concern is] large trucks on roadways at all times at night'- Resident/ Community Member

'Just the traffic after hours'- Resident/ Community Member

It is noted that Concrush's existing Traffic Management Plan (TMP) continues to be implemented in line with the approved project and will be updated to accommodate the proposed Modification.

4.1.2.5 Decreased safety of pedestrians and cyclists because of increased traffic

Although the proposed Modification is not seeking to increase the number of trucks which may enter and exit the facility within the extended hours or the proposed production rate, stakeholders perceived that there would be an increase in trucks moving to and from the site resulting in an increase and traffic and safety impacts for residents.

'Increased traffic issues and especially trucks which will further congest the area.' -Resident/ Community Member

'Increased traffic flow into and out of the plant will have a very negative impact on the roads physically, Increased risks of potential motor vehicle accidents or incidents.' - Resident/ Community Member

'Increased truck traffic causes more rapid deterioration of our roads that do not receive adequate funding to carry current traffic.' -Resident/ Community Member

'The extension of the Concrush plant would increase the truck presence through York St making it much nosier and dustier.' - Resident/ Community Member

'Yes - disruption to traffic... delays to those of us who live in Teralba to get to work and back, getting out of the area... Adds to the risks associated with trying to evacuate the Billy's Lookout Estate in the case of fire. Greater chance of death due to traffic hold ups.' -Resident/ Community Member

As outlined in the Modification Report (WSP, 2024), the proposed Modification would not result in overall increased traffic movement. The traffic generation assessed for the approved project includes ten car movements per hour and 26 truck movements per hour into and out of the project site per hour. This number would remain the same, but changes in the operational hours in which traffic moves in and out of the site may occur, with unloading and dispatch of trucks to be allowed up to 24 hours per day, seven days per week. The EIS Traffic Impact Statement (TIS) (Better Transport Future, 2018) undertaken for the



approved project in 2018 found that traffic around the site would continue to operate at acceptable levels. Therefore, as the proposed Modification is not increasing the production rate (of 250,000 tonnes per annum) or the maximum number of trucks per hour, it is not expected to increase traffic congestion or result in reduced road access impacts for local road users.

It is also important to note that while Concrush has an important role in managing safety impacts associated with their operation, there are other heavy vehicle road users utilising the same haulage route. In addition, the upgrade of the Weir Bridge in 2022 to make it suitable for vehicles in all weather conditions has anecdotally led to an increase in traffic, including heavy vehicle travel, through Teralba.

The project's Traffic Management Plan for internal operations will be altered to accommodate the modified internal access road layout, the proposed location of the wheel wash, removal of the light vehicle exit point 'Exit-Light Vehicles', and the proposed increase and reconfiguration of light vehicle parking. The internal changes to the project site will not cause off-site traffic impacts.

It is further recommended that Concrush continue to engage with LMCC as required and will pass on any community concerns relating to road and pedestrian safety to LMCC or Transport for NSW if they come to Concrush.

4.1.3 Environmental Values

4.1.3.1 Changes to valued environmental assets

Stakeholders raised concerns regarding the impact of the proposed Modification on areas of environmental value surrounding the existing site. Although the proposed Modification is not expanding the existing site in any way, it is located adjacent to Cockle Creek and Teralba Swamp. Participants in the SIA engagement raised concern regarding the impact of the proposed Modification on waterways, flora, fauna and estuaries proximal to the project site. In particular, community members were concerned that Concrush would be discharging pollution into the local waterways and that the additional artificial lighting, noise and truck movements may impact on animals and birdlife.

'Would want assurance this alteration would not place pressure on waterways or reduce tree levels that may assist in noise reduction or destroy habitat important for animals and birdlife and scenic attributes of local area.' -Resident/ Community Member

'Pollution into Cockle Creek.' -Resident/ Community Member

'Cockle Creek is an estuary for a lot of birds, fish and other wildlife. What negative effects will the noise, dust and light pollution have on these animals?'-Neighbouring Landholder

'Environmental health of native flora and fauna, creek impacts... extra runoff with heavy rainfall.'-Resident/ Community Member

'Possible impacts on natural environment and birdlife.' -Resident/ Community Member

'The pollution affects local bird and wildlife populations.' -Resident/ Community Member



'The swamp life near it [the project site] would be impacted by this expansion which is a natural habit for birds and other animals'-Resident/ Community Member

'Garden & waste processing increase can represent increase CO2 and vermin infestation'- Resident/ Community member

'Not to mention the disturbance of local wildlife who will no doubt be impacted by the noise and will be killed by more trucks on the road at night (when most animals are more active).' -Resident/ Community Member

The proposed Modification would be carried out within the existing site footprint; therefore, the Modification Report (WSP, 2024) notes that biodiversity impacts are not expected to differ from those assessed in the EIS (Umwelt, 2018). While night-time operations may result in light and noise impacts to wildlife, these impacts are expected to be minor due to vehicle movements being intermittent and due to the virtual non-use of the site by wildlife in the existing operation. Concrush will also undertake monthly surface water quality monitoring upstream/downstream of Cockle Creek to ensure water is not contaminated by the on-site leachate dam or other surface water run-off.

In 2007, the project site and surrounds were impacted by flooding. The project site is in the Cockle Creek Estuary catchment that forms part of the broader Lake Macquarie catchment, and the majority of the site is classified as flood prone (having a high flood risk) (WSP, 2024). One stakeholder raised concern regarding the internal layout of the project site changing as part of the proposed Modification and the increase of flood risk. It was further raised that the recent changes to the area surrounding the project site such as the development of the Weir Bridge in 2022 (further detailed in **Section 3.2**) has changed the surrounding landscape and subsequently the flow of water in the surrounding area.

The EIS for the approved project (Umwelt, 2018) outlined that along the extended eastern (front) boundary, there will be a 2 m high landscaped earth bund forming both a visual screen and a flood mitigation barrier to prevent potential flood waters entering the green waste area, producing leachate pollution and running off into waterways. The proposed Modification is not expected to cause changes that will impact on flooding.

The increase in storage and processing capacity of the onsite garden and wood waste has the potential to impact water quality in the area through nutrient run off. Water quality monitoring for nutrients in the existing water management system found that the current system is performing to the design expectations, and that an increase in the amount of green waste stored is not likely to increase nutrient concentrations in green waste catchment leachate or runoff. The increase in the rate of processing of green waste is likely to generate additional nutrient load; however, modelling has concluded that this is unlikely to have any off-site impacts. As outlined in the EIS for the approved Project the Project site is flat with the majority of stormwater runoff draining to the west naturally or via a central collection drain. The existing water monitoring program will be used to analyse any changes to the range in nutrient concentrations and loads.

4.1.4 Health and Wellbeing

Impacts on health and well-being includes physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health (DPE, 2023).



4.1.4.1 Reduced air quality causing potential decrease to respiratory health

Stakeholder raised concern regarding the proposed Modification impacting the physical health and wellbeing of proximal residents and local community members by increasing dust in the air. Concerns related to changes in operational hours of crushing increasing the potential dust impacts impacting respiratory health conditions.

'The health of nearby residents could be adversely affected by sleep disturbance and dust. It is not reasonable to have windows of my home closed at night to limit the noise and dust.'-Resident/Community Member

'I see the increase in dust particles as potentially life threatening, at the very least life impacting to people with asthma or lung disease.'- Resident/Community Member

'Yes, impact to my own and others health including respiratory illness, increase in asthma attacked, [chronic obstructive pulmonary disease] COPD, sleep disturbances. List goes on and on.'-Resident/Community Member

'Allergies increasing and health concerns due extra movement of fine dust materials.'-Resident/Community Member

'It's [the proposed Modification] about making money at the expense of people living in the area & also causing illness through dust pollution, which will be a liability to nearby residents...a health & environmental study is very essential.'- Resident/Community Member

'Long term health affect from breathing in this concrete dust.' - Resident/Community Member

'I see the increase in dust particles as potentially life threatening, at the very least life impacting to people with asthma or lung disease.' - Resident/Community Member

'Airborne silica. It's deadly. Over 55s community 400 m away. It's insane!' - Resident/Community Member

'The dust is excessive, and we are breathing this into our lungs - remember the smelter it was proven the duct use to travel to Valentine and was found in their gutters from the EPA so small particles of concrete will now be breathed in during operations'- Resident/ Community Member

One stakeholder raised concern about the wellbeing of workers due to the proposed Modification.

'The requirement for workers to work through a roster which can impact physical, mental and social health.' - Resident/Community Member

As outlined in the Modification Report (WSP, 2024), given that the proposed Modification would not increase the project's operational footprint, additional impacts to air quality are not likely to arise. In the EIS for the approved project, the Air Quality Impact Assessment, found that predicted dust concentrations of PM10 and PM2.5⁸ were below the maximum criteria of dust concentrations at the maximum production

⁸ PM2.5 (particles with a diameter of 2.5 micrometres or less): these particles are so small they can get deep into the lungs and into the bloodstream. There is sufficient evidence that exposure to PM2.5 over long periods (years) can cause adverse health effects. Note that PM10 includes PM2.5.



rate of 250,000 tpa. Monitoring for deposited dust and PM10⁹ emissions will be undertaken within at least a period of 24 months following the commencement of the proposed Modification. Monitoring will ensure PM10 emissions are within compliance levels and dust modelling predictions. Assessment of the effectiveness of the following mitigation measures will also occur periodically:

- Atomising water sprays on crushing and screening equipment.
- Two coat seal on haul roads.
- Minimisation of height between excavator and loader.
- Dust suppression of stockpiles by water spraying during average winds greater than 18 km/h.
- Maintenance of clean entry driveway.
- The use of a water cart to water roads and hardstand areas to assist in the control of fugitive dust emissions during average winds greater than 18 km/h.
- Cessation of dust emitting activities during average winds greater than 36 km/h from a north or north westerly direction.
- Concrush will maintain a complaints register to address all environmental concerns, including dust pollution, as they arise. Upon receiving a complaint, Concrush will have a process that reviews and resolves the issue in accordance with the relevant guidelines. The Environmental Protection Agency (EPA) oversees this register and will also be able to alert Concrush to any issues that need to be addressed under EPA legislation and regulations. To ensure transparency and compliance with environmental legislation, regulations, standards, and codes of practice, Concrush uploads all complaints and their resolutions onto their website.
- The Air Quality Management Plan (AQMP) will be updated as part of the proposed Modification. The AQMP will include preventative measures to mitigate air and any odour pollution. Furthermore, Concrush will engage with stakeholders to reassure them that compliance levels will remain unchanged. Additional engagement measures will include annual updates to proximal neighbours regarding compliance and outcomes of environmental monitoring as part of the proposed Modification.

4.1.4.2 Potential for disruption of sleep patterns

During engagement stakeholder raised concerns relating to the increase in operational hours and the potential for tucks to be dispatched at night causing sleep disturbance impacts. This was due to the perceived increased noise associated with trucks movements at night and noise associated with the operational activities including the unloading of trucks. Similarly, it was acknowledged that noise and sleep disruption could have flow on impacts to people's mental health. Sleep disruption in healthy adults has been associated with:

• Stress responsivity (one's capacity to manage stress).

⁹ PM10 (particles with a diameter of 10 micrometres or less): these particles are small enough to pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. (NSW Health, 2020)



- Somatic pain (such as headaches).
- Reduced quality of life.
- Emotional distress.
- Mood disorders (such as depression).
- Cognitive, memory, and performance deficits.

Sleep disruption is likely to have greater negative impact on adults with pre-existing conditions (Alhola & Polo-Kantola, 2007).

During engagement for the SIA, participants noted the following:

'Impact on our sleep from night-time noise.' -Resident/ Community Member

'I live in a residential area. Councils and state govt regulators all recognise the impact after hours noise has on communities hence their noise limitation policies'-Resident/ Community Member

'I am a shift worker I need my sleep. I don't need anyone else business profits coming before my health and sleep is a big part of that.'- Resident/ Community Member

'It's [crushing noise] going to be a massive impact. Sleeping is hard to come by for some people. It would disrupt sleep.'- Resident/ Community Member

'Noise is stressful, it impacts family life. Councils have noise restrictions for a reason, I just want those adhered to'- Resident/ Community Member

'[I can hear the] crusher every morning, and I can live with it at 7 am but I don't want to hear it at 6am or through the night... any noise is amplified by the swamp and the creek... the noise of the crusher sounds like a cement mixer with rocks rolling around, thumping. I do not want that at 3am at night' – Resident/ Community Member

'Machine and traffic noise and operation.' - Resident/ Community Member

'No other company operates 24 hours a day so close to established residential areas. The increase of operations will have a detrimental impact on noise'- Resident/ Community Member

'Don't operate at night. Huge trucks going through residential zones and crushing sounds echoing down the creek at all hours of the night should not be legal. If residents aren't allowed to cause noise pollution at night by mowing lawns and playing loud music at 3 am I don't see why Concrush is above the rules.'- Resident/ Community Member

The NIA (RCA, 2024) assessed the impact of operational noise at night in 15-minute scenarios for the following activities:

- Trucks entering/exiting or receiving product.
- Wheeled loaders working at stockpiles.



- Tipping truck.
- Fans in green waste area.

The results concluded that unloading activities were only briefly audible at NCA 1 (refer to **Figure 4.5**). Night-time unloading activities were modelled and found to comply with noise targets at all receivers indicating that unloading activities can occur 24 hours a day without causing noise impacts. Exceedances were found during loading at NCA 1 and NCA 2 for the majority of significant wind directions, and crushing could only occur under northerly or easterly wind conditions without causing a noise exceedance. The NIA recommends that operating periods only occur at night for unloading. In addition, crushing and loading/ unloading can only occur during the evening during the northerly and easterly wind only. Loading only activities are not to occur during night-time hours.

As outlined in **Section 4.1.2.2**, Concrush will continue to undertake noise monitoring each quarter to assess any changes/ effectiveness of the proposed mitigation measures in achieving the predicted noise levels. Concrush will undertake initial noise monitoring of day, evening and night-time activities to compare the actual noise levels against the predicted noise levels. Concrush will further continue to manage the complaints register and investigate/ manage noise complaints in a timely manner as well as replace current diesel plant with quieter/ modern machines in the future. In addition, Concrush will engage with the two nearest neighbours (NCA 1) regarding property mitigation measures to reduce noise impacts if required. It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification.

4.1.5 Livelihood

Impacts on local livelihoods and economic benefits of the Project includes people's capacity to sustain themselves through employment or business. It also refers to how the Project may enhance or detract from local and/or regional economic opportunities through employment, training, and supply chain activities.

4.1.5.1 Decrease in land and property values

The proposed Modification cause concern for stakeholders regarding the impact to the value of their properties due to the potential increase in noise, dust and night-time truck movements. Others noted that the impacts of the proposed Modification would make properties harder to sell due to being less appealing to buyers. Some residents cited previous experiences with Pasminco, which was a lead and zinc smelter that operated for over 100 years at Cockle Creek. The land which the smelter was on, had contaminated soil (impacted by heavy metals, lead and zinc) generated from the smelting works which has been encapsulated in containment cells which occupy approximately 22 hectares of the site (DPIE, n.d.).

'[What about the] Resale value of my property, after covid the property value went up. How will this [proposed Modification] affect the value? I have worked long and hard for that asset.'- Project Neighbour

'Concerned with the impact on property values due to increased dust & noise pollution'-Resident/Community Member



'This planned update of facilities at Concrush will also have a detrimental effect on house prices if it proceeds, because of all the problems it will create thus stopping people buying, selling property in the area...A big problem which needs to be considered in your planning study...!' - Resident/Community Member

'[The proposed Modification would] Reduce land value of surrounding areas'- Resident/Community Member

'I feel it [the proposed Modification] will decrease the value of my property'- Resident/Community Member

'Boolaroo residents have long been subjected to pollutants from Pasminco. Increasing the pollution from Concrush will again lead to mitigation and remediation of properties and more than likely affect property values just as lead pollution did'- Resident/Community Member

'Also, it will devalue out property values and make it difficult to sell the houses.' -Resident/Community Member

As evidenced in **Section 3.2** in the past 12 months from May 2024, Boolaroo has seen a 22.3% increase in average house prices while Teralba (-4.2%) and Barnsley (-2.3%) have seen a decrease. The significant increase in house prices in Boolaroo has been linked to the change from being associated with the Pasminco Smelter to a suburb with major retailers, homes, school and parks (Rockman, 2023). Changes to noise amenity has been linked to the values of residential properties. It has been corelated those properties fronting major roads, which are exposed to higher noise levels, generally have greater turnover rates than properties with lower road traffic noise levels within the same suburbs (Hinze & Nicol, 2019).

Management of impacts associated with the proposed modification, with a focus on minimising potential effects on local property values, can be undertaken by maintaining a strong company reputation within the local community through fostering greater acceptance of its ongoing or modified operations. Part of this strategy includes improving access to quarterly environmental monitoring results, which will serve as a transparent demonstration of Concrush's continued compliance with EPA regulations.

4.1.5.2 Increase in local employment and procurement

The proposed Modification would seek to increase operational hours, therefore would increase employment opportunities to an estimated additional 3 full time equivalent (FTE) workers. During engagement participants rated the level of significance of increased employment opportunities due to increased operational hours, with 8% rating this as major or extreme/transformation positive impact (refer to **Figure 4.3**). In comparison, 42% of respondents rated this opportunity as minimal. Participants rated the 'continued employment and procurement for local residents and businesses' with 39% (N=73) considering this to be a minimal positive impact from the proposed Modification. Many stakeholders considered the additional employment to not be significant enough to outweigh the negative social impacts of the proposed Modification.

'None, 3 FTE is not enough to inconvenience an entire suburb with additional traffic.' - Resident/Community Member

'3 FTE versus impact on community not worth it.' - Resident/Community Member



'The negatives far out way any positives when it comes to a few more jobs versus the health and wellbeing of hundreds of residents. It is pure arrogance to think that these modifications would be a benefit to the residents in this area.' - Resident/Community Member

'I don't see any positive impacts. 3 full time employees lost on likely non-locals.' -Resident/Community Member

'I don't think the equivalent of an additional 3 FTE's will have a "significant" impact on local employment opportunities.' - Resident/Community Member

'The additional employment will be minimal'- Resident/Community Member

'Minimal employment opportunities is not a reason to allow this'- Resident/ Community Member

Similarly, participants were asked to rate the significance of continued employment and procurement for local residents and businesses, with over one third considering this to be a minimal positive impact.

4.1.5.3 Community investment and support

The proposed Modification may enable Concrush to continue to support local community groups/ organisations through sponsorships. Participants rated 'Continued community investment and support for local groups /organisations', with 42% (N=76) considering this to be a minimal positive impact from the proposed Modification. Stakeholder further suggested that community acceptance may increase if further investment in community groups occurred.

'Provide community tours and educational programs so local members can see first-hand how you are making a difference. Maybe some STEM initiatives with local schools too. - Resident/ Community Member

'Perhaps some funding to Asthma Australia or Lung Cancer Australia in recognition that additional dust inhalation will have an impact'. - Resident/ Community Member

Stakeholders provided a range of suggestions for initiatives that Concrush could undertake to increase community acceptance of the Modification, including, community tours of the Concrush site, educational programs including STEM initiatives, targeted local employment including traineeships for younger people and reskilling of unemployed people, and community grant donations. Concrush is currently sponsoring of local sporting teams as well as the local bowling club, Rotary club and more. Concrush sees their 'sponsorship of sporting teams as particularly important as we believe sport and recreation builds, stronger, healthier, happier and safer communities.' (Concrush, n.d.).

4.1.6 Culture

A community member raised concerns regarding Aboriginal Cultural Heritage sites which may be impacted by the proposed Modification.

'... has an Aboriginal Cultural Heritage due diligence assessment been carried out for the project? I carried out a basic AHIMS search with a 1000m buffer and it identified 2 sites in or near the location.' – Community Member



Previous searches utilising the Aboriginal Heritage Information Management System (AHIMS) in September 2023 did not identify any known Aboriginal sites or places within the Concrush site, with a buffer of 200 metres (WSP, 2024). Due to the proposed Modification being carried out within areas that have already been disturbed, and due to the lack of any known Aboriginal sites or places at the project location, additional impacts on Aboriginal heritage values are not expected to occur.

Concrush will ensure that its employees and contractors are aware that it is an offence under Section 86 of the *National Parks and Wildlife Act 1974* to harm or desecrate an Aboriginal object unless that harm or desecration is the subject of an Aboriginal Heritage Impact Permit.

It is further recommended that Concrush ensures that all staff complete annual cultural heritage training as part of their safety inductions to increase awareness regarding potential heritage sites in the unlikely event that an artefact was found on the existing Concrush site.

4.1.7 Engagement and Decision Making

Impacts relating to this category refer to whether stakeholders are able to provide input to the planning and assessment process. This refers to whether they experience procedural fairness, are informed, and can meaningfully influence decisions in relation to the Project, and are able to access complaint, remedy, and grievance mechanisms.

4.1.7.1 Inability to contribute to decision-making systems

During engagement, stakeholders noted they did not feel they had the ability to impact the decisionmaking process. In particular, it was commented that there should be more community involvement and dissemination of information, with a genuine opportunity to influence Project design and outcomes.

'Whatever I say or the people say, it doesn't matter... it's whoever is filling the council's pockets. We don't want it or need it.'-- Resident/Community Member

'We live here & have a right to say No! to your proposed plans..' - Resident/Community Member

'...should definitely consider local people's concerns as permanent residents who will experience any negative consequences 24/7/365 over economic concerns.' - Resident/Community Member

'Put people before money..' - Resident/Community Member

'No, this scheme will impact residents. In the scheme of things, this consultation is a tick the box exercise for something that will be pushed through regardless of community concerns.' - Resident/Community Member

'That this proposed Modification is not an already done deal... appearing to be concerned about people's reaction to cover yourselves! People are tired of being walked over when issues as important as this to their lives are not treated as they should be. With understanding and acknowledgement for our future concerns... sadly if it doesn't concern me attitude it's pushed through with disregard.' - Resident/Community Member

'Yes, I would strongly oppose any changes and believe all residents in the impacted areas of Boolaroo and Teralba should be listened to. These are our homes.' - Resident/Community Member



'Please take notice about the major concerns us residents have for your proposed plan [Modification] for Concrush...' - Resident/Community Member

'Please listen to us, we have to live here. You all get to go home after work.' - Resident/Community Member

Throughout the engagement process, members of the local community advocated for more opportunities to provide input into the proposed Modification. Community engagement mechanisms were adapted and increased as part of this process, with targeted letter box drops to residential properties along the haulage route in Teralba and Barnsley emphasising the opportunity to contact Concrush or Umwelt to request further information and discuss impact and opportunities directly. The SIA survey close date was extended by an additional month to allow for community members to have adequate time to contribute to the SIA, and an additional newsletter (see Appendix A) was developed to provide interested stakeholders with further information as raised during previous engagement. On both newsletter there was both phone and email addresses to Concrush with a request to contact Concrush to discuss concerns and opportunities related to the proposed Modification. As noted in Table 2.2, six stakeholders contacted Umwelt or Concrush by phone or email with questions or concerns after the first project newsletter. In addition, 206 stakeholders responded to the newsletter by completing the SIA survey. After the second newsletter, a total of two stakeholders contacted Concrush or Umwelt with questions or concerns. One stakeholder in particular noted disappointment that the proposed Modification had not been significantly altered in response to community concerns, thus reinforcing the likely feeling - for some - that the community had little power to impact project decision-making.

Due to the level of interest in the proposed Modification, increased transparency and effective community engagement with stakeholders regarding the outcomes of the assessments for the proposed Modification, and particularly those related to key impacts such as dust, air, and noise is a key. The number of interested stakeholders in the proposed Modification, and the fact that many people felt that they don't really have a substantive say in the decision-making process, underlines the importance of an increased focus on community engagement and information sharing in the years ahead. Any changes to Concrush operations should be promptly communicated to ensure key local stakeholders are informed of these changes directly from the company and have a chance to understand how mitigations and controls are being used to ensure no or minimal impact. If there are considerable and ongoing concerns coming to Concrush when the Modification is complete, a Community Consultation Committee (CCC) or a Social Impact Management Plan (SIMP) should be considered and implemented in conjunction with community.

4.1.7.2 Distrust regarding the assessment process

There was distrust among the community during engagement regarding the monitoring to meet regulator (EPA) requirements and calls for more independent testing.

'Can Concrush guarantee that it is asbestos free, and how?'-Resident/ Community Member

'The possibility of a major breach of EPA conditions that will impact on local communities.' -Resident/ Community Member

'...the obvious problem of unidentified and toxic waste being transferred.'-Resident/ Community Member



'Who will be responsible for policing that Concrush will only operate during times of optimal wind direction. I see this as impossible to police and enforce.' - Resident/ Community Member

Concrush uploads environmental tests such as noise, dust, air quality, independent environmental audits and other environmental reports to their website which provide outcomes of the tests, the occurrence of each test, location of testing and EPA regulation compliance/breaches.

Recommendations to increase community trust includes increased sharing of information so that interested community members are aware of outcomes of environmental outcomes. Other key local stakeholders such as LMCC should be regularly made aware of the results by Concrush; experience with coal mining companies in the Hunter Valley have shown how effective this sharing of information can be. In this regard, increase to the sharing of content on the Concrush website could include annual summaries of environmental monitoring outcomes, and more regular updates on operations generally. In the event of an exceedance recorded, engagement with the relevant stakeholders should occur to acknowledge the exceedance and discuss the mitigations implemented. Increased signage at the front of Concrush of a phone number for complaints would also be recommended.

4.1.8 Concerns about Cumulative Impacts and a Lack of Information

Historical land uses have previously impacted the health and wellbeing of local residents. Renowned communications expert Peter Sandman calls this phenomena memorability, and it is a significant driver for increasing people's concerns. Concerns related to the surrounding region previously being home to the Pasminco Cockle Creek Smelter were raised during engagement. Although the site was closed in 2003, the land which it was on (located adjacent east to the project site), was issued a remediation order due to the site presenting significant risk of harm (DPIE, n.d.). Key concerns from the EPA included migration of air borne dust containing lead and the migration of lead, zinc, cadmium and manganese from the site via the surface water and groundwater. The Remediation Project was completed in 2015 (Pasminco, 2016). The history of the local area which the project site is located has heightened concerns relating to environmental and impacts associated with the proposed Modification.

'Have we not learnt anything from the pollution in Boolaroo and Speers Point from industrial waste? This is insane. A major step backwards for the community!!!' - Resident/Community Member

'Additionally, with the development of the housing estate on the former Sulphide site, the population in Boolaroo will increase significantly, resulting in a larger number of residents being adversely affected by the Concrush Modification Project.' - Resident/Community Member

It is acknowledged that the proposed Modification will not have cumulative environmental impacts relating to the remediation of the Pasminco site, but that the proposed change in operations has increased residents' health and wellbeing concerns. Concrush will continue to monitor environmental outcomes quarterly and continue to ensure results are publicly available. Furthermore, the project site will continue to be in compliance with EPA guidelines and will need to provide and demonstrate ongoing community engagement regarding environmental compliance.

Stakeholders raised concerns regarding the proposed future housing developments occurring in the area which would see an increase in population which may be impacted by the proposed Modification.



'Potential to have effect on further housing estate development in the area. There is a likelihood that the northern end of Railway St in Teralba is suitable for future housing development. Expansion of Concrush would have implications.' - Resident/Community Member

'Concrush has historically operated in a low residential dense area. That is changing thus the operations of Concrush need to decrease and move not increase and expand'- Resident/Community Member

'In a couple of years, the number of homes in Boolaroo and Teralba will almost double, noise from this will affect many more families.' - Resident/Community Member

'Very concerned about the possibility of Concrush using spent potline waste.'-Resident/Community Member

The Modification Report has assessed that the proposed and approved residential developments, including the Costco, Metromix modifications and the residential developments to the east of Main Street Boolaroo, are not expected to result in any additional impacts than those already outlined for those people living closer to the proposed Modification. This is in relation to noise, dust, traffic, amenity and other impacts discussed above.

Due to the nature of the proposed Modification, and the nature of the surrounding proposed and approved developments, the developments are considered to represent typical background growth in traffic movements in the area. Therefore, the Modification Report (WSP, 2024) concluded that no significant cumulative impacts associated with the proposed modification is expected. Cumulative noise and vibration impact to sensitive receivers, such as the aged care development, have been considered in the relevant noise section and no further potential significant cumulative noise and vibration impacts were identified as the developments are further away.

From a social impact perspective, these future residents have been considered in the impact evaluation as outlined in **Section 5.0**.



5.0 Social Impact Evaluation

This section provides an evaluation of the social impacts identified in relation to the Project, with the aim of assessing the anticipated changes to the current social baseline due to the Project proceeding. Supplementary secondary insights have also been compiled to further contextualise, benchmark, and qualify the matters raised to inform the evaluation of each social impact.

A range of perceived social impacts have been identified in relation to the Project that require prioritisation for assessment and appropriate management and/or enhancement. It should also be noted that social impacts are often not mutually exclusive, with higher order impacts such as population change, resulting in second order impacts such as impacts on sense of community and a decrease in local service provision. This is not anticipated as part of the proposed Modification.

As noted in the SIA Guideline, the definitions and scale assigned to each of the likelihood and magnitude categories need to be relevant to the impact that is being evaluated and justified in the SIA; and where possible the consequence scale should be based on established measures and standards. The evaluation of social impact significance has involved four main steps as outlined in **Figure 5.1**.



Figure 5.1 Social Impact Evaluation

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In line with the process defined above, **Table 5.2** outlines the technical and perceived social concern/interest in relation to the positive and negative consequences that may be experienced by stakeholders due to anticipated impacts/changes associated with the Project and have been categorised in line with the social impact categories outlined in the SIA Guideline (DPE, 2023).

The perceived stakeholder significance reflects level of stakeholder concern gathered via engagement. The significance rating (pre-mitigation and residual) draws on the social significance matrix (outlined in **Figure 5.2**) and the definitions in the SIA Guideline (DPE, 2023) to evaluate social impacts. The social impact significance evaluation considers both the magnitude of the potential social impact (minimal, minor, moderate, major and transformational) and the likelihood of the impact occurring (very unlikely, unlikely, possible, likely and almost certain) to determine an overall evaluation of impact as 'low', 'medium', 'high' or 'very high'.

| | | Magnitude level | Magnitude level | | | | | | | | |
|------|----------------|-----------------|-----------------|----------|-----------|------------------|--|--|--|--|--|
| | | 1 | 2 | 3 | 4 | 5 | | | | | |
| Like | elihood level | Minimal | Minor | Moderate | Major | Transformational | | | | | |
| Α | Almost certain | Low | Medium | High | Very High | Very High | | | | | |
| в | Likely | Low | Medium | High | High | Very High | | | | | |
| с | Possible | Low | Medium | Medium | High | High | | | | | |
| D | Unlikely | Low | Low | Medium | Medium | High | | | | | |
| E | Very unlikely | Low | Low | Low | Medium | Medium | | | | | |

Figure 5.2 Social Impact Significance Matrix

Source: Umwelt, 2024 adapted from DPE, 2023

Table 5-1 the colour blue has been used to represent the Significance Rating of impacts, while the symbol + has been used to indicate positive impacts.

Table 5.1 Significance Rating Legend

| Significance Rating | Legend Colour Blue |
|---------------------|--------------------|
| Very High | |
| High | |
| Medium | |
| Low | |

Source: (Umwelt, 2024).



| Social Impact Theme | Proposed | Social Impact Description | Extent/ | Level of Stakeholder Concern | Signifi Rat | | ince g | Suggestions for Mitigation and | | Significano After | |
|------------------------|-----------------------------------|--|---|------------------------------------|----------------|----------------|----------------|--|----------------|----------------------|----------------|
| | Modification Aspect | | Affected Parties | | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 |
| Way of Life | Increased operational hours | Changes to sense of place due to increased operational hours creating a more industrial area | Project Neighbours | High | С | 3 | M | Concrush to continue to manage the complaints register and investigate noise and other complaints if they occur. Liaise with two nearest project neighbours regarding property mitigation measures to reduce noise impacts if requested, for example installation of air conditioning units. | С | 2 | M |
| | | | Residents along the haul route | High | С | 3 | М | Continue to engage with proximal neighbours including NCA 1 and NCA 2. | С | 2 | L |
| | | | Broader Community Future Residents | Medium | D | 2 | L | Continue to engage with proximal neighbours including NCA 1 and NCA 2. regarding perception and experience of impact. Update the noise monitoring program as per proposed Modification controls. Regular toolbox talks with drivers to reinforce positive driver behaviours and messaging, including no use of air brakes in built up areas. Outdoor lighting required during extended operational hours at the project site will be installed and/or | D | 2 | L |

Table 5.2Social Impact Evaluation

¹⁰ Likelihood – A = Almost certain, B = Likely, C= Possible, D= Unlikely, E= Very likely.

¹¹ Magnitude – 1= Minimal, 2= Minor, 3= Moderate, 4= Major, 5= Transformational.

¹² Significance – Low, Medium, High.



| Social Impact Theme | Proposed | Social Impact Description | Extent/ | Level of | Sig | Significance Rating | | Suggestions for Mitigation and | | Significano After | | |
|------------------------|-----------------------|--|-----------------------|--------------|----------------|------------------------|----------------|---|---------|----------------------|----------------|--|
| | Aspect | | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 | |
| | | | | | | | | Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting. It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification. | | | | |
| Surroundings | Increased operational | creased erational burs Reduced air quality impacting social amenity (e.g. houses and cars) due to increased crushing hours | Project Neighbours | High | С | 4 | Н | Update the AQMP to align with the proposed Modification including undertaking preventative measures to reduce air and odour pollution. Ensure dust generating activities are only conducted during suitable conditions (cessation of dust emitting) | С | 2 | М | |
| | hours | | Proximal Residents | High | С | 4 | Н | | С | 2 | Μ | |
| | | | Broader Community | Medium | D | 2 | L | | D | 1 | L | |
| | | | Future Residents | Not assessed | D | 2 | L | activities when average wind is above 36 km/h from a north or north westerly direction). | | 1 | L | |
| | | | | | | | | Consider additional dust monitors at strategic locations that will inform and change operating procedures if the results are recording higher than expected after Modification. | | | | |



| Social Impact | Proposed | Social Impact | Extent/ | Level of Stakebolder | Significance Rating | | | Suggestions for Mitigation and | | Significan After | |
|---------------|--|--|---|-------------------------|------------------------|---------|--|--|---------|---------------------|----------------|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 |
| | | | | | | | | Regular updates regarding dust and air quality monitoring results which are accessible. Seek ongoing feedback from project neighbours regarding air quality impacts and concerns. Implement wheel wash to reduce dragout and dust exiting the site. | | | |
| Surroundings | Increased Reduced noise amenity crushing hours in the local area at | Project Neighbours | High | В | 3 | н | Concrush will not use the crusher after 10pm. | В | 2 | М | |
| | night-time as a result of increased operational hours associated with | Proximal Residents / and residents along haul route | High | В | 3 | Н | Crushing to only occur during northerly or easterly winds. Continue to undertake noise monitoring (including at NCA 1 and NCA | В | 2 | М | |
| | | movements | Broader Community | High | С | 3 | М | 2) to assess actual noise levels against predicted noise levels for proposed Modification. Communication of any exceedances to near neighbours and implement operational changes to reduce noise impacts. Concrush to ensure trucks turn off engines on site during night-time hours and use low noise reversing alarms, where possible. Concrush to continue quarterly noise monitoring and make results publicly available on website. | D | 2 | L |
| | | | Future Residents | No assessed | D | 3 | Μ | | D | 2 | L |
| | | | Shift Worker along the haul route | High | С | 3 | Μ | | С | 2 | L |


| Social Impact | Proposed | Social Impact | Extent/ | Level of | Significance Rating | | ance Ig | Suggestions for Mitigation and | | Significanc After | | |
|---------------|----------|---------------|------------------|----------|------------------------|----------------|------------|--|---------|----------------------|---------|--|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 | |
| | | | | | | | | Seek ongoing feedback from project neighbours if the proposed Modification is approved and implemented. Engage with the two nearest neighbours (NCA 1) regarding property mitigation measures to reduce noise impacts including for example the installation of air conditioner units, noise cancelling units, if requested. Concrush to continue to provide community regular news updates via website. In addition, Concrush to consider providing newsletter by letterbox drop at key Project stages as required. It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night- time operations commencing. In addition, residents will have the option to opt into receiving an email notification. Continue to engage with proximal neighbours including NCA 1 and NCA 2 | | | | |
| | | | | | | | | regarding perception and experience of impact. | | | | |



| Social Impact Theme | Proposed | Social Impact Ext Description Affe | Extent/ | Level of | Sig | nifica Ratin | nce g | Suggestions for Mitigation and | Sigr | Significance After | |
|------------------------|---|---|--|-------------------------|-------------|-----------------|----------------|--|---------|-----------------------|----------------|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 |
| Surroundings | Increase in lighting to support changes to operational hours | Decreased visual amenity as a result of increased light pollution at night-time | Project Neighbours Proximal Residents Broader Community | Medium Medium Low | B C D | 3 2 1 | H M | Replace diesel plant with quieter/ modern machines in the future. Concrush to consider lining of trucks to reduce noise impacts if additional noise attenuation measures are required. Concrush to manage the complaints register and promptly investigate/ manage noise complaints as they occur. Development of a 2m earth bund along the eastern boundary of the site. Lighting designed to comply with Australian Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting. Additional tree planting / landscaping (work with provimal residents such as | C D | 3 2 1 | M |
| Surroundings | Increase in truck movements 24hrs a day | Reduced safety of road users at nighttime from increase in truck traffic between | Project Neighbours Proximal | High | c c | 3 | M | Oak Tree Retirement Village if ongoing issue). Collaborate with local residential developers to devise lighting mitigation strategies for future residents if necessary. Implement the TMP. (Traffic movements in and out of the to remain the same as the existing licence consent) | D | 2 | L |
| | | traffic between R 10.00pm to 7.00am re | Residents, residents along | | | | | consent). | | | |



| Social Impact | Proposed | Social Impact | Extent/ | Level of | Significance Rating | | nce g | Suggestions for Mitigation and | Significan After | | nce |
|---------------|--------------------------------|---|--|----------|------------------------|---------|----------------|---|---------------------|----------------|----------------|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 |
| | | | the transport route, road users along the transport route | | | | | positive driver behaviours and messaging, including use of air brakes in built up areas. Concrush to continue to manage the complaints register and investigate/ manage safety complaints as they occur. Continue to engage with proximal neighbours including NCA 1 and NCA 2 regarding perception and experience of impact. | | | |
| Surroundings | Increase in truck movements | Decreased safety of pedestrians and | Broader Community | High | E | 4 | М | Implement the TMP.Concrush to continue to provide | E | 3 | L |
| | 24hrs a day | cyclists as a result of increased traffic (perceived impact) | Residents along the transport route | High | E | 4 | Μ | community regular news updates via website. In addition, Concrush to consider providing newsletter by | E | 3 | L |
| | | | Road Users | High | E | 4 | Μ | Ongoing engagement with LMCC to pass on any community concerns relating to driver and/ or pedestrian safety concerning limiting road speed limit. | | 3 | L |
| Environmental | Increase in crushing hours | Deterioration of valued environmental assets as a result of pollution | Project neighbours, proximal | High | D | 3 | Μ | Follow the on-site water runoff and management plan. | | 2 | L |



| Social Impact Theme | Proposed | Social Impact E | Extent/ Affected Parties | Level of | Significance Rating | | nce g | Suggestions for Mitigation and | | nifica After | ance er | |
|------------------------|---------------------------|--|--|----------|------------------------|----------------|----------------|--|---------|-----------------|----------------|--|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 | |
| | | (dust) from crushing into key water ways | residents, broader community, environmental groups | | | | | Opdate the Addir to angli with the proposed Modification including undertaking preventative measures to reduce air and water pollution. Concrush to undertake and share via website quarterly surface water quality monitoring upstream and downstream. Implement physical barriers (flood mitigation barrier) to ensure no runoff into waterways. | | | | |
| Environmental | Increase in operational | Decrease in flora and fauna located around | Project neighbours | High | D | 2 | L | Landscaping on site to consist of native species. | D | 2 | L | |
| | hours | the Concrush site as a result of increase in traffic, vibrations and | Broader Community | Medium | D | 2 | L | | D | 2 | L | |
| | | traffic, vibrations and noise at night. | Environmental Groups | High | D | 2 | L | | D | 2 | L | |
| Environmental | Changes to site layout | Increased risk of flooding because of Concrush site changes. | Project Neighbours | Medium | D | 2 | L | Follow the on-site water runoff and management plan. Implement physical barriers (flood mitigation barrier) to ensure no runoff into waterways: 2m earth bund on eastern boundary (facing Cockle creek) as a flood mitigation barrier. Update the AQMP to align with the proposed Modification including undertaking preventative measures to | D | 1 | L | |



| Social Impact | Proposed | Social Impact | Extent/ | Level of | Significance Rating | | ince g | Suggestions for Mitigation and | | nifica After | nce | | |
|-------------------------|-------------------------|---|-----------------------|----------|------------------------|----------------|----------------|--|----------------|--|---------|--|--|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 | | |
| | | | | | | | | reduce air and odour pollution/water pollution. Concrush to undertake and share via website quarterly surface water quality monitoring upstream and downstream. | | | | | |
| Health and Wellbeing | Increase in operational | Sleep disturbance impacting health | Project Neighbours | High | В | 4 | н | • Crushing to only occur during northerly or easterly winds. | С | 3 | Μ | | |
| | hours | outcomes of residents as a result of increased noise pollution from | Proximal Residents | High | В | 3 | Н | • Undertake noise monitoring (including at NCA 1 and NCA 2) to assess actual | С | 3 | Μ | | |
| | | the change in operational hours | Broader Community | Medium | D | 2 | L | levels for proposed Modification. | E | 2 | L | | |
| | | | Future Residents | Medium | D | 2 | L | complaints register and investigate/ manage noise complaints as they occur. | | 2 | L | | |
| | | | | | | | | | | Concrush will not use the crusher after 10 pm. | | | |
| | | | | | | | | Concrush to continue quarterly noise monitoring and make results publicly available on website. | | | | | |
| | | | | | | | | Concrush will ensure trucks turn off engines on site during nighttime hours and use low noise reversing alarms if possible. | | | | | |
| | | | | | | | | Engage with the two nearest neighbours (NCA 1) regarding property mitigation measures to reduce noise impacts. | | | | | |



| Social Impact | Proposed | Social Impact | Extent/ | Level of | Sig | nifica Ratin | ince g | Suggestions for Mitigation and | Sign | nifica After | nce |
|-------------------------|-------------------------------|--|-----------------------|----------|---------|-----------------|----------------|---|---------|-----------------|----------------|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 |
| | | | | | | | | It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night- time operations commencing. In addition, residents will have the option to opt into receiving an email notification. Seek ongoing feedback from proximal neighbours regarding proposed Modification. Concrush to continue to provide community regular news updates via website. In addition, Concrush to consider providing newsletter by letterbox drop at key Project stages as required. Replace diesel plant with quieter/ modern machines in the future. | | | |
| Health and Wellbeing | Increase in crushing hours | Reduced health outcomes (e.g. asthma, | Project Neighbours | High | С | 3 | М | Ensure dust generating activities are only conducted during suitable | D | 2 | L |
| | | lung disease) as a result from increase in dust particles from | Proximal Residents | High | С | 4 | Н | conditions. Monitoring of PM10 particles as per | D | 3 | Μ |
| | | increase in crushing hours | Broader Community | High | D | 3 | Μ | proposed Modification licence and | | 2 | L |



| Social Impact | Proposed | Social Impact | Extent/ | Level of | Significance Rating | | nce g | Suggestions for Mitigation and | | nifica After | nce |
|---------------|-------------------------------------|--|---------------------------------------|--------------|------------------------|----------------|----------------|---|---------|-----------------|----------------|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 |
| | | | Future Residents | Not Assessed | D | 3 | М | share results of dust monitoring in an accessible format. | D | 1 | L |
| | | | | | | | | Annual communication of air monitoring results to local community/ proximal residents. | | | |
| | | | | | | | | • Update the AQMP to align with the proposed Modification including undertaking preventative measures to reduce air and odour pollution. | | | |
| | | | | | | | | • Engagement with relevant concerned stakeholders to explain that the compliance levels remain the same. | | | |
| Livelihood | Changes to operations | Decrease in property values because of the | Project Neighbours | High | D | 3 | Μ | Manage impacts associated with the proposed Modification to maintain | D | 3 | М |
| | | proposed Modification | Broader Community | Medium | D | 3 | М | Concrush's reputation in the local community. | D | 3 | L |
| | | | Future Residents | Low | D | 2 | L | Demonstrate annual compliance of environmental targets prescribed by the EPA to the local community. | D | 2 | L |
| Livelihood+ | Increase in operational hours | Increase in local employment as a result of increase operational hours | Broader Community (Job seekers) | Low | В | 1 | L+ | Target employment of the local community. | | 1 | L + |
| Heritage | Ongoing operations | Concerns relating to assessments of Aboriginal cultural heritage as a result of | Aboriginal Groups | Not assessed | D | 2 | L | Concrush will ensure that its employees and contractors are aware that it is an offence under Section 86 of the National Parks and Wildlife Act 1974 to | | 1 | L |



| Social Impact | Proposed | Social Impact | Extent/ | Level of | vel of Significance Rating | | nce g | Suggestions for Mitigation and | Significanc After | | nce |
|-----------------------------|--------------------------|---|-----------------------|----------|-------------------------------|----------------|----------------|---|----------------------|----------------|---------|
| Theme | Aspect | Description | Affected Parties | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 |
| | | the proposed Modification | | | | | | harm or desecrate an Aboriginal object unless that harm or desecration is the subject of an Aboriginal Heritage Impact Permit. Ensure all staff have an annual cultural heritage training as part of their safety inductions and ongoing training. | | | |
| Engagement and Decision- | Site Operations | Community distrust in Concrush to accurately | Project Neighbours | High | В | 3 | Η | • Continue and increase the uploading environmental monitoring outcomes to | С | 3 | Μ |
| Making | | monitor and meet dust, air, contamination | Proximal Residents | High | В | 3 | Η | the Concrush website.Continue to engage the community | С | 3 | М |
| | | standards | Broader | High | В | 3 | Н | utilised if they occur. | С | 3 | М |
| | | | community | | | | | Regular news updates on Concrush website. | | | |
| Engagement and Decision- | Proposed Modification | Anger and frustration due to inability to | Project Neighbours | High | В | 3 | н | Provide stakeholders with outcomes of assessment and communicate any | С | 2 | м |
| Making | announcement | influence project decision-making | Proximal Residents | High | В | 3 | Н | changes to Concrush operations directly. | С | 2 | М |
| | | | Broader Community | High | В | 3 | Н | Ensure provision of information particularly relating to key impacts (dust, air, noise) and transparency of assessment outcomes. | | 2 | М |
| | | | | | | | | If required, consider the creation of a Community Consultative Committee to meet 2 times a year to focus on | | | |



| Social Impact | Proposed Modification | Social Impact | Extent/ | Level of Stakebolder | Significance Rating | | | Suggestions for Mitigation and | Sigi | Significanc After | | |
|---------------|---|--|-----------------------|-------------------------|------------------------|----------------|---------------------|--|---------|----------------------|---|--|
| Theme | ne Aspect Description Affected Parties Conc | | Concern | L 10 | M 11 | S 12 | Management Measures | L 10 | M 11 | S 12 | | |
| | | | | | | | | Concrush-community engagement and information sharing. | | | | |
| Cumulative | Site Operations | Health and wellbeing concerns as a result of | Project Neighbours | Medium | E | 2 | L | Continue to monitor environmental outcomes of site operations. | | 1 | L | |
| | | previous developments in the local area and the proposed | Proximal Residents | High | D | 2 | L | Ensure compliance with EPA guidelines.Provide ongoing community | E | 1 | L | |
| | | Modification increasing pollution | Broader Community | High | D | 2 | L | engagement regarding environmental compliance. | E | 1 | L | |
| | | | | Not assessed | E | 2 | L | | | 1 | L | |



6.0 Social Impact Monitoring and Management

6.1 Community Suggested Mitigation Measures

Table 6.1 outlines a summary of the mitigation/ management measures suggested by stakeholders duringengagement.

| Community Based Mitigation/ Management Measures | Description |
|--|--|
| Improvement of road quality including investment in road infrastructure | Stakeholders suggested that investment in the quality of the transport route along the Weir Rd and Racecourse Rd would assist in mitigating concerns regarding heavy vehicle traffic at night. Investment in filling potholes, adding give way signs and cycle lanes. |
| Limit operational hours to within standard hours as per Lake Macquarie City Council standards | Lake Macquarie City Council noise standard states that noise is to be kept to a minimal level between 10.00 pm and 7.00 am. Stakeholders suggested operational hours between 7.00 am to 7.00 pm would be deemed acceptable. |
| Changes to haulage route to minimise residential impact | Diversion of traffic away from York St in Teralba to reduce residential night traffic noise, including the development of a bridge from Racecourse Road to Lake Road. Further suggestion includes restricting the volume of trucks on York St. |
| Reduction of dust through sprinkler system and monitoring | Stakeholders suggested that through dampening the stockpiles, there would be reduced dust impacts on the road and their properties. |
| Construction of noise walls | Noise mitigation fencing similar to ones they use on major roads on the frontage of Concrush. |
| Investment in new machinery | Increase Concrush's capital through investment in new machinery, which is more efficient, therefore reduces the need to increase hours. |

 Table 6.1
 Community Based Mitigation/ Management Measures

6.2 Management and Mitigation

This section provides a summary of potential strategies that may be implemented in response to the predicted impacts outlined in **Section 4.0** - namely those ranked as moderate and high. **Appendix B** summarises current mitigation measures to be undertaken by Concrush as well as Umwelt's recommendations for additional mitigation measures that could be considered in response to social impacts.

Table 6.2 summarises the key strategies that could potentially be implemented to either address a potential negative impact or enhance the positive impacts associated with the Project.



| Impact/Opportunity Area | Strategies |
|---|---|
| Noise and air quality – impacts on way of life | There are a small number of nearby neighbours that Concrush should work with to monitor the impacts of noise on social amenity. This includes: Ensure dust generating activities are only conducted during suitable conditions (cessation of dust emitting activities when average wind is above activities when average wind is above activities. |
| | B km/h from a north or north westerly direction). Update the AQMP to align with the proposed Modification including undertaking preventative measures to reduce air and odour pollution. |
| | • Use new wheel wash to largely reduce dust exiting the site. |
| | Replace diesel plant with quieter/ modern machines in the future. |
| | Concrush to continue to manage the complaints register and investigate complaints as they occur. |
| | Undertake noise monitoring to assess actual noise levels against predicted noise levels for proposed Modification if approved. |
| | Concrush to engage respectfully with the two nearest neighbours (NCA 1) regarding property mitigation measures to further reduce noise impacts. Ongoing engagement with near neighbours to understand any feedback and concerns. |
| | Provide regular and accessible updates regarding dust and air quality monitoring results with nearest neighbours and on website should neighbours not wish to meet. |
| | Consider additional dust monitors at strategic locations that will inform and change operating procedures if the results are higher than expected. |
| | Regular updates to haul road residents and Council (via website and newsletter as required) regarding dust and air quality monitoring results to increase information sharing. |
| | • It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification. |
| | Concrush to continue to engage with proximal neighbours (including NCA 1 and NCA 2) regarding perception and experience of impacts. |
| Sense of Community | It is recommended that Concrush consider new ways to support the immediate local community in relation to sense of community and environmental efforts, such as annual support for community and environmental groups in the on matters linked to adjacent waterways, riparian areas, or other biodiversity close to Concrush. |
| Traffic – impacts on social amenity and safety | Traffic was an issue raised by the community through the SIA. Concrush should implement increased training and monitoring of drivers and contractors exiting the facility to adhere to safe driving practices. This would include: |
| | Toolbox talks with drivers to reinforce positive driver behaviours and messaging |
| | Installation of strategic signage at key locations on site to remind drivers to 'drive safely' and 'remember our local neighbours'. |
| | • If Modification approved, forewarning of late-night truck movements for residents along the haul road. |

Table 6.2 Strategies to Address Key Impacts Associated with the proposed Modification



7.0 Conclusion

This SIA has documented the social baseline, likely and potential social impacts, and a brief social impact management plan and enhancement measures associated with the proposed Modification to the Concrush facility. As such, it forms an important part of the Modification Report for the Project application.

The SIA has included the compilation of a social baseline profile for the Project, consolidation of community consultation outcomes to inform the assessment of and evaluation of Project related to likely social impacts and opportunities and has made some recommendations regarding social impact management planning. The social impact evaluation has been undertaken to inform and support the refinement of Project design and plans to reduce negative project impacts and consider how greater positive project benefits and social outcomes for landholders and communities within the social locality might be achieved. In summary, the SIA found that the main negative impacts (those with a residual significance of medium or higher) of the proposed Modification include the:

- Changes to sense of place due to increased operational hours creating a more industrial area
- Reduced air quality impacting social amenity (e.g. houses and cars) due to increased crushing hours
- Reduced noise amenity in the local area at nighttime as a result of increased operational hours associated with crushing and truck movements
- Decreased visual amenity because of increased light pollution at nighttime
- Sleep disturbance impacting health outcomes of residents because of increased noise pollution from the change in operational hours
- Reduced health outcomes (e.g. asthma, lung disease) as a result from increase in dust particles from increase in crushing hours
- Community distrust in Concrush to accurately monitor and meet dust, air, contamination standards
- Anger and frustration due to inability to influence project decision-making

A key aspect of any social impact assessment is the development of a framework to monitor a Project's impact over time – often referred to as a social impact management plan. Concrush will collect social data to monitor commitments made in the social impact assessment namely:

- Key areas of predicted proposed Modification impact, including perceived and experienced social impacts, through engagement with neighbouring and other nearby landowners, to determine if experienced impacts are in line with predicted impacts (as outlined in Section 6.2).
- Evaluation of community contributions to ensure benefits to local stakeholders e.g. Teralba Public School, Barnsley Public School, and local community organisations.



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Concrush Proposed Modification



Introduction

Concrush is a locally owned and operated business located at 21 Racecourse Road, Teralba NSW. The company was established in 2002 after recognising the need for a construction and demolition recycling facility in the Lake Macquarie region.

Concrush is well respected within the local industry and has a reputation for providing high quality recycled products and sound environmental management of their operations. The facility recycles waste building material, primarily consisting of concrete, bricks, tiles, asphalt, concrete washout and road base with secondary processing of green waste, timber and recovery of steel.

Concrush also enables residents to use the facility for recycling their domestic building waste.

What is the Project?

Concrush is currently seeking approval to modify the existing consent for the facility to meet the continued growth in the demand for recycled waste products in both the domestic and commercial markets.

The proposed modification aims to streamline operations and maintain environmental outcomes at the Teralba project site. The modification includes changes to site operations, storage and processing capacity limits, and an increase in the hours of operation. This would allow Concrush to increase their operating capacity to the approved 250,000 tonnes per annum (tpa) and receive material during all hours to service construction of infrastructure project such as roads that occur outside standard construction hours (i.e. at night).



Specifically, the proposed modification seeks to:

Modify the processing capacity limit for garden and wood waste to 10,000 tpa



Modify the storage capacity limit for garden and wood waste to 2,000 tpa to be stored onsite



Modify the hours of operation at the site to allow for:

- Extending operation hours to commence operations at the site at 6:00 am
- Crushing and processing in the evening period between 6:00 pm and 10.00 pm; Monday – Saturday, permitted only when there are northerly and easterly winds
- Loading, unloading and dispatch of trucks in the night-time period between 10:00 pm and 7:00 am Monday

 Sunday, meaning the ability to work 24 hours a day if required



Remove the requirement for a noise wall along the eastern and southern boundary of the project site



Operate lighting during the evening and night-time periods



Modify the internal site layout to improve processing of the stockpiles



Provide an additional four water tanks to the south of the site office to improve on site water management and storage



What is the planning approvals process?

A development application is being prepared and will be submitted to the NSW Government Department of Planning, Housing and Infrastructure (DPHI). This application will be supported by an assessment of environmental impact including noise and vibration, air quality and social impacts.



How can I be involved?

Umwelt Australia (Umwelt), a specialist environmental and social consultancy located in Teralba, has been engaged to complete a Social Impact Assessment (SIA) for the proposed modification. As part of this SIA, Umwelt is undertaking community engagement with people who are interested in this modification application and want to provide any input. Umwelt will be contacting near neighbours and local businesses to provide an opportunity to better understand the proposed Project changes.

An online survey has been developed to allow stakeholders and community members raise concerns and opportunities and to provide input into how issues could or should be managed and benefits enhanced. The outcomes of the survey will be used in the SIA to support the assessment of Project impacts and to inform the proposed mitigation, enhancement or additional management measures.



Your input is highly valued, and the project team is looking forward to hearing from members of the local community. Please scan the below QR code and fill in the survey, which should take 5-10 minutes to complete.

For more information on the modification, the SIA and the overall assessment process, or if you would like to learn more and provide input, please contact the Umwelt Social Team below:

SARAH BELL



Social-team@umwelt.com.au



Contact Information



For further information on products or enquiries contact the Concrush team on (02) 4958 3777 or visit Concrush's website at www.concrush.com.au

0436 674 277

Opening hours: Monday to Thursday from 7:00am – 4.45pm Friday to Saturday from 7:00am - 3:45pm (weighbridge closes at 3.30pm)







Introduction

Concrush is a locally owned and operated business located at 21 Racecourse Road, Teralba NSW. The company was established in 2002 in the Lake Macquarie region.

The facility manufactures aggregates and road base material from demolished concrete, bricks and tiles from the construction industry. We also make mulch from green waste.

An Information Sheet was distributed to the local community in April 2024 that outlined Concrush's proposal to modify the existing consent and sought community feedback on the Proposed Modification. Given the interest from the community in relation to the Proposed Modification this additional information sheet has been developed to provide:



Further detail on the Proposed Modification, including key changes from the existing consent





Identifies key issues from the community engagement process

What is the Proposed Modification?

Concrush is currently seeking approval to modify the existing consent granted in 2020 (approval number SSD-8753) for the facility to meet the continued growth in the demand for our products in both the domestic and commercial markets.

The Proposed Modification aims to streamline operations and maintain environmental outcomes at the Teralba site. The Proposed Modification would also provide opportunity to receive material during all hours as construction of some infrastructure such as roads does not only occur during daylight hours.



The key changes are outlined below:

| | | Current Operations | Proposed | Modifications to Operations |
|--------------|---|--|--------------|--|
| | Hours of operation | Monday to Saturday: 7 am to 10 pm Sunday and Public Holidays: 8 am to 6 pm. During the evening period (i.e. 6pm to 10pm) operations limited to screening and stockpiling or the loading and dispatch of trucks. No crushers to be used during the evening period. Works outside of these hours may be undertaken where: Works are inaudible at the nearest neighbour (sensitive receiver). Works are required for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons. It is required in an emergency to avoid the loss of lives, property or to prevent environmental harm. | | Modify the hours of operation at the site to allow for: Extending operation hours to commence operation site at 6:00 am Crushing and processing in the evening period betw 6:00 pm and 10.00 pm; Monday – Saturday. This wor result in crushing and processing between 6:00 am 10:00 pm, permitted during northerly and easterly wonly. Loading, unloading and dispatch of trucks in the night period between 10:00 pm and 7:00 am; Monday – Sun required. This could result in loading, unloading and d of trucks 24 hours per day, seven days per weeks, to reto market demand. |
| | Truck and car movements | Maximum of 36 truck movements per hour (18 in and 18 out) into and out of the Concrush site per hour. Maximum of 12 car movements per hour (6 in and 6 out) Maximum of number of 368 truck movements per day are assumed at a production rate of 250, 000 tonnes per annum (tpa). | | No change to maximum number of trucks per hour. No change to the production rate of 250,000 tpa. As noted above the Proposed Modification seeks to ch hours during which trucks can be loaded, unloaded ar dispatched. |
| Ø | Annual processing capacity of green waste | Receive and process up to 250,000 tonnes of general solid waste per annum, which includes no more than 5,000 tonnes of garden and wood waste. | Ø | Increase the processing capacity limit for garden and waste to 10,000 tonnes per annum (tpa). No change to the general solid waste processing limit. |
| | Maximum storage capacity of green waste | Store up to 150,000 tonnes of general solid waste at any one time, which includes 200 tonnes of garden and wood waste. | | Increase the storage capacity limit for garden and woo to 2,000 tpa stored onsite at any one time. This will no additional odours from the operation. No change to the storage capacity limit for general sol |
| \mathbf{O} | Lighting | A 2-metre-high security fence and security lighting on high poles to be installed along parts of the site perimeter. | \mathbf{O} | Operate lighting during the evening and night-time p respond to Proposed Modification to operational hour Concrush site. |
| | Stockpiling and material processing areas | The approved project includes the following: Two 'Processed Material Stockpiles' One 'Raw Material Stockpile and Processing Area' | | Update the three stockpile areas to be referred to and as 'Raw Materials Stockpiles, Processed Material Stockp Processing Area'. This would allow for improved management and proc the stockpiles through additional flexibility. |
| | Noise wall | Construct a concrete block noise wall on the eastern and southern perimeters of the 'raw material stockpiles and processing area', to be maintained during the life of the development | | Remove the requirement for a noise wall along the eas southern boundary of the site. |

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What is the Assessment **Process and Next Steps?**

A Modification Report is being prepared and will be submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI). The Modification Report will detail the potential environmental and social impacts that may be experienced if the Proposed Modification is approved. Importantly, the Modification Report must outline a range of measures to minimise and manage potential impacts.

If you would like to be notified once the Modification Report and Social Impact Assessment have been uploaded onto the Major Project Portal visit: https://www.planningportal.nsw.gov.au /major-projects/projects/modification-1 -development-layout-and-annual-limits , and click the 'Notify Me' link.



Commencement of **Modification Report** (including assessment of environmental and social impacts)



JAN

Engagement with local community and key stakeholders







Lodgement of Modification Report to DPHI

Outcomes of Community Engagement

During and April and May 2024, community engagement was undertaken to provide community with the chance to provide issues, concerns and opportunities relating to the Proposed Modification. Feedback from the community will be used to inform the Social Impact Assessment and Modification Report.



A range of concerns were raised by community members including:

Concrush would like to take the opportunity to thank everyone who has given their valuable time in providing feedback. Below is a summary of the outcomes of the issues and opportunities raised and rated by participants.

Issues and Opportunities



Additional noise / vibration generated by on site operations (i.e. increased crushing and processing hours) between 6.00am and 10.00pm, causing impacts to social amenity and sleep disturbance



Additional noise generated by changes to traffic movements between 10pm and 7am, causing sleep disturbance and impacts to social amenity





Potential for increased dust due to increased operational hours impacting amenity

Disturbance from light

pollution from Concrush

facility due to increased

operational hours

Decreased social amenity due to increase in noise and light pollution



Impacts to health and wellbeing as a result of dust and noise pollution

Reduced safety at night for road users due to changes in traffic



Degradation of assets with environmental value such as Cockle Creek and Teralba Swamp



Reduction in property/ land values due to proximity to Concrush site

Some positive impacts relating to the Proposed Modification were also raised, including:



Increased green waste capacity, decreasing wastage going to landfill



Continued employment and procurement for local residents and businesses



Continued community investment and support for local groups /organisations



Assessment Outcomes



Noise

Noise at night due to the change in Concrush's operational hours was a key concern raised during consultation. A Noise Impact Assessment (NIA) undertaken by RCA involved noise modelling during the evening and night-time activities to reflect the Proposed Modification. Potentially impacted stakeholders were grouped into five noise catchment areas (NCA) as shown in Figure 2.



Figure 2 Noise Catchment Areas and Monitor Locations

- Dust deposition gauge and real time dust monitor
- Dust deposition gauges
 - Noise monitors

The NIA identified the following impacts for proximal stakeholders:

- **Night-time unloading activities:** were found to comply with noise targets at all residences.
- Night-time loading activities: operating the loader for at least five minutes generates predicted noise exceedances at NCA 1 and NCA 2 for the majority of significant wind directions (particularly northerly, south-westerly, westerly or north-westerly winds).
- Evening crushing and processing: the assessment found that crushing could only occur under northerly or easterly wind conditions without resulting in expected noise exceedances to nearby residences. It was also found that loading activities in isolation would likely generate noise impacts at night-time, based on the current plant.
- Day time full operations without a noise wall: It was found that noise barriers along the eastern and southern boundary would not be required to minimise noise impacts to residences during full operations in the daytime period.

Mitigation measures to reduce noise impacts include:

- After 10 pm, loading will only occur from the westernmost stockpiles, and the front-end loader used for loading should remain to the west of these stockpiles at all times.
- Truck engines will be turned off while waiting on or off site.
- Operational Noise Management Plan will be implemented.
- A noise monitoring program will be undertaken to assess the effectiveness of the proposed mitigation measures in achieving the predicted noise levels. This will involve an initial noise monitoring of day, evening and night-time activities to compare the actual noise levels against the predicted noise levels. Refer to Figure 2 for noise monitor locations.
- In the future, Concrush aims to decarbonise their operations and look to replace the older diesel plant with a newer, cleaner, quieter operations(such as an electrical plant).



Traffic

The change in traffic conditions was raised throughout consultation as a key issue for residents proximal to Concrush and along the haulage routes. The Proposed Modification does not involve an increase to the total annual processing and storage capacity of materials at the site and would not result in an increase in traffic movements to and from the Concrush Site. Rather the modification to operational hours (proposed 24 hours per day, seven days per week as required) would extend the potential hours that the nominated traffic may move into and out of the site.

As such, additional impacts to traffic and transport conditions at and surrounding the site are not expected and an updated traffic impact assessment is not considered necessary for the Proposed Modification.

To manage traffic related impacts:

• The current Traffic Management Plan will be updated to accommodate Proposed Modifications at the Concrush site.

Concrush acknowledge the Weir Bridge at Barnsley opened in July 2022 and has significantly increased the through traffic at Teralba.



Air Quality

Neighbours raised concerns that Concrush's current operations has impacted the air quality for those living near the site. Further concerns raised related to the concern about increased dust from the Proposed Modification impacting amenity and health and wellbeing. Due to the Proposed Modification not involving an increase in the operational footprint or increase to the total annual processing and storage capacity of materials at the site, an updated air quality impact assessment was not conducted.

It has been assessed that the Proposed Modification would result in minor impacts to the air quality as a result of dust emissions. Mitigation measures to reduce air quality and dust impacts include:

- Sealed internal access roads from the wheel wash to exit
- Water sprays on crushing and screening equipment
- · Water spraying on stockpiles on an as needed basis
- Cessation of dust emitting activities will occur during average wind speeds greater than 36km/h
- Continue to implement dust monitoring as detailed in the Air Quality Management Plan, refer to Figure 2 for dust monitor locations
- Continue to implement the existing odour controls within the Air Quality Management Plan including avoid conducting potential odour generating activities when the wind direction is blowing towards nearby residential areas or during early morning periods under low winds, cover transported loads leaving the site, odour monitoring and odour complaint investigation.



Environmental Values

The Concrush facility is located adjacent to Cockle Creek and Teralba Swamp. These key natural assets are highly valued by the community due to being home to a variety of flora and fauna.

The Modification Report notes that the existing operations of the Concrush facility would not result in substantial indirect impacts on the biodiversity values of surrounding lands such as connectivity, corridors, habitat fragmentation or light emissions. Night-time movement of vehicles may result in light and noise impacts to wildlife. However, this is not expected to be significant as vehicles movements would be intermittent and as needed to meet market demand. Night-time use of lighting may also impact wildlife; however, the site is heavily disturbed and not likely to be utilised by wildlife.



Visual

The Visual Impact Assessment concluded potential impacts to the visual environment as a result of lighting during the evening and night-time operations may occur, however impacts are expected to be minor.

To manage potential visual impacts associated with the Proposed Modification, the following management measure will be implemented:

- A landscaped 2m high earth bund will be established along the eastern boundary,
- Outdoor lighting required during extended operational hours at the project site will be installed and/or operated in accordance with Australian Standards.

Frequency Asked Questions



Will you be running trucks 24/7 everyday?

The proposed changes to operational hours would allow for the loading, unloading and dispatch of trucks 24 hours a day 7 days per week, during project campaigns. Concrush has an approved production rate of 250, 000 tpa, therefore potential traffic to and from the site has been assumed to reach a maximum of 112 car movements per day (6 light vehicles into the site and 6 light vehicles out of the site per hour) and 368 truck movements per day (18 trucks into the site and 18 trucks out of the site per hour). The number of truck movements per hour will be reduced due to the increase in dispatching hours.



What monitoring has been done?

Concrush must comply with environmental legislation regulations, standards and codes of practice relevant to the operations at Teralba.

As part of the Environmental Protection Licence (EPL) Concrush are required to undertake monitoring as a licence condition. Concrush also must publish or make available monitoring data relating to pollution within 14 days of obtaining the data. Refer to www.concrush.com.au for more information.





01

What is the approval process?

The Modification application will be assessed by DPHI under the State Significant Development Guidelines preparing a modification report.

The DPHI will need to consider if there is a material environmental impact beyond the impacts expected by the approved project in determining whether the modification report will be publicly exhibited. If the Modification Report is to be publicly exhibited, DPHI will do so for at least 14 days before completing its assessment. This is to give the community an opportunity to read the Modification Report and make a submission on the merits of the modified project.





Technical assessments will be uploaded to the DPHI website, along with the Modification Report once completed.



What are you crushing?

The facility recycles building material, primarily consisting of demolished concrete, bricks, tiles, asphalt, concrete washout and road base with secondary processing of green waste, timber and recovery of steel.





Contact Information

Consultation undertaken to date shows that there are community members that are interested in this Proposed Modification and have concerns. Concrush is determined to be a respectful member of the community, welcomes this feedback, and will take it seriously.



For further information on this modification or any matter relating to Concrush please contact Kevin Thompson the General Manager of the Concrush team on (02) 4958 3777 or visit Concrush's website at www.concrush.com.au



Opening hours: Monday to Thursday from 7:00am – 4.45pm Friday to Saturday from 7:00am - 3:45pm (weighbridge closes at 3.30pm)







Table B.1 outlines mitigation measures in alignment to community social impacts associated with the proposed Modification. It is acknowledged that Concrush is currently undertaking operational measures and will undertake more controls as part of the Modification if approved. As part of the feedback gained from the community engagement undertaken during the development of the SIA the following further strategies may further reduce impacts as part of the proposed Modification.

| Social Impact | Current Mitigations Measures | Recommendations | |
|--|---|--|--|
| Changes to sense of place as a result of increased operational | Concrush to continue to manage the complaints register and investigate/ manage noise complaints as they occur. | Utilise complaints register to seek feedback regarding noise and lighting impacts during operations. | |
| hours creating a more industrial area | Update the noise monitoring program with relevance to the proposed Modification. | Update the noise monitoring program with relevance to the proposed Modification. | |
| | | Regular toolbox talks with drivers to reinforce positive driver behaviours and messaging, including no use of air brakes in built up areas. | |
| | | Outdoor lighting required during extended operational hours at the project site will be installed and/or operated in accordance with Australian Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting. | |
| Reduced air quality impacting social amenity (e.g. houses and cars dust) due to increased crushing | Update the AQMP to align with the proposed Modification including undertaking preventative measures to reduce air and odour pollution. Ensure dust generating activities are only | Ensure dust generating activities are only conducted during suitable conditions (cessation of dust emitting activities when average wind is above 36 km/h from a north or north | |
| hours | conducted during suitable conditions. Deliver wheel wash to reduce dust exiting the site. | westerly direction). Regular updates regarding dust and air quality monitoring results which are accessible. | |
| | | Consider additional dust monitors at strategic locations. | |
| Reduced noise amenity in the local area at nighttime as a result of increased operational | Concrush to continue to manage the complaints register and investigate/ manage noise complaints as they occur. Concrush will not use the crusher after | • Liaise with two nearest project neighbours regarding property mitigation measures to reduce noise impacts if requested, for example | |
| hours associated with crushing and truck | 10pm | installation of air conditioning units. | |
| movements | monitoring and make results publicly available on website | Replace diesel plant with quieter/ modern machines in the near future | |
| | Concrush will ensure trucks turn off engines on site during nighttime hours | and quicker if the complaints mechanism demonstrates increased | |
| | Crushing to only occur during northerly or easterly winds | disturbance | |

Table B.1 Social Impact Management Strategies-Current and Recommended



| Social Impact | Current Mitigations Measures | Recommendations | |
|--|--|--|--|
| | Undertake noise monitoring to assess actual noise levels against predicted noise levels for proposed Modification | Concrush to continue to provide community regular news updates via website. In addition, Concrush to consider providing newsletter by letterbox drop at key Project stages as required. It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification. | |
| | | | |
| Decreased visual amenity as a result of increased light pollution at nighttime | Development of a 2m earth bund along the eastern boundary of the site Lighting designed to comply with Australian Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting | Additional tree planting / landscaping (work with proximal residents such as Oak Tree Retirement Village if ongoing issue) Utilise complaints register to seek feedback regarding lighting impacts during operations Collaborate with local residential developers to devise lighting mitigation strategies for future residents | |
| Reduced safety of road users at nighttime from increase in truck traffic between 10.00pm to 7.00am | Implement the TMP Traffic movements in and out of the to remain the same as the existing consent | Implement drive safety training Community feedback/ complaints register Regular communication with Council on road related matters as feedback and encourage Council to implement safety measures e.g. reflectors / road studs/ increased signage | |
| Decreased safety of pedestrians and cyclists as a result of increased traffic (perceived impact) | | Continue to engage with stakeholders regarding the proposed Modification Encourage Council to ensure adequate upkeep of pedestrian walkways, consider increased pedestrian signage in Implement drive safety training | |
| Deterioration of valued environmental assets as a result of pollution (dust) from crushing into key water ways | Concrush to undertake and share via website quarterly surface water quality monitoring upstream and downstream. Update the AQMP to align with the proposed Modification including undertaking preventative measures to reduce air and odour pollution. | Publication of environmental monitoring in a community friendly medium and with more frequency than before Consider involving select community members in offsite monitoring if circumstances warrant and allow | |



| Social Impact | Current Mitigations Measures | Recommendations | |
|--|--|---|--|
| Decrease in flora and fauna located around the Concrush site as a result of increase in traffic, vibrations and noise at night. | Landscaping on site to consist of native species | Ongoing engagement with local community regarding concerns Publication of environmental monitoring in a community friendly medium and with more frequency than before | |
| Increased risk of flooding as a result of changes to the Concrush site and surrounding land | 2m earth bund on eastern boundary (facing Cockle creek) as a flood mitigation barrier | Engage with proximal landholders to understand concerns relating to flooding and existing mitigation measures Offer and undertake site visits to demonstrate mitigations and controls on risk of flooding when mitigations complete | |
| Sleep disturbance impacting health outcomes of residents as a result of increased noise pollution from the change in operational hours | Concrush will not use the crusher after 10pm Concrush to continue to manage the complaints register and investigate/ manage noise complaints as they occur. Concrush to continue quarterly noise monitoring and make results publicly available on website Concrush will ensure trucks turn off engines on site during nighttime hours Undertake noise monitoring to assess actual noise levels against predicted noise levels for proposed Modification | Liaise with two nearest project neighbours regarding property mitigation measures to reduce noise impacts if requested, for example installation of air conditioning units Seek feedback from proximal neighbours in an ongoing manner Replace diesel plant with quieter/ modern machines in the future It is recommended that Concrush implement a notification system whereby residents are by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification. | |
| Reduced health outcomes (e.g. asthma, lung disease) as a result from increase in dust particles from increase in crushing hours | Monitoring of PM10 particles, share results of dust monitoring in an accessible format Update the AQMP to align with the proposed Modification including undertaking preventative measures to reduce air and odour pollution. Ensure dust generating activities are only conducted during suitable conditions. | Engagement with relevant concerned stakeholders to explain that compliance levels remain the same Biannual presentation of air monitoring results to local community/ proximal residents Consider additional dust monitors at strategic locations to demonstrate further monitoring and compliance | |
| Decrease in property values as a result of the proposed Modification | | Manage impacts associated with the proposed Modification to maintain Concrush's reputation in the local community Demonstrate impact management and annual compliance of environmental targets as prescribed by the EPA | |



| Social Impact | Current Mitigations Measures | Recommendations | |
|--|--|--|--|
| Increase in local employment as a result of increase operational hours | | Target any new employment to local community Increase any part time opportunities for local employment where possible | |
| Concerns relating to assessments of Aboriginal cultural heritage as a result of the proposed Modification | Concrush will ensure that its employees and contractors are aware that it is an offence under Section 86 of the National Parks and Wildlife Act 1974 to harm or desecrate an Aboriginal object unless that harm or desecration is the subject of an Aboriginal Heritage Impact Permit. | • Ensure all staff have an annual cultural heritage training as part of their safety inductions | |
| Community distrust in Concrush to accurately monitor and meet dust, air, contamination standards | Continue to upload environmental monitoring outcomes to the Concrush website | Continue to engage the community regarding exceedances and mitigations utilised Concrush to continue to provide community regular news updates via website. In addition, Concrush to consider providing newsletter by letterbox drop at key Project stages as required. | |
| Anger and frustration due to inability to influence project decision-making | | Provide stakeholders with outcomes of assessment and communicate any changes to Concrush operations Increased provision of information particularly relating to key impacts (dust, air, noise) and transparency of assessment outcomes | |
| Health and wellbeing concerns as a result of previous developments in the local area and the proposed Modification increasing pollution | Continue to monitor environmental outcomes of site operations. Ensure compliance with EPA guidelines | Provide ongoing community engagement regarding environmental compliance (see above) | |





The NSW Government SIA Guideline (DPE, 2023) outlines review questions to confirm that the requirements have been fulfilled when considering the scale of the project. Responses are provided below.

| Table C.1 | SIA Review Questions |
|-----------|----------------------|
|-----------|----------------------|

| Genera | | Section Addressed in the SIA |
|---|--|---------------------------------|
| 1. | Does the lead author meet the qualification and experience requirements? | Refer to Author Declaration |
| 2. | Has the lead author provided a signed declaration? | Table AD 1 |
| 3. | Would a reasonable person judge the SIA report to be impartial, transparent and suitably rigorous given the nature of the project? | Yes |
| Project' | s social locality and social baseline | |
| 4. | Does the SIA report identify and describe all the different social groups that may be affected by the project? | Section 2.2 |
| 5. | Does the SIA report identify and describe all the built or natural features that have value or importance for people, and explain why people value those features? | Section 3.2 |
| 6. | Does the SIA report identify and describe historical, current, and expected social trends or social changes for people in the locality, including their experiences with this project and other major development projects? | Section 3.0 |
| 7. | Does the social baseline study include appropriate justification for each element, and provide evidence that the elements reflect both relevant literature and the diversity of views and likely experiences? | Section 3.2 |
| 8. | Does the social baseline study demonstrate social-science research methods and explain any significant methodological or data limitations? | Section 2.0 |
| Identifie | cation and description of social impacts | |
| 9. | Does the SIA report adequately describe likely social impacts from the perspectives of how people may experience them, and explain the research used to identify them? When undertaken as a part of SIA scoping and initial assessment, has the plan for the SIA report been detailed? | Section 4.0 |
| 10. | Does the SIA report apply the precautionary principle to identifying social impacts, and consider how they may be experienced differently by different people and groups? | Section 2.1 |
| 11. | Does the SIA report describe how the preliminary analysis influenced project design and EIS engagement strategy? | Section 4.0 & Section 6.0 |
| Commu | nity engagement | I |
| 12. | Were the extent and nature of engagement activities appropriate and sufficient to canvass all relevant views, including those of vulnerable or marginalised groups? | Section 2.3 |
| 13. | How have the views, concerns and insights of affected and interested people influenced both the project design and each element of the SIA report? | Section 4.0 and Section 5.0 |
| Predicting and analysing social impacts | | |
| 14. | Does the SIA report impartially focus on the most important social impacts to people at all stages of the project, without any omissions or misrepresentations? | Section 4.0 |
| 15. | Does the SIA report analyse the distribution of both positive and negative social impacts, and identify who will benefit and who will lose from the project? | Section 4.0 and Section 6.0 |
| 16. | Does the SIA report identify its assumptions, and include sensitivity analysis and alternative scenarios? (including 'worst case' and 'no project' scenarios where relevant) | Section 4.0 |



| General | | Section Addressed in the SIA |
|----------|---|----------------------------------|
| Evaluati | ing significance | |
| 17. | Do the evaluations of significance of social impacts impartially represent how people in each identified social group can expect to experience the project, including any cumulative effects? | Section 4.1.8 and Section 5.0 |
| 18. | Are the evaluations of significance disaggregated to consider the likely different experiences for different people or groups, especially vulnerable groups? | Section 5.0 |
| Respons | ses, monitoring and management | |
| 19. | Does the SIA report propose responses that are tangible, deliverable, likely to be durably effective, directly related to the respective impact(s) and adequately delegated and resourced? | Section 6.0 |
| 20. | Does the SIA report demonstrate how people can be confident that social impacts will be monitored and reported in ways that are reliable, effective and trustworthy? | Section 6.2 |
| 21. | Does the SIA report demonstrate how the proponent will adaptively manage social impacts and respond to unanticipated events, breaches, grievances and non-compliance? | Section 6.2 |



Umwelt (Australia) Pty Limited

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Appendix F

Green Waste Catchment Water Quality Assessment (Engeny, 2023)





CONCRUSH PTY LTD Water Quality Assessment

Green Waste Catchment

NC4017_001-REP-001-1

30 NOVEMBER 2023


DISCLAIMER

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| Rev | Date | Description | Author | Reviewer | Project Mgr. | Approver |
|-------------|------------|--------------|----------------|------------|----------------|------------|
| 0 | 26/10/2023 | Draft Issue | Chris Bonomini | Adam Wyatt | Chris Bonomini | Adam Wyatt |
| 1 | 30/11/2023 | Client Issue | Chris Bonomini | Adam Wyatt | Chris Bonomini | Adam Wyatt |
| Signatures: | | | lhin B | 0 | -lhin 3. | - CN |



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1. INTRODUCTION

Concrush Pty Ltd (Concrush) will be applying for a modification in relation to the Concrush Resource Recovery Facility Expansion project approval (SSD-8753). As part of the proposed modification Concrush will be seeking an increase in the maximum quantity and processing rate of garden and wood waste (green waste) that can be stored and processed at the Concrush Resource Recovery Facility (the Facility). WSP will be managing the approvals process for the Concrush modification.

One of the key considerations with respect to the storage, processing and handling of green waste is the potential for impacts to receiving waters should runoff and leachate from the green waste catchment be released from site. Concrush has engaged Engeny to review and analyse historical water quality and green waste storage inventory data to estimate the likely water quality impacts associated with an increase to the maximum green waste storage inventory processing rate at the Facility. Further, Engeny was engaged to assess the performance of the recently upgraded green waste catchment water management system.

1.1 Background

Concrush was granted approval to undertake a staged expansion and increase in processing capacity of the Facility on 27 March 2020 allowing the processing of up to 250,000 tonnes per year of general solid waste (non-putrescible) with a maximum storage capacity of up to 150,000 tonnes at any one time. Of the 150,000 tonnes of general solid waste (consisting primarily of construction waste materials such as bricks, tiles and concrete) allowed to be stored, the project approval allows for storage and processing of up to 200 tonnes and 5,000 tonnes per year of green waste respectively. Concrush are proposing to increase the maximum allowable storage quantity of green waste to 2,000 tonnes at any one time and the maximum processing rate to 10,000 tonnes per year.

Prior to the project approval (SSD-8753), the Concrush development consent did not limit the maximum green waste inventory or processing rate. Water management system upgrades, including green waste catchment water management, were a key component of the expansion project. As indicated above, the project approval was for a staged expansion and increase processing capacity at the Facility and in March 2023, Concrush notified commencement of Stage 1 operations at the Facility which included the green waste catchment water management upgrades.

In September 2023, Umwelt (Australia) Pty Ltd (Umwelt) completed an assessment of the likely impacts to green waste catchment water quality for an increase to the maximum green waste storage inventory as well as an assessment of the post-expansion green waste catchment water management system performance. This report has been prepared to summarise further analysis undertaken to build on the Umwelt assessment with consideration of a number of other items including the proposed increase in green waste processing rate, the influence of rainfall on historical (pre-expansion) green waste catchment runoff water quality and also includes an updated analysis of green waste catchment water management system performance based on the most recent water quality monitoring results.



2. FACILITY WATER MANAGEMENT

Prior to the Facility expansion, the green waste storage and processing area was not isolated from the broader site catchment. Figure 2.1 presents the general Facility layout and water management system prior to approval and construction of the Concrush Resource Recovery Facility Expansion project (SSD-8753) as well as the expansion area to the south of the original Facility footprint which has now been developed. Runoff from the green waste storage and handling area drained to the Centre Dam (a small drainage pit) which captured and conveyed runoff from the eastern end of the Facility via a sub-surface stormwater pipe to a vegetated channel draining to the west along the northern boundary of the Facility (refer to Figure 2.1).

The upgraded green wastewater management system comprises of an isolated green waste catchment, a Leachate Dam and a constructed wetland (the Wetland) (refer to Figure 2.2). The green waste catchment has been constructed in accordance with the Environmental Guidelines for Composting and Related Organics Processing Facilities (NSW Department of Conservation, 2004) and includes a leachate barrier equivalent to a 600 mm clay liner with an in-situ permeability of less than 10⁻⁷ m/s and is bunded and graded to ensure all runoff reports to the Leachate Dam.

The Leachate Dam is lined with a flexible membrane liner with a permeability of less than 10⁻¹⁴ m/s and is sized to accommodate the runoff from a 1 in 10-year, 24 hour duration storm event in accordance with the Environmental Guidelines for Composting and Related Organics Processing Facilities (NSW Department of Conservation, 2004). Leachate and runoff captured in the Leachate Dam is transferred via a pump to the Wetland which was constructed based on a preliminary design prepared by Hunter H2O to treat typical flows of 0.031 kL/day and maximum flows of 0.055 kL/day with influent nutrient concentrations as presented in Table 2.1. Note that overflows from the Leachate Dam that occur as a consequence of storm events exceeding the Leachate Dam capacity bypass the Wetland and drain to Sediment Dam 2 (refer to Figure 2.2) which has a larger as constructed capacity (estimated to be 1.5 to 1.8 ML pending final survey) than the required design capacity (0.9 ML). Further, Concrush has installed four tanks with a combined capacity of 112 kL to store the first flush of runoff from the green waste catchment (transferred from the Leachate Dam) following dry periods when the runoff is likely to have higher nutrient concentrations. Water transferred to the first flush tanks is used as a priority for maintaining mulch moisture levels during the pasteurisation process. Table 2.2 presents the nutrient removal for Total Nitrogen (TN) and Total Phosphorus (TP) estimated by Hunter H2O.

| Parameter | Value |
|------------------------------|-------|
| Total Nitrogen (TN) as N | 14.5 |
| Nitrate as N | 11.64 |
| NOx (Nitrate + Nitrate) as N | 12.44 |
| Ammonia as N | 0.18 |
| Total Phosphorus (TP) | 0.56 |

TABLE 2.1: DESIGN NUTRIENT CONCENTRATIONS

TABLE 2.2: ESTIMATED NUTRIENT REMOVAL EFFICIENCY

| Parameter | At Maximum Design Flow (0.055 kL/day) | At Typical Design Flow (0.031 kL/day) |
|-----------|---------------------------------------|---------------------------------------|
| TN | 43% | 50% |
| ТР | 53% | 43% |



Image Source: Nearmap (May 2017) Data Source: Concrush (2018)

Legend

I ---- Project Site ►--I Surface Drain Expansion Area • Water Storage Tank I+ 3→ 3 Existing Wetland Area with Buffer ICC Northern Catchment Boundary --- Drain Pipe

FIGURE 2.1:PRE-EXPANSION WATER MANAGEMENT SYSTEM





FIGURE 2.2: EXPANSION WATER MANAGEMENT SYSTEM DESIGN

WATER QUALITY ASSESSMENT | NC4017_001-REP-001-1



LEGEND

| | PROPERTY BOUNDARY |
|-----------|--|
| | EXISTING ELECTRICITY (OVERHEAD) |
| | EXISTING ELECTRICITY (UNDERGROUND) |
| 0' | EXISTING OPTIC FIBRE |
| w | EXISTING WATER |
| = SW = | EXISTING STORMWATER |
| | EXISTING SEWER |
| | EXISTING STORMWATER PIPE |
| | PROFOSED STORINWATER CULVERT |
| | PROPOSED RIP RAP PROTECTION - REFER TO DETAIL ON CC-CVS.01 FOR MORE INFORMATION. |
| | APPROXIMATE FOOTPRINT OF PROPOSED BASIN |
| | PROPOSED STORNWATER CATCHMENT BOUNDARY |
| SW1/SW2 | PROPOSED SWALE - SEE DETAILS FOR SWALE TYPES ON SHEET COS.01 |
| | PROPOSED RETAINING WALL AND VEHICLE BARRIER BY OTHERS |
| • RL4.10 | PROPOSED SPOT HEGHT - (m AHD) |
| + eRL2.40 | EXISTING SPOT HEIGHT - Im AHD) |
| - | GENERAL DIRECTION OF SURFACE RUNDEF |
| T.0.B. | PROPOSED TOP OF EANK LEVEL IN-AHD |
| 211-2 | PROPOSED INVERT LEVEL (m-AHD) |

FUR CONSTRUCTION

NOTE: ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH REMEDIAL ACTION PLAN PREPARED BY RCA AUSTRALIA (REF# 13/09-003/2) INCLUDING SITE WIDE CAMPING.



3. WATER QUALITY ANALYSIS

3.1 Pre-expansion Water Quality

Prior to the Facility expansion, Concrush completed seven rounds of water quality monitoring for nutrients (amongst a range of other parameters) within the Centre Dam (refer to Figure 2.1, noting that the Centre Dam is indicated as the 'Central Sump' on Figure 2.2). Given the topography of the unexpanded site and proximity of the green waste storage and handling area to the Centre Dam, water quality within the Centre Dam for the period of monitoring (November 2017 to March 2019) is considered to be most representative of green waste leachate and catchment runoff.

Figure 3.1 presents a time series of the Centre Dam water quality results and an estimate of the green waste inventory for the month when the water quality samples were collected. The monthly green waste inventories were estimated using weighbridge transaction data (for incoming green waste and outgoing product mulch) provided by Concrush and allowed for 20% reduction in mass due to moisture loss (leachate and evaporation).



FIGURE 3.1:WATER QUALITY AND GREEN WASTE INVENTORY (2017 - 2019)

The results presented in Figure 3.1 do not clearly indicate whether green waste catchment runoff nutrient concentrations vary with green waste inventory. While some nutrient concentration results are elevated at the same time green waste inventories are higher, other water quality results show low nutrient concentrations when the green waste inventory is high. Figure 3.2 presents a plot of green waste inventory versus nutrient concentration with linear trend lines for each parameter and R2 (coefficient of determination) values provided for each parameter trendline in the legend. The data, trendlines and R2 values presented in Figure 3.2 do not indicate nutrient concentration dependency on green waste inventory.





FIGURE 3.2: GREEN WASTE INVENTORY VERSUS NUTRIENT CONCENTRATION (2017 - 2019)

It is likely that a range of variables contribute to nutrient concentration levels in green waste catchment leachate and runoff including climatic conditions (i.e., rainfall and evaporation) and green waste properties (e.g., proportions of woody waste to garden waste). While it would seem likely that a higher green waste inventory would result in higher nutrient concentrations it is considered that other variables (particularly rainfall and evaporation) may be a more dominant influence on nutrient concentrations than green waste inventory.

While climatic conditions with lower rainfall and higher evaporation will likely result in higher nutrient concentrations in leachate and runoff, the lower volume of leachate and runoff produced means that water containing high nutrient concentrations is less likely to be discharged to receiving waters from the Facility. Concrush reports that negligible volumes of leachate are produced from green waste stockpiles during dry conditions and a observations by Engeny during a site inspection undertaken on 18 October 2023 were consistent with these reports as no leachate was observed to be draining from the stockpiles. Runoff from rainfall events following dry conditions is, however, likely to produce a "first flush" of runoff with elevated nutrient concentrations.

Further, it is considered that overall nutrient loads in leachate/runoff from the green waste catchment are likely to be proportional to the green waste processing rate with a significant quantity of nutrient load being generated during the pasteurisation process. However, the data presently available does not lend itself to an analysis of the relationship between processing rates and nutrient concentrations. While Concrush are proposing to increase green waste processing rates at the Facility to 10,000 tonnes per year, the potential increase to achieve the proposed green waste processing rate may be limited by the available space to store and process green waste as well as the limited availability of the shredder which is hired by Concrush to periodically shred stockpiled green waste.

Figure 3.3 presents a plot of TN concentrations versus preceding rainfall (including the rainfall on the day of water quality sampling) and Figure 3.4 presents a plot of TN concentrations versus preceding evaporation minus rainfall. The daily rainfall and evaporation data used in this analysis was sourced from the Queensland Government's SILO climate database, which consists of interpolated data estimated based on the climate records of the nearest weather stations for a particular site or grid point, for the grid point closest to the Concrush site (-32.95 latitude, 151.60 longitude). As with the analysis of nutrient concentrations, the data presented in does not provide evidence of a relationship between TN and rainfall or evaporation minus rainfall.



Notwithstanding the lack of evidence of a relationship, it is considered that rainfall, evaporation as well as other factors such as green waste processing rate and the timing of sampling with respect to the stage of processing of the green waste (e.g. raw green waste stockpiled or during mulch pasteurisation) will all influence nutrient concentrations in green waste leachate and runoff.



FIGURE 3.3: WATER QUALITY AND RAINFALL (2017 - 2019)



FIGURE 3.4: WATER QUALITY AND EVAPORATION MINUS RAINFALL (2017 - 2019)



3.2 Post-expansion Water Quality

As indicated in Section 1.1, Concrush notified commencement of Stage 1 operations in March 2023. The commencement of Stage 1 operations included the commissioning of the upgraded green waste catchment water management system including the Leachate Dam and the Wetland. Table 3.1 and Table 3.2 present the TN and TP concentrations recorded during routine monitoring of the Leachate Dam and Wetland effluent respectively. Table 3.3 presents the nutrient removal efficiency of the Wetland.

TABLE 3.1: LEACHATE DAM WATER QUALITY RESULTS

| Date | TN (mg/L) | TP (mg/L) |
|-----------|-----------|-----------|
| 6/4/2023 | 2.7 | 0.45 |
| 28/4/2023 | 1.9 | 0.33 |
| 31/5/2023 | 2.4 | 0.15 |
| 30/6/2023 | 3.2 | 0.24 |
| 31/7/2023 | 1.6 | 0.13 |
| 31/8/2023 | 1.5 | 0.08 |
| 29/9/2023 | 6.8 | 0.46 |

TABLE 3.2: WETLAND EFFLUENT WATER QUALITY RESULTS

| Date | TN (mg/L) | TP (mg/L) |
|-----------|-----------|-----------|
| 6/4/2023 | 1.1 | 0.04 |
| 28/4/2023 | 1.1 | 0.08 |
| 31/5/2023 | 1.8 | 0.13 |
| 30/6/2023 | 0.9 | 0.03 |
| 31/7/2023 | 0.9 | 0.04 |
| 31/8/2023 | 6.0 | 0.46 |
| 29/9/2023 | 1.9 | 0.16 |



TABLE 3.3: WETLAND NUTRIENT REMOVAL EFFICIENCY

| Date | TN | ТР |
|----------------------|--------|--------|
| 6/4/2023 | 59% | 91% |
| 28/4/2023 | 42% | 76% |
| 31/5/2023 | 25% | 13% |
| 30/6/2023 | 72% | 88% |
| 31/7/2023 | 44% | 69% |
| 31/8/2023 | -300%1 | -475%1 |
| 29/9/2023 | 72% | 65% |
| Average ² | 52% | 67% |

¹ Results considered to be erroneous as inlet concentrations (i.e. Leachate Dam) are greater than treated water concentrations (i.e. Wetland Effluent)

² Average excludes results considered to be erroneous from 31/8/2023

The Leachate Dam monitoring results shows that the influent water supplied to the Wetland has lower TN and TP concentrations than the design influent concentrations (refer to Table 2.1). It is considered that the lower than anticipated TN and TP concentrations are most likely due to dilution associated with water transfers from Sediment Dam 2 to the Leachate Dam (refer to Figure 2.2). Water transfers from Sediment Dam 2 that were being undertaken to manage site water inventories through evapotranspiration following wet climatic conditions ceased in August 2023. The higher Leachate Dam TN concentration recorded during September supports the understanding that transfers from Sediment Dam 2 were diluting nutrient concentrations.

The water quality results presented in Table 3.2 and the estimated TN and TP removal efficiencies presented in Table 3.3, with the exception of the August result 2023 results, indicate that the Wetland was performing to design expectations and is likely to have additional capacity for nutrient removal given the lower influent concentrations. The August 2023 results indicate higher concentrations of TN and TP in Constructed Wetland effluent than the incoming untreated leachate/runoff from the Leachate Dam. The consultancy who completed the sampling in August 2023 indicated that a significant quantity of vegetative matter was entrained in the Constructed Wetland sample and this is likely to be the primary contributor to the elevated TN and TP results. Further, the concentration of total suspended solids in the August 2023 Constructed Wetland effluent sample was 383 mg/L (Constructed Wetland effluent typically contains \leq 50 mg/L) suggesting entrainment of solids (possibly the vegetative matter and/or settled sediment disturbed during sampling) into the sample which is also likely to have contributed to the elevated TN and TP results. As such, the August 2023 Constructed Wetland effluent TN and TP results were excluded from the average nutrient removal efficiency calculations.

It is understood that inflows to the Wetland are currently being managed to minimise effluent outflows during the more recent dry conditions. The September water quality results indicate that Wetland TN and TP removal rates under this operating regime are still exceeding design performance estimates.

Leachate Dam nutrient concentrations may increase further with ongoing dry conditions and the absence of transfers from Sediment Dam 2, however, based on the monitoring results since the Wetland was commissioned, it is considered likely that the Wetland will continue to meet or exceed TN and TP design removal efficiencies and can accommodate an increase in feed water nutrient loads.



4. CONCLUSIONS

Based on the review and analysis of historical green waste catchment water quality, the performance of the upgraded green waste catchment water management system (i.e. the Leachate Dam and the Wetland) and the additional water storage capacity above the capacity proposed in the approved expansion project (SSD-8753), the following conclusions are drawn:

- The Constructed Wetland is performing to design expectations and is likely to have additional capacity for nutrient removal given the lower influent nutrient concentrations.
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the Facility is not considered likely to increase nutrient concentrations in green waste catchment leachate/runoff.
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the Facility is not considered likely to increase the risk of discharges to receiving waters from the Facility provided the green waste catchment area remains unchanged (i.e. no increase in area) from the currently approved catchment area (as this would increase the likelihood of spills from the green waste catchment to Sediment Dam 2).
- An increase in the maximum allowable inventory of green waste that may be stored at any one time at the Facility is not considered likely to increase the overall nutrient load generated, however, an increase in the rate of processing of green waste is likely to generate additional nutrient load. However, given the performance of the Constructed Wetland is meeting or exceeding design expectations and the additional water storage capacity at the Facility (i.e. 0.224 ML of tank storage capacity for green waste catchment leachate/runoff and at least 0.6 ML surplus capacity in Sediment Dam 2 above design criteria) it is considered highly unlikely that nutrient loads in any off-site discharges from the Facility would increase provided the green waste catchment area is not increased (as this would increase the likelihood of spills from the green waste catchment to Sediment Dam 2).
- Nutrient load generation rates at the Facility are inherently constrained by the available space to store and process green waste as well as the limited availability of the shredder which is hired by Concrush to periodically shred stockpiled green waste.
- Nutrient concentrations and loads in green waste catchment leachate and runoff are dependant on a range of factors including climatic
 conditions, stockpile areas exposed to rainfall and processing rate, however, determining the degree to which each factor influences the
 concentrations and loads would require longer term data obtained from a very detailed monitoring program. It is considered that the
 benefit of implementing such a monitoring program is limited and the current monitoring program is adequate to indicate green waste
 catchment WMS performance.
- The existing monitoring program will develop an understanding of the baseline range in nutrient concentrations and loads generated under the current operating regime which will enable identification of any changes in green waste catchment WMS should operating conditions change (e.g. an increase in maximum storage and processing limits).



5. QUALIFICATIONS

- (a) In preparing this document, including all relevant calculation and modelling, Engeny Australia Pty Ltd (Engeny) has exercised the degree of skill, care and diligence normally exercised by members of the engineering profession and has acted in accordance with accepted practices of engineering principles.
- (b) Engeny has used reasonable endeavours to inform itself of the parameters and requirements of the project and has taken reasonable steps to ensure that the works and document is as accurate and comprehensive as possible given the information upon which it has been based including information that may have been provided or obtained by any third party or external sources which has not been independently verified.
- (c) Engeny reserves the right to review and amend any aspect of the works performed including any opinions and recommendations from the works included or referred to in the works if:
 - (i) Additional sources of information not presently available (for whatever reason) are provided or become known to Engeny; or
 - (ii) Engeny considers it prudent to revise any aspect of the works in light of any information which becomes known to it after the date of submission.
- (d) Engeny does not give any warranty nor accept any liability in relation to the completeness or accuracy of the works, which may be inherently reliant upon the completeness and accuracy of the input data and the agreed scope of works. All limitations of liability shall apply for the benefit of the employees, agents and representatives of Engeny to the same extent that they apply for the benefit of Engeny.
- (e) This document is for the use of the party to whom it is addressed and for no other persons. No responsibility is accepted to any third party for the whole or part of the contents of this Report.
- (f) If any claim or demand is made by any person against Engeny on the basis of detriment sustained or alleged to have been sustained as a result of reliance upon the Report or information therein, Engeny will rely upon this provision as a defence to any such claim or demand.
- (g) This Report does not provide legal advice.

Appendix G Updated mitigation measures



Table G.1

Updated mitigation measures for the approved project and proposed modification

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|----------------|---|---|
| Noise | | |
| Construction | | |
| N1 | Undertake work during standard hours (7 am – 6 pm weekdays, 7 am – 1 pm Saturday). | |
| N2 | Turn off plant when not in use. | |
| N3 | Ensure plant is regularly maintained, and repair or replace plant that becomes noisy. | |
| N4 | Arrange work site to minimise the use of movement alarms on vehicles and plant. | |
| N5 | Avoid dropping materials from a height. | |
| Operation | | - |
| N6 | Concrush will undertake a noise monitoring program to assess the effectiveness of the proposed mitigation measures in achieving the predicted noise levels. Concrush will undertake initial noise monitoring of day, evening and night-time activities to compare the actual noise levels against the predicted noise levels. Concrush is committed to looking to improve noise performance across its operations to minimise potential disturbance to the community | |
| N7 | Construct a bund to 3.5 metres above finished ground level along the eastern side of the 'Raw Material Stockpiles and Processing Area'. The bund is required to block line of sight. The bund can be formed from stockpile material, but the stockpile must be continuous and a minimum 3.5 metre high at all points. Crushers and screens (except for the trommel screen used for green waste) will not be used outside this area. The bund should meet the wall along the southern boundary described below. | |
| N8 | Construct a wall to three metres above finished ground level along the southern boundary of the 'Raw Material Stockpiles and Processing Area'. | |
| N9 | Crushers will not be used after 6pm. | Crushers will not be used after 10 pm. |
| N10 | The cone crusher will not be used when green waste shredding is occurring. | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|-------------|---|--|
| N11 | After 10 pm, only truck loading and tipping operations will occur. Loading will only occur from the westernmost stockpiles, and the front end loader used for loading should remain to the west of these stockpiles at all times. Truck engines should be turned off while waiting on or off site. | |
| N12 | | Crushing activities may only occur during the evening period (6:00 pm – 10:00 pm) under northerly and easterly wind conditions. |
| N13 | | Only unloading and dispatch of trucks will occur at the site after 10:00 pm. Trucks will be turned off when not in use to minimise noise impacts. |
| Air quality | | - |
| AQ1 | Continue to implement the existing odour controls within the AQMP which include: avoid conducting potential odour generating activities when the wind direction is blowing towards nearby residential areas (normally south westerly or westerly) avoid conducting potential odour generating activities during potential odour generating activities during early morning periods under low wind speed conditions cover transported loads leaving the Project site to aid in the control of fugitive emission of odours during transport of potential odour generating products turning of windrows during pasteurisation odour complaint investigation | |
| AQ2 | The use of atomising water sprays on crushing and screening equipment. These shall be attached to the crushing point and conveyor belt discharge point to control point source dust emissions. | |
| AQ3 | Two coat seal on haul roads. | |
| AQ4 | Minimisation of the drop heights between the excavator or loader bucket and trailers/truck during loading to reduce dust generation. | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|------|--|--|
| AQ5 | Dust suppression of stockpiles by water spraying on an as needed basis or when the following meteorological conditions occur: | |
| | an average wind speed greater than 18 kin/n is recorded continuously over a 15 minute period from a north or north westerly direction. | |
| AQ6 | Maintenance of clean entry drive as required to minimise dry dust on road. | |
| AQ7 | The use of a water cart to water roads and hardstand areas to assist in the control of fugitive dust emissions on an as needed basis, or when the following meteorological conditions occur: | |
| | an average wind speed greater than 18 km/h is recorded continuously over a 15 minute period from a north or north westerly direction. | |
| AQ8 | Cessation of dust emitting activities shall occur during the following conditions: | |
| | an average wind speed greater than 36 km/h is recorded continuously over a 15 minute period from a north or north westerly direction, or dust suppression measures appear visually ineffective. | |
| AQ9 | The monitoring for deposited dust and PM10 emissions will be undertaken at strategic and representative locations (e.g. the four site boundaries). Monitoring will be undertaken for at least a period of 24 months following the commencement of the expanded operations. This will allow the following: | |
| | comparison of monitoring results with compliance levels and the dust modelling predictions. review of the effectiveness of the mitigation measures. | |
| AQ10 | | The project site layout will include: |
| | | a wet concrete wash out bay on the site's northern boundary |
| | | two coat seal of internal access roads from the wheel wash to the site exit point to minimise dust emissions leaving the site. |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) | |
|----------------|--|---|--|
| Traffic | Traffic | | |
| TT1 | No mitigation and management measures are required for the Project | The current Traffic Management Plan (TMP) for operations at the project site will be updated to accommodate proposed modifications at the project site, including modified internal access road layout, the proposed location of the wheel wash, removal of the light vehicle exit point "Exit-Light Vehicles", and the proposed increase and reconfiguration of light vehicle parking. | |
| Soil and water | management | | |
| SW1 | Water quality measures will be implemented for the Project to minimise impact on the surrounding environment. These controls are designed and constructed to a standard consistent with: Managing Urban Stormwater – Soils and Construction, Volume 1 (the Blue Book) (Landcom, 2004). Managing Urban Stormwater – Soils and Construction, Volume 2E: Mines and Quarries (DECC, 2008). | | |
| SW2 | A construction erosion and sediment control plan (ESCP) will be developed in accordance with the Blue Book for detailing the specific erosion and sediment controls, rehabilitation, monitoring and maintenance requirements for the construction phase of the Project. The construction ESCP will: be prepared on relevant copies of drainage drawings for: different construction stages areas of high erosion hazard show sizing and design details for all sediment basins and erosion and sediment controls (such as diversion drains) be revised when required by changing circumstances, if the site conditions change or if installed controls are not operating effectively be integrated with work procedures, construction method statements, activity statements and their scheduling be site specific. | | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|-----|--|---|
| SW3 | All construction erosion and sediment control measures will be maintained in a functioning condition until all construction activities are completed. The measures are designed to minimise erosion and transport of sediment around and off-site and include: | |
| | clearly identifying and delineating areas required to be disturbed and ensuring that disturbance is limited to those areas clearing as little vegetation as required and minimising machinery disturbance outside of these areas installing appropriate erosion and sediment controls prior to stripping topsoil or disturbing areas limiting the number of roads and tracks established stabilising site entry/exit points to ensure sediment is not tracked onto sealed roadways construction of drains upslope of areas to be disturbed areas where required construction of sediment dams where required to capture and treat runoff from disturbed catchment areas during construction all temporary controls will be inspected: daily for high risk controls such as within drainage lines weekly for all other controls prior to forecasted rainfall events great than or equal to 10 mm after rainfall events greater than or equal to 10 mm in a 24 hour period. | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|-----|--|---|
| SW4 | An operational ESCP will be incorporated into an updated version of the Concrush Site Water Management Plan and include: | |
| | construction of appropriately designed and managed Type C sediment basins (Sediment Dam 1 and Sediment Dam 2) separation of the green waste storage and processing catchment and the construction of the Leachate Dam to capture a 1 in 10 year 24 hour duration storm event from the Green Waste Catchment installation of a Constructed Wetland to treat water captured in the Leachate Dam roofing the retail area mulch storage bays increased onsite stormwater storage to increase reuse of captured stormwater and the prioritised reuse of water discharged from the Constructed Wetland incorporation of a leachate barrier system for Project green waste storage and handling area and the lining of the Leachate Dam and Constructed Wetland containment of the concrete wash out bay catchment and reuse of the reclaimed water monthly inspections of long-term erosion and sediment controls will be undertaken as well as inspections prior to and after forecasted rainfall events greater than or equal to 10 mm. | |
| | All erosion and sediment control measures, including drainage control measures, will be maintained in proper working order at all times during their operational lives. | |
| SW5 | Concrush will undertake monthly surface water quality monitoring of the constructed wetland, sediment basins and upstream/downstream Cockle Creek. The following parameters will be tested: TSS, EC, pH, TN, TP, NOx, NH4. | |
| SW6 | Monitoring bores will be installed up and down the hydraulic gradient from the green waste storage and processing area in accordance with the Environmental Guidelines for Composting and Related Organics Processing Facilities (NSW Department of Conservation, 2004). Water quality samples will be collected from the monitoring bores on a monthly basis and analysed for TSS, EC, pH, TN, TP, NOx and NH4. Concrush will monitor the following water volumes: — monthly potable water imported via water cart | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|------|---|---|
| SW7 | Sediment basins (SD1 and SD2) for the Northern and Southern catchments to be designed and constructed in accordance with the Blue Book as Type D sediment basins to capture the runoff from a 5 day 85th percentile rainfall event. SD1 and SD2 will have a sediment zone with a capacity equal to 50% of the settling zone volume and be operated with a two day dewatering period. | |
| SW8 | A Leachate Dam designed and constructed to capture Green Waste catchment runoff from a 1 in 10 year, 24 hour duration storm event. The design storm event is in accordance with the minimum requirements of the Environmental Guidelines, Composting and Related Organics Processing Facilities (NSW Department of Environment and Conservation, 2004). Given Concrush only process green waste organics (no-putrescibles and/or animal based organics) the green waste processing is considered to be relatively low risk. Therefore the sizing based on the 1 in 10 year 24 hour duration storm event is considered appropriate. | |
| SW9 | A constructed wetland to treat Green Waste catchment leachate captured in the Leachate Dam. The Constructed Wetland is a form of bio retention for stormwater and is considered to have a moderate-high effectiveness for removal of nutrients in the Stormwater Treatment Device Guidelines (LMCC, 2003) and is expected to remove up to 75% of TN and 50% of TP. | |
| SW10 | Treated leachate and runoff captured in SD1 and SD2 will be used on site for operational demands (dust suppression and production). Treated water will be reused in the Green Waste catchment as a priority and elsewhere on site for dust suppression activities when not all of the treated leachate can be reused for green waste processing. | |
| SW11 | The concrete agitator washout handling bay will be roofed and graded to prevent run-on from other site areas. This area has the highest potential for high pH and high fine sediment concentrations in runoff. Any water generated within the concrete agitator washout bay (e.g. excess water from dust suppression and seepage from material) will be captured and reused in the production of road base product. | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|--------------|---|---|
| SW12 | The drains directing runoff from the Northern and Southern catchments will be grassed and are considered to have a low-moderate effectives for the removal of heavy metals and fine sediments in the Stormwater Treatment Device Guidelines (LMCC, 2003). | |
| SW13 | | There will be no increase in the size of the green waste processing and storage area associated with the proposed modification. If the green waste processing and storage area (and therefore catchment area) is increased, further assessment will be required to determine potential impacts to water quality. |
| SW14 | | Concrush will install additional water tanks at the project site, if required, to increase the capacity of the water management system by capturing rainwater for use at the Teralba facility. |
| SW15 | | Concrush will continue to monitor the water quality and nutrient load of water captured within the project site and will take remedial actions to rectify water quality if water quality guidelines target values are exceeded. |
| SW16 | | Concrush will update and implement the controls and management measures, monitoring and inspection requirements outlined within the Green Waste Leachate Management Plan for the site. |
| Biodiversity | | |
| B1 | Areas to be protected during construction works including the wetland area will be clearly marked. | |
| B2 | Any landscape planting will consist of native species. | |
| Bushfire | 1 | |
| BF1 | Installation of Fire and Rescue NSW compatible fittings on the water storage tanks near the green waste area. | |
| BF2 | Management of the pasteurisation process within green waste stockpiles. | |
| BF3 | Ensure machinery is available onsite to break up green waste stockpiles in the event of combustion during pasteurisation. | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|---------------|---|---|
| BF4 | Continued management of vegetation across the site to manage fuel loads and prevent the spread of bushfire across the site. | |
| BF5 | Continued provision of fire extinguishers on all machinery. | |
| BF6 | Ensuring access to the site is maintained at all times. | |
| Aboriginal he | ritage | |
| AH1 | Concrush will ensure that its employees and contractors are aware that it is an offence under Section 86 of the <i>National Parks and Wildlife Act 1974</i> to harm or desecrate an Aboriginal object unless that harm or desecration is the subject of an Aboriginal Heritage Impact Permit. | |
| AH2 | In the unlikely event that an Aboriginal object or objects are uncovered during the proposed construction works, ground disturbance works should cease within 20 metres of the object and an archaeologist, OEH and the local Aboriginal parties should be contacted to determine an appropriate management strategy. | In the unlikely event that an Aboriginal object or objects are uncovered during the proposed construction works, ground disturbance works should cease within 20 metres of the object and an archaeologist, DCCEEW and the local Aboriginal parties should be contacted to determine an appropriate management strategy. |
| Non-Aborigin | al heritage | |
| NAH1 | If during the course of proposed works previously unknown historical archaeological material or heritage items are discovered, all work in the area of the item(s) shall cease immediately and Heritage Division, OEH and a qualified heritage consultant will be consulted, in accordance with Section 146 of the Heritage Act, to determine an appropriate course of action prior to the recommencement of work in the area of the item. | |
| Visual | | |
| V1 | A landscaped 2 metres high earth bund will be established along the eastern boundary (southern half) of the site to complement the existing landscaped earth bund present along the northern half of the eastern site boundary. | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|--------------|--|---|
| V2 | | Outdoor lighting required during extended operational hours at the project site will be installed and/or operated in accordance with Australian Standard (AS) 4282—1997: Control of the obtrusive effects of outdoor lighting (Council of Standards Australia, 1997). |
| | | Concrush may engage with nearby residents on potential visual impacts of the proposed modification. |
| | | Concrush may consider additional tree planting and landscaping onsite, and collaborating with local residential developers to develop lighting mitigation strategies for future residents if required. |
| Contaminatio | n | |
| C1 | A clean fill layer of 0.5 metre depth be placed across the southern part of the Project site. A marker layer is to be established to distinguish the clean fill layer from the existing soils beneath. | |
| C2 | If excavation or earthworks into natural soils to depths near to the groundwater table (approximately 3.0 to 5.0 metres below ground level) are required an ASSMP will be developed for the Project. | |
| Waste | | |
| W1 | Waste streams will be managed in accordance with the principles of the waste hierarchy, with emphasis on reduce, reuse, recycle prior to disposal of its wastes. | |
| W2 | All material used will be in accordance with the relevant requirements and conditions of the exemptions outlined above. | |
| W3 | General waste generated by site personnel during operation of the Project will be accommodated through the use of a 240 litre municipal waste bin to be collected by LMCC or a licensed contractor for disposal/recycling at an appropriate waste management facility. | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) | |
|-----------------|--|--|--|
| Greenhouse g | ases | | |
| GHG1 | No mitigation or management measures are required for the Project. | To manage potential greenhouse gas emissions associated with the proposed modification, the following management measures will be implemented: minimise vehicles lining up at weighbridge, as far as practicable, to reduce idling times regularly check and maintain in a proper and efficient condition all plant and machinery switch off plant and machinery when not in use, so it is not left idling. | |
| Hazard and risk | | | |
| HR1 | Concrush has safety management system documents and procedures including a PIRMP. The PIRMP will be applied to ensure that all foreseeable emergency events are considered and adequate site specific systems are put in place to ensure site personnel and equipment are ready and able to deal with an emergency situation. | | |
| HR2 | Concrush will store all flammable and combustible liquids in accordance with the requirements of AS1940 <i>The storage and handling of flammable and combustible liquids.</i> | | |
| Socio-econom | ic | | |
| SE1 | Noise and air quality – impacts on way of life: there are a small number of nearby neighbours that Concrush should work with to monitor the impacts of noise on social amenity. | | |
| SE2 | Sense of Community: it is recommended that Concrush continue to maximise local and regional spend through support for local groups and organisation. | | |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|-----|---|---|
| SE3 | Traffic – impacts on social amenity and safety: Traffic was a key issue raised by the community through the SIA. It is recommended that where possible, Concrush implement some proactive tools to encourage their drivers and contractors to adhere to safe driving practices at all times. Mechanisms may include: tool box talks with drivers to reinforce positive driver behaviours and messaging installation of strategic signage at key locations on the site to remind drivers to 'drive safely' and 'remember our local neighbours'. | |
| SE4 | A key aspect of any SIA is the development of a framework to monitor a project's impact over time – often referred to as a social impact management plan. Concrush will collect social data to monitor commitments made in the social impact assessment namely: key areas of predicted Project impact, including perceived and experienced social impacts, through consultation with neighbouring and other nearby landowners, to determine if experienced impacts are in line with predicted impacts evaluation of community contributions to ensure benefits to local stakeholders e.g. Teralba Public School, local community organisations. | |
| SE5 | | It is recommended that, in accordance with the approach outlined in the RtS (Umwelt, 2019), nearby residents are consulted about the proposed modification in accordance with the following: — successful contact made with residents — residents called and offered a meeting to discuss the proposed changes relating to working hours and noise — a follow-up email confirming the discussion points and contact details sent following the discussions — residents provided opportunity to comment on the proposed modification in relation to the operating hours. |
| SE6 | | Concrush will continue to manage a complaints register and investigate and manage noise complaints as they occur in a rapid manner. |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|------|-----------------------------|--|
| SE7 | | The current Operational Noise Management Plan will be updated in line with the proposed modification and will include sharing of noise monitoring results, via the Concrush webpage. |
| SE8 | | Ongoing regular engagement with nearby neighbours to understand feedback on the effectiveness of these mitigation measures will be carried out by Concrush. It is recommended that Concrush implement a notification system whereby residents are notified by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification. |
| SE9 | | Concrush will continue with the existing noise monitoring program to assess the effectiveness of the proposed mitigation measures in achieving the predicted noise levels |
| | | Concrush will undertake initial noise monitoring of the day, evening and night-time activities to compare the actual noise levels against the predicted noise levels. |
| | | Concrush will engage with the two nearest neighbours (NCA 1) regarding property mitigation measures to reduce noise impacts |
| SE10 | | The Air Quality Management Plan (AQMP) will be updated to accommodate the proposed modification. Monitoring for deposited dust and PM10 emissions will be undertaken within at least a period of 24 months following the commencement of the proposed modification. Existing dust control and suppression measures will be implemented at the project site. |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|------|-----------------------------|--|
| SE11 | | Concrush will engage with stakeholders to reassure them that compliance levels will remain unchanged. Additional engagement measures will include annual updates to proximal neighbours regarding compliance and outcomes of environmental monitoring as part of the proposed modification. |
| SE12 | | Ongoing regular engagement with nearby neighbours to understand feedback on the effectiveness of these mitigation measures will be carried out by Concrush. It is recommended that Concrush implement a notification system whereby residents are notified by the Concrush website at least 24 hours prior to night-time operations commencing. In addition, residents will have the option to opt into receiving an email notification. |
| SE13 | | Concrush will continue to maintain a strong company reputation within the local community through fostering greater acceptance of its ongoing or modified operations. Part of this strategy includes improving access to quarterly environmental monitoring results, which will serve as a transparent demonstration of Concrush's continued compliance with EPA regulations. |
| SE14 | | Any changes to Concrush operations will be promptly communicated to ensure key local stakeholders are informed of these changes directly and have a chance to understand how mitigations and controls are being used to ensure no or minimal impact. If there are considerable and ongoing concerns relating to the operation of the proposed modification, a Community Consultation Committee (CCC) or a Social Impact Management Plan (SIMP) may be considered and implemented. |

| ID | Approved mitigation measure | Revised mitigation measure (if applicable) |
|------|-----------------------------|---|
| SE15 | | Concrush will continue to upload environmental tests such as noise, dust, air quality, independent environmental audits and other environmental reports to their website. Concrush may consider also sharing annual summaries of environmental monitoring outcomes, and more regular updates on operations generally. In the event of an exceedance recorded, engagement with the relevant stakeholders will occur to acknowledge the exceedance and discuss the mitigations implemented. Concrush may consider providing a phone number for complaints on signage at the front of the project site. |
| SE16 | | Concrush will continue to monitor environmental outcomes quarterly and continue to ensure results are publicly available. The project site will continue to be operated in compliance with EPA licencing and approvals and will need to provide and demonstrate ongoing community engagement regarding environmental compliance |

Appendix H AHIMS search result





Your Ref/PO Number : Concrush Client Service ID : 817112

Date: 06 September 2023

WSP

Level 27 680 George Street Sydney New South Wales 2000 Attention: Bernadette Quirk Email: bernadette.quirk@wsp.com

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 2, DP:DP220347, Section : - with a Buffer of 200 meters, conducted by Bernadette Quirk on 06 September 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0 Aboriginal sites are recorded in or near the above location.
0 Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Appendix I

Consultation carried out with Lake Macquarie City Council and NSW EPA



Kevin [Concrush]

| From: | Kevin [Concrush] |
|----------|---|
| Sent: | Monday, 19 February 2024 4:38 PM |
| То: | info@epa.nsw.gov.au |
| Cc: | Helen [Concrush]; Kevin [Concrush] |
| Subject: | Concrush Resource Recovery Facility- SSD 8753 |

Dear Sir / Madam,

I am the Managing Director of this facility. I would like to be put in contact with the right person or persons who I can talk to about the following aspects of our business.

1. Our EPL and its affect on water discharge from our site in storm events (see our DWMP).

2. Conditions A7 (200 tonne green waste limit) and Conditions B41 Odour Management and increasing this limit as per our recent Modified Consent Report.

3. Condition B42 Hours of Work and extending these into evening and night time periods. Including removing a noise wall. (Review/ comment on our Noise Impact Assessment).

Please ring me to discuss same.

Yours sincerely, Concrush Pty Ltd

Kevin Thompson Phone 0408 687 093

Sent from my iPhone

Kevin [Concrush]

| From: Sent: | Environment Line <info@environment.nsw.gov.au> Monday, 19 February 2024 4:38 PM</info@environment.nsw.gov.au> | |
|----------------|---|--|
| То: | Kevin [Concrush] | |
| Subject: | Thank you for your email. Your Reference Id is 01164131 (ref:!00D7F06iTix.! 500GA01SnaiE:ref) | |

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Thank you for your enquiry. Environment Line will process your request within 5 working days. If your matter is urgent, please call Environment Line on 131555. For enquiries or requests that are more involved or technical, a longer response time may be necessary. If you have not already visited our websites and wish to do so, please go to www.environment.nsw.gov.au or www.epa.nsw.gov.au

If you are emailing to report an urgent pollution incident, please call 131 555 (press option 1).

Where the EPA or DPE is not the appropriate authority to manage your report, it will be forwarded to the appropriate authority. For example, commercial noise complaints for smaller factories, backyard workshops, smoke from residential backyard fires or chimneys or dumping in public areas are the responsibility of Local Councils; loud music or patron noise from public venues are the responsibility of Liquor & Gaming NSW, rubbish on major roads and highways is the responsibility of Transport for NSW. Any information provided regarding this type of pollution will be forwarded to those authorities for action.

If you do not consent to your report being forwarded, please reply to this email to advise that you would like to 'opt out' of any further action. You may also request that your details remain anonymous or confidential, however in certain circumstances this may limit our ability to deal with any complaint further. Details of our Privacy information can be found <u>here</u>.

When sending further emails about this topic (Concrush Resource Recovery Facility- SSD 8753), please ensure the following extended Reference Id appears anywhere in the email subject or body:

Kevin [Concrush]

| From: | Marshall Sing <marshall.sing@epa.nsw.gov.au></marshall.sing@epa.nsw.gov.au> | |
|-------------------------|---|----------------------|
| Sent: | Tuesday, 27 February 2024 8:10 AM | |
| То: | Kevin [Concrush] | |
| Subject: | FW: Concrush Resource Recovery Facility- SSD 8753 | [ref:!00D7F06iTix.! |
| Second Fr Second Second | 500GA01SnaiE:ref] | |

You don't often get email from marshall.sing@epa.nsw.gov.au. Learn why this is important

Good Morning Kevin,

Thank you for your time last week to discuss the matters below.

The EPA understands your enquiry relates to an application to modify the Development Consent for the premises. This application has not yet been referred to the EPA by the Consent Authority. When it is, the EPA will review the proposal and provide advice to the Consent Authority for its consideration under the *Environment Planning and Assessment Act 1979.*

Regards,

Marshall Sing Operations Officer - Operations NSW Environment Protection Authority Work Phone - [02] 4908 6827 Mobile Phone - 0459 318 948

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I work on Awabakal Country.



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------Forwarded Message -----From: Kevin [Concrush] [kevin@concrush.com.au]
Sent: 19/02/2024 4:37 PM
To: info@epa.nsw.gov.au
Cc: helen@concrush.com.au; kevin@concrush.com.au
Subject: Concrush Resource Recovery Facility- SSD 8753

Dear Sir / Madam,

I am the Managing Director of this facility. I would like to be put in contact with the right person or persons who I can talk to about the following aspects of our business.

1. Our EPL and its affect on water discharge from our site in storm events (see our DWMP).

2. Conditions A7 (200 tonne green waste limit) and Conditions B41 Odour Management and increasing this limit as
From: Sent: To: Subject: Marshall Sing <Marshall.Sing@epa.nsw.gov.au> Thursday, 28 March 2024 2:33 PM Kevin [Concrush] Concrush Resource Recovery Facility - EPL 13351

You don't often get email from marshall.sing@epa.nsw.gov.au. Learn why this is important Hey Kevin,

Thanks again for taking my call earlier.

As discussed, please see below my contact details.

Have a great easter.

Kind Regards,

Marshall Sing Operations Officer - Operations NSW Environment Protection Authority Work Phone - [02] 4908 6827 Mobile Phone - 0459 318 948

THE REPORT REPORT FOR A REPORT REPORT REPORT

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EPA contacts and services

All general enquiries

- Phone 131 555.
- Email info@epa.nsw.gov.au (please state what you are enquiring about in the subject line).
- Post your query to EPA Head Office, Locked Bag 5022, Parramatta NSW 2124
- Use our <u>online form.</u>
- Visit your local EPA office.

If you are deaf, or have a hearing or speech impairment, contact us through the <u>National Relay</u> <u>Service</u>.

- TTY users should phone 133 677, then ask for 131 555.
- Speak and listen users should phone 1300 555 727, then ask for 131 555.

Services

Report pollution

To report pollution in NSW, phone 131 555 or (02) 9995 5555 from outside NSW (24 hours a day, 7 days a week).

- Find a responsible agency
- Protocol for industry

Information

For information and resources, visit Environment Line or phone 131 555.

- Download publications
- Request copies online or email info@environment.nsw.gov.au

Media

To contact the EPA media unit, phone (02) 9995 6415 (including after hours) or email media@epa.nsw.gov.au

Information for media

From: Sent: To: Cc: Subject: Attachments: Alex Rees <AlexR@rca.com.au> Tuesday, 9 April 2024 4:11 PM info@epa.nsw.gov.au Kevin [Concrush] Concrush SSD8753 13155-621.2 Modification Noise Impact Assessment.pdf

Good afternoon EPA,

I am preparing an updated Noise Impact Assessment for my client Concrush (applicant is cc'd into this email) to support a Modification Report being prepared by WSP.

The attached Noise Impact Assessment report was submitted to DPHI and a meeting was held between DPHI, the applicant and WSP on Friday 16th of February 2024 (I'm pretty sure that date is correct). During that meeting, DPHI raised the question "*has the EPA been consulted about the approach?*" We understand this question is in regards to the fact that I have prepared noise modelling scenarios that include stockpiles on site.

It is true that these stockpiles are a source of shielding in the noise model, but it is also true that it would be unrealistic to exclude them from the model. RCA have undertaken quarterly compliance monitoring since September 2020. The appendix of the attached report shows that there has been a single minor (1 dB) exceedance measured over the course of more than 85 compliance measurements. This exceedance was due to the green waste shredder at the time, which has since been replaced with a quieter model. RCA has observed that it would be very unusual for there not to be stockpiles on site, and therefore believe they should be included in the noise model. As mentioned, this position is supported by the fact that the site has been found to comply with noise targets for 99% of the compliance measurements taken since September 2023.

What we are asking is whether we could meet with the EPA to discuss this noise modelling approach, so we can then either action appropriately, or inform DPHI that we have consulted with the EPA and agree regarding the approach.

Would you be able to come back to me within seven days with advice or to set a meeting time please? Note I will be on leave from tomorrow until Tuesday 16th April.

Thanks, Alex



GEOTECHNICAL . ENVIRONMENTAL

Alex Rees

General Manager | Acoustics Manager

t: 02 4902 9209| m: 0428 841 357 e: AlexR@rca.com.au | w: www.rca.com.au a: PO Box 175 / 92 Hill Street, Carrington NSW 2294



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From:Kevin [Concrush]Sent:Wednesday, 10 April 2024 1:53 PMTo:'Marshall Sing'Cc:Alex Rees; Fiona BrookerSubject:RE: Meeting - Concrush Pty Limited - EPL 13351Attachments:DVMR.pdf

Hi Marshall,

Please consider the following dates/times are suitable for a meeting on either pm 22/4/24, pm 23/4/24, 9-5 24/4/24, 9-5 25/4/24. We wish to discuss our proposed Modification Report as Attached. In particular:

EPA to comment on our noise report and NIA method EPA to comment if they deem odour an issue that is not managed with existing OAQMP EPA to comment about our water DVMR and if a water discharge licence is required

Our proposed meeting attendees are: Alex Rees (Noise consultant RCA) and Fiona Brooker (RCA consultant across Odour, water discharge, water quality, licence conditions and Concrush operations).

Regards, Concrush

Kevin Thompson

From: Marshall Sing <Marshall.Sing@epa.nsw.gov.au>
Sent: Wednesday, April 10, 2024 1:08 PM
To: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: Meeting - Concrush Pty Limited - EPL 13351

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Good Afternoon Kevin,

Thanks again for taking my call. As discussed, I believe a meeting would be worthwhile to discuss the matters.

Can you please provide suitable dates/times that work for you and any colleagues. Please provide a couple of options as availability could be an issue on our end.

It would also be worthwhile to provide some detail around what is to be discussed.

Kind regards,

Marshall Sing Operations Officer - Operations NSW Environment Protection Authority Work Phone - [02] 4908 6827 Mobile Phone - 0459 318 948



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From: Sent: To: Subject: Kevin [Concrush] Wednesday, 10 April 2024 11:41 AM info@epa.nsw.gov.au SSD 8753 Concrush - Odour

Dear Sir/Madam,

Please not we plan to increase the amount of green waste processing rate from an average 1 day per week to up to 3 days per week. Our odour generation as per our EIS is shown in Table 3 of the report shows minor amounts of odour (0.23 OU/m2/s) being generated from green waste stockpiles. Table 3 shows Shredding of Green waste generates odour at 5.9 OU/m2/s. Our proposed Modified Consent sees no change in the processing rate of green waste (the capacity and through put of shredding machines will remain the same. Our modified consent would see the shredding process occur more frequently from approximately 1 day a week to approximately 3 days a week.)

We currently and continually have been able to manage odour as per our existing OAQMP and we see no need to update this Plan with our proposed increase in processing days of green waste as long as we continue to adhere to our existing mitigation procedures.

Does the EPA have any issues with our proposed plans ?

Yours sincerely, Concrush

Kevin Thompson

Kevin Thompson



P.O. Box 312 WARNERS BAY NSW 2282 P: (02) 4958 3777 M: 0408 687 093

E: kevin@concrush.com.au

www.concrush.com.au

Concrush Pty Ltd EPL No 13351 complies with and meets the requirements of:

- Protection of the Environment Operations (Waste) Regulation 2014
- The Concrush recovered aggregate order 2022
- The Concrush recovered aggregate exemption 2022
- Link to current order & exemption can be found on our website

| From: | Environment Line <info@environment.nsw.gov.au></info@environment.nsw.gov.au> |
|----------|--|
| Sent: | Wednesday, 10 April 2024 11:41 AM |
| То: | Kevin [Concrush] |
| Subject: | Thank you for your email. Your Reference Id is 01172294 (ref:!00D7F06iTix.! 500GA01ShO0j:ref) |

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Thank you for your enquiry. Environment Line will process your request within 5 working days. If your matter is urgent, please call Environment Line on 131555. For enquiries or requests that are more involved or technical, a longer response time may be necessary. If you have not already visited our websites and wish to do so, please go to www.environment.nsw.gov.au or www.epa.nsw.gov.au

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Where the EPA or DPE is not the appropriate authority to manage your report, it will be forwarded to the appropriate authority. For example, commercial noise complaints for smaller factories, backyard workshops, smoke from residential backyard fires or chimneys or dumping in public areas are the responsibility of Local Councils; loud music or patron noise from public venues are the responsibility of Liquor & Gaming NSW, rubbish on major roads and highways is the responsibility of Transport for NSW. Any information provided regarding this type of pollution will be forwarded to those authorities for action.

If you do not consent to your report being forwarded, please reply to this email to advise that you would like to 'opt out' of any further action. You may also request that your details remain anonymous or confidential, however in certain circumstances this may limit our ability to deal with any complaint further. Details of our Privacy information can be found <u>here</u>.

When sending further emails about this topic (SSD 8753 Concrush - Odour), please ensure the following extended Reference Id appears anywhere in the email subject or body:

ref:!00D7F06iTix.!500GA01ShO0j:ref

2

From: Sent: To: Cc: Subject: Attachments: Alex Rees <AlexR@rca.com.au> Tuesday, 9 April 2024 4:11 PM info@epa.nsw.gov.au Kevin [Concrush] Concrush SSD8753 13155-621.2 Modification Noise Impact Assessment.pdf

Good afternoon EPA,

I am preparing an updated Noise Impact Assessment for my client Concrush (applicant is cc'd into this email) to support a Modification Report being prepared by WSP.

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It is true that these stockpiles are a source of shielding in the noise model, but it is also true that it would be unrealistic to exclude them from the model. RCA have undertaken quarterly compliance monitoring since September 2020. The appendix of the attached report shows that there has been a single minor (1 dB) exceedance measured over the course of more than 85 compliance measurements. This exceedance was due to the green waste shredder at the time, which has since been replaced with a quieter model. RCA has observed that it would be very unusual for there not to be stockpiles on site, and therefore believe they should be included in the noise model. As mentioned, this position is supported by the fact that the site has been found to comply with noise targets for 99% of the compliance measurements taken since September 2023.

What we are asking is whether we could meet with the EPA to discuss this noise modelling approach, so we can then either action appropriately, or inform DPHI that we have consulted with the EPA and agree regarding the approach.

Would you be able to come back to me within seven days with advice or to set a meeting time please? Note I will be on leave from tomorrow until Tuesday 16th April.

Thanks, Alex



Alex Rees

General Manager | Acoustics Manager

t: 02 4902 9209| m: 0428 841 357 e: AlexR@rca.com.au | w: www.rca.com.au a: PO Box 175 / 92 Hill Street, Carrington NSW 2294



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From: Sent: To: Cc: Subject: Marshall Sing <Marshall.Sing@epa.nsw.gov.au> Wednesday, 1 May 2024 10:11 AM Ross [Concrush] Kevin [Concrush] RE: Meeting - Concrush Pty Limited - EPL 13351

Good Morning Ross and Kevin,

Date and time suits, I'll book out a meeting room now at our office for the specified date/time.

Looking forward to meeting everyone.

Kind regards,

Marshall Sing Operations Officer - Operations NSW Environment Protection Authority Work Phone - [02] 4908 6827 Mobile Phone - 0459 318 948

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The EPA acknowledges the Traditional Custodians of the land, waters and sky where we work. As part of the world's oldest surviving cultures we pay our respect to Aboriginal Elders past and present.

I work on Awabakal Country.



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From: Ross [Concrush] <Ross@concrush.com.au>
Sent: Wednesday, 1 May 2024 9:15 AM
To: Marshall Sing <Marshall.Sing@epa.nsw.gov.au>
Cc: Kevin [Concrush] <Kevin@concrush.com.au>
Subject: RE: Meeting - Concrush Pty Limited - EPL 13351

G'day Marshall,

11:30am Wednesday 22nd will be fine for us. We would like to meet in person at your office rather than a team's meeting.

We would also like to discuss odour as we are applying for a variation to our consent to increase green waste cap.

Let me know if anything is required pre-meeting.

Kind Regards

Ross Lo Monaco Head Of Growth

concrush

21 Racecourse Road Teralba NSW 2284 P:(02) 4958 3777 M: 0428 329 903 E: <u>ross@concrush.com.au</u> www.concrush.com.au

Concrush Pty Ltd EPL No 13351 complies with and meets the requirements of:

- Protection of the Environment Operations (Waste) Regulation 2014
- The Concrush recovered aggregate order 2022
- The Concrush recovered aggregate exemption 2022
- Link to current orders & exemptions can be found on our website Working with the community and industry to reduce our impact on the environment

From: Marshall Sing <<u>Marshall.Sing@epa.nsw.gov.au</u>> Sent: Tuesday, April 30, 2024 3:54 PM To: Ross [Concrush] <<u>Ross@concrush.com.au</u>> Cc: Kevin [Concrush] <<u>Kevin@concrush.com.au</u>> Subject: RE: Meeting - Concrush Pty Limited - EPL 13351

Good Afternoon Ross,

Thanks for the update. Unfortunately, both next week and the week after don't work [due to leave and other work], however the following dates and times suit;

- 22 May 2024 11:30 1
- 23 May 2024 11:30 1
- 24 May 2024 11:30 1

Please respond back if any dates/time suit and I'll setup a team's meeting.

Kind Regards,

Marshall Sing

Operations Officer - Operations NSW Environment Protection Authority Work Phone - [02] 4908 6827 Mobile Phone - 0459 318 948

.

www.epa.nsw.gov.au @NSW EPA

The EPA acknowledges the Traditional Custodians of the land, waters and sky where we work. As part of the world's oldest surviving cultures we pay our respect to Aboriginal Elders past and present.

I work on Awabakal Country.



Report pollution and environmental incidents 131 555 or +61 2 9995 5555

From: Ross [Concrush] <<u>Ross@concrush.com.au</u>> Sent: Tuesday, 30 April 2024 3:37 PM To: Marshall Sing <<u>Marshall.Sing@epa.nsw.gov.au</u>> Cc: Kevin [Concrush] <<u>Kevin@concrush.com.au</u>> Subject: Re: Meeting - Concrush Pty Limited - EPL 13351

G'day Marshall,

As discussed with Kevin we would like to organise a meeting to discuss:

- Noise Impact Assessment review.
- Possible Water discharge licence requirement.
- Cap limits Per annum and at-any-one time.
- Assessment of guaranteed requirements.

Meeting options:

- 1. Wednesday 8th May anytime between 9:00am 2:30pm
- 2. Thursday 9th May 1:30pm, 2:00pm, 2:30pm
- 3. Wednesday 15th May anytime between 9:00am 2:30pm
- 4. Thursday 16th May 1:30pm, 2:00pm, 2:30pm

Do not hesitate to contact me with any suggestions if these dates and times do not suit.

Kind Regards

Ross Lo Monaco

Head Of Growth

concrus reduce. re-use. recycle.

21 Racecourse Road Teralba NSW 2284 P: (02) 4958 3777 M: 0428 329 903 E: <u>ross@concrush.com.au</u> www.concrush.com.au

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Attachment 2. EPA Corro 21/5/24

From: Sent: To: Subject: Kevin [Concrush] Tuesday, 21 May 2024 9:38 AM Alex Rees Fwd: Concrush Pty Limited - EPL 13351 - Noise Impact Assessment Email - 9 April 2024 - Alex Rees

FYI Sent from my iPhone

Begin forwarded message:

From: Marshall Sing <Marshall.Sing@epa.nsw.gov.au> Date: 20 May 2024 at 3:57:17 PM AEST To: "Ross [Concrush]" <Ross@concrush.com.au> Cc: "Kevin [Concrush]" <Kevin@concrush.com.au> Subject: Concrush Pty Limited - EPL 13351 - Noise Impact Assessment Email - 9 April 2024 - Alex Rees

Dear Ross and Kevin,

In respect of your request to meet with the EPA and email from Alex Rees to discuss the approach to modelling to be undertaken as part of a Noise Impact Assessment (NIA) to be provided to the Consent Authority as part of an application to modify the Development Consent under the Environment Planning and Assessment Act 1979, the EPA generally does not get involved at this stage of the planning process.

The EPA will review and comment on the proposal, including any NIA, when the matter is referred by the Consent Authority.

Any NIA being prepared in support of a new proposal should be undertaken in accordance with the EPA's Noise Policy for Industry (available at: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/noise/17p0524-noise-policy-for-industry.pdf).

Notwithstanding the above, the EPA understands that, in lieu of noise barriers/walls, you are considering using stockpiles for acoustic attenuation. The EPA has some reservations regarding such practices due to the varying nature of stockpile media, and variability in stockpile profiles and dimensions (especially over time). The proposed noise modelling would need to appropriately account for and consider such aspects to ensure noise impacts are accurately represented.

Please contact me should you wish to further discuss this matter.

Kind Regards,

Marshall Sing

Operations Officer - Operations NSW Environment Protection Authority Work Phone - [02] 4908 6827 Mobile Phone - 0459 318 948



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I work on Awabakal Country.



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Attachment 3.

From: Sent: To: Cc: Subject: Attachments:

Wednesday, 10 January 2024 1:48 PM Glen Mathews Ross [Concrush] SSD 8753 Concrush - Audit Audit CCR01-001-R01-ConcrushIEA-v1-20231120-Apps.pdf; Response to Audit Findings Concrush.doc.docx

LMCC Corro 17/6/24,

Hi Glen,

I refer to our recent Audit and our Response to Audit Findings as Attached.

Improvement Recommendation 5 and 6 of the Audit concerns Concrush and LMCC.

Kevin [Concrush]

Can you please write back to Concrush and confirm your satisfaction with the Racecourse Road Upgrade (PWC/29/2020) works to close out Condition B29 of our Consent.

Can you please write back to Concrush to confirm that consultation with LMCC Traffic to confirm any comments back from your Traffic Engineer and if any updates to our TMP are required as we can than close out Condition B34.

Regards,



www.concrush.com.au

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- The Concrush recovered aggregate exemption 2022
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| From: | Glen Mathews <gmathews@lakemac.nsw.gov.au></gmathews@lakemac.nsw.gov.au> |
|--------------|---|
| Sent: | Thursday, 11 January 2024 10:12 AM |
| То: | Kevin [Concrush] |
| Cc: | Ross [Concrush] |
| Subject: | RE: SSD 8753 Concrush - Audit |
| Attachments: | W60 Public Works Compliance Certificate - PWC292020 - 21 Racecourse Road, TERALBA NSW 2284 - Mr K Thompson.DOC |

Hi Kevin,

I have spoken with both our traffic and development engineers about your email. The attached compliance certificate confirmed Council's satisfaction with the upgrades and ticks off condition B29.

A review of Council's records has raised no complaints about traffic impacts on racecourse road and as such it is considered the existing TMP is being appropriately implemented. Council was previously consulted regarding the TMP and is satisfied that condition B34 has been addressed.

If you require anything further please reach out.

Regards,

Glen Mathews Principal Development Planner



T +61 2 4921 0399 M +61 439 647 504 E gmathews@lakemac.nsw.gov.au lakemac.com.au

Dhumaan ngayin Awabakurlangu kirraanan barayidin We acknowledge and respect the Awabakal people who have cared for and nurtured this country.

From: Kevin [Concrush] <Kevin@concrush.com.au>
Sent: Wednesday, January 10, 2024 1:48 PM
To: Glen Mathews <gmathews@lakemac.nsw.gov.au>
Cc: Ross [Concrush] <Ross@concrush.com.au>
Subject: SSD 8753 Concrush - Audit

Hi Glen,

I refer to our recent Audit and our Response to Audit Findings as Attached.

Improvement Recommendation 5 and 6 of the Audit concerns Concrush and LMCC.

Can you please write back to Concrush and confirm your satisfaction with the Racecourse Road Upgrade (PWC/29/2020) works to close out Condition B29 of our Consent.

Can you please write back to Concrush to confirm that consultation with LMCC Traffic to confirm any comments back from your Traffic Engineer and if any updates to our TMP are required as we can than close out Condition B34.

Regards,

Kevin Thompson



P.O. Box 312 WARNERS BAY NSW 2282 P: (02) 4958 3777 M: 0408 687 093

E: kevin@concrush.com.au

www.concrush.com.au

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| From: | Kevin [Concrush] |
|--------------|--|
| Sent: | Thursday, 22 February 2024 2:19 PM |
| То: | Glen Mathews |
| Subject: | FW: Modified Consent-Concrush Email 1 of 2 |
| Attachments: | PS206842-WSP-NTL-ENV-RPT-001 RevB_main report.pdf; PS206842-WSP-NTL- |
| | ENV-RPT-001 RevB_AppA.pdf; PS206842-WSP-NTL-ENV-RPT-001 RevB_AppB.pdf; |
| | PS206842-WSP-NTL-ENV-RPT-001 RevB_AppC.pdf |

Hi Glen,

Please see attached our Modified Consent Report for your attention. We welcome your feedback and comments.

Yours sincerely, Concrush Pty Ltd

Kevin Thompson

-----Original Message-----From: Quirk, Bernadette <Bernadette.Quirk@wsp.com> Sent: Tuesday, February 20, 2024 2:37 PM To: Kevin [Concrush] <Kevin@concrush.com.au> Cc: Maund, Mark <Mark.Maund@wsp.com>; Helen [Concrush] <Helen@concrush.com.au> Subject: RE: Modified Consent-Concrush

Good afternoon Kevin,

Please see attached main report. I will have to send the appendices separately due to their file size.

(Email 1/2)

Bernadette Quirk Environmental Scientist T: +61 2 4929 8365 Bernadette.Quirk@wsp.com WSP Australia Pty Limited Level 3 55 Bolton St Newcastle, NSW, 2300 Australia

wsp.com/au

WSP acknowledges that every project we work on takes place on First Peoples lands. We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

-----Original Message-----From: Kevin [Concrush] <Kevin@concrush.com.au> Sent: Monday, February 19, 2024 4:02 PM To: Quirk, Bernadette <Bernadette.Quirk@wsp.com> Cc: Maund, Mark <Mark.Maund@wsp.com>; Helen [Concrush] <Helen@concrush.com.au> Subject: Modified Consent-Concrush

Hi Bernadette,

Can you please send me/Helen a copy of the Modified Consent Report so I/Helen can upload to our website at our "Environmental Reporting " section.

Regards, Concrush

Kevin

Sent from my iPhone

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-LAEmHhHzdJzBITWfa4Hgs7pbKl

From:Kevin [Concrush]Sent:Thursday, 22 February 2024 2:20 PMTo:Glen MathewsSubject:FW: Modified Consent-Concrush Email 2 of 2Attachments:PS206842-WSP-NTL-ENV-RPT-001 RevB_AppD.pdf; PS206842-WSP-NTL-ENV-
RPT-001 RevB_AppE.pdf; PS206842-WSP-NTL-ENV-RPT-001 RevB_AppF.pdf;
PS206842-WSP-NTL-ENV-RPT-001 RevB_AppG.pdf

Hi Glen,

Please see attached our Modified Consent Report Appendix's for your attention. We welcome your feedback and comments.

Yours sincerely, Concrush Pty Ltd

Kevin Thompson 0408 687 093

-----Original Message-----From: Quirk, Bernadette <Bernadette.Quirk@wsp.com> Sent: Tuesday, February 20, 2024 2:39 PM To: Kevin [Concrush] <Kevin@concrush.com.au> Cc: Maund, Mark <Mark.Maund@wsp.com>; Helen [Concrush] <Helen@concrush.com.au> Subject: RE: Modified Consent-Concrush

Email 2/2 - thanks Kevin.

Bernadette Quirk Environmental Scientist T: +61 2 4929 8365 Bernadette.Quirk@wsp.com WSP Australia Pty Limited Level 3 55 Bolton St Newcastle, NSW, 2300 Australia

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Regards, Concrush

Kevin

Sent from my iPhone

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From: Sent: To: Cc: Subject: Attachments: Kevin [Concrush] Wednesday, 10 April 2024 3:56 PM Glen Mathews Ross [Concrush]; Quirk, Bernadette Concrush - TMP V4 Concrush TMP V4.pdf

Hi Glen,

As part of our proposed Modification to our Consent Conditions we need to update our TMP to reflect that our original light vehicle exit to Racecourse Road has been deleted. The deletion of the original light vehicle exit means adjustment to internal traffic flow directing light vehicles to the single entry/exit location as shown in Figure 4 of our TMP V4. Please see attached our draft TMP V4 reflecting the proposed change. Any changes to our TMP require consultation with LMCC. Do you have any comments about our draft TMP V4 attached ? (For your information we have considered the impact of light vehicles crossing the path of incoming heaving vehicles and we have a detailed intersection plan to mitigate potential issues. Mitigation measures include speed signs, traffic flow signs as applicable Give Way and/or Stop and speed humps if needed. We haven't included this detailed intersection plan as we believe this level detail is not required in the TMP).

Yours sincerely,

Kevin Thompson



P.O. Box 312 WARNERS BAY NSW 2282 P: (02) 4958 3777 M: 0408 687 093

E: kevin@concrush.com.au

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From: Sent: To: Subject: Kevin [Concrush] Wednesday, 8 May 2024 10:06 AM Glen Mathews Modification of Consent Report and SIA

Hi Glen,

Please give me a ring when you get a chance to discuss were we are up to with our proposed Mod Report.

We have and are still doing a SIA and for your information our community is showing some interest in our proposed Modification's.

Yours sincerely,

Kevin Thompson CONCTUSH reduce. re-use. recycle. P.O. Box 312 WARNERS BAY NSW 2282 P: (02) 4958 3777 M: 0408 687 093 E: kevin@concrush.com.au www.concrush.com.au

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From: Sent: To: Subject: Attachments: Kevin [Concrush] Wednesday, 29 May 2024 2:49 PM Glen Mathews FW: Concrush - TMP V4 Concrush TMP V4.pdf

Hi Glen,

Please see my email below. Is there any comment about our updated TMP V4?

Regards Concrush

Kevin Thompson

From: Kevin [Concrush]
Sent: Wednesday, April 10, 2024 3:56 PM
To: Glen Mathews <gmathews@lakemac.nsw.gov.au>
Cc: Ross [Concrush] <Ross@concrush.com.au>; Quirk, Bernadette <Bernadette.Quirk@wsp.com>
Subject: Concrush - TMP V4

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