# Report

## Environmental Management Plan

## East Perth Concrete Batching Plant

22 OCTOBER 2012

Prepared for

Holcim (Australia) Pty Ltd

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42908129

URS

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# Environmental Management Plan

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# Document Management

| Rev | Date | Revision Description | By | Check | Approved |
|---|---|---|---|---|---|
| 0 | 7 April 2009 | Final | J. Neurauter (URS) | J. Moro (URS) | J. Harrington (CEMEX) |
| 1 | 28 October 2009 | Final | J. Neurauter (URS) | M. Goldstone (URS) | J. Harrington (Holcim) |
| 2 | 02 July 2010 | Final - Reviewed with no changes.<br>Note: Night operations have not yet commenced and no changes to day operations have occurred. No complaints have been received by Holcim. | J. Neurauter (URS) | J. Moro (URS) | J. Harrington (Holcim) |
| 3 | 24 March 2011 | Final | J. Neurauter (URS) | - | - |
| 4 | 20 September / 27 October 2011 | Unreviewed – Changes requested by Holcim | A. Ross (URS) | - | - |
| 5 | 20 June 2012 | Final - Minor changes to be compliant with Minister for Planning letter dated 22 May 2012 | Hannah Fletcher (URS) | A. Bird (URS) | D. Lane (Holcim) |
| 6 | 18 October 2012 | Minor changes in response to comments from City of Vincent provided by email on 9 October 2012 | Hannah Fletcher (URS) | A. Bird (URS) | D. Lane (Holcim) |

# Environmental Management Plan

## Background

This Environmental Management Plan (EMP) has been prepared for Holcim (Australia) Pty Ltd (Holcim) in response to the State Government's Minister for Planning; Culture & the Arts; Science & Innovation decision on 22 May 2012 to grant conditional approval for the East Perth Concrete Batching Plant Site (the Site) to continue operating for a further five years, including extended operating hours (Appendix A).

Approval was previously granted on 11 March 2009 for the Site to have extended hours of operation, subject to a set of conditions including the preparation of a Management Plan to address the management of dust and concrete waste, noise, traffic and implementation of a Complaints Handling System. The 2012 Minister's decision reiterates the requirement for an Environmental Management Plan (EMP) to address noise, dust, concrete waste, traffic management, a complaints handling system as well as building licence requirements. The approved extended hours of operation are 24 hours Monday to Saturday inclusive.

The Site has been operating as a concrete batching plant since 1987, and coexists with commercial, industrial and residential land uses. The purpose of this EMP is to provide measures to prevent or mitigate potential impacts to the environment and community, with specific emphasis on dust, noise and traffic during night operations (7pm to 6am) at the Site.

This EMP is intended to be a live document that will be initially submitted to the City of Vincent for approval and then reviewed annually by the City (in accordance with the 2012 Minister's decision).

Annual amendments to this EMP may be undertaken in consultation with relevant stakeholders such the City of Vincent and Holcim employees and management. Ongoing and informal internal review of this plan, or components of this plan, may be completed prior to the annual formal review to show compliance with internal auditing of the Holcim Safety Health and Environment Management System (SHE MS). The individual management sections of this EMP have also been created as stand-alone documents to fit within the SHE MS.

Note that the 2012 Minister's decision permits Holcim to operate on the Site (subject to conditions) until 16 October 2017.

## Site Description

### Location

The Site is located at No. 120 (Lot 1001) Claisebrook Road, East Perth, and is located amongst mixed commercial, residential and light industrial land uses. The 4,870 $m^2$ site is situated adjacent to the Graham Farmer Freeway to the south, Caversham Street to the north and Claisebrook Road to the east (Figure 1). Commercial businesses are located to the east and west of the Site and are generally vacant during the night.

The Rainbow Lodge backpackers' accommodation facility is located on Claisebrook Road, near the intersection with Caversham Street, approximately 50 m from the Site boundary.

The central location of the Site in East Perth is critical to the successful operation of the business, due to the demand for a ready supply of concrete to infrastructure projects in the Perth central business district. Hanson Concrete also operates a similar scale concrete batching plant in the immediate vicinity, located on Edward Street approximately 300 m southwest of the Site.

## Day Operations

Day operations are currently undertaken between the hours of 6am and 7pm Monday to Saturday. The current day time operational requirements of batching concrete at the Site involve five phases as follows:

1. Delivery and unloading of raw materials and aggregates.
2. Dry mixing and movement of cement, raw materials and aggregate around the Site.
3. Loading of concrete trucks with dry concrete mixture.
4. Mixing (slumping) of the dry concrete mixture with water.
5. Concrete waste removal and mixing truck rinsing.

The delivery and unloading of raw materials and aggregates utilises a large enclosed shed (the ground bin building) which lies along the northern property boundary (Figure 2). Raw materials are delivered by semi-trailers and four-axle trailers (quad dogs), which enter the Site via Claisebrook Road. The ground bin building is sealed by an electric roller door which is closed after trucks enter and exit to reduce noise impacts at the Site and surrounds. Once raw materials have been unloaded, delivery vehicles are brushed down to reduce the spread of dust.

The raw materials and aggregates are transported by an underground conveyor from the ground bin building to the Plant building. Concrete mixture is then produced in the Plant building through the mixing of cement, aggregate and sand.

During day operations, concrete mixer trucks enter the Site via an entry gate on Caversham Street. Passing through a loading bay at the Plant building, truck mixer drums are filled with concrete mixture via a hopper situated within the roof of the Plant. An automatic door closes behind trucks during loading to reduce noise and dust.

Trucks exit the Plant loading bay from the east and move to the Slump Stand, currently located in the southwest corner of the Site and which can accommodate up to three trucks at any one time. Slumping involves mixing dry concrete with water in the truck and requires the continuous revolution of the mixing drum on the concrete truck. To achieve a suitable consistency, slumping must occur for an estimated three minutes, however; depending on the consistency of the concrete, additional water and mixing is required. Trucks are washed of any surface dust during slumping at the Slump Stand. Sprinklers are located on the western boundary of the Site to suppress any dust as concrete trucks exit the Site via Claisebrook Road following slumping (Figure 2).

Returning concrete trucks are cleaned at washout pits located adjacent to the ground bin building (Figure 2). The washing water is disposed of into the washout pits where the concrete material sinks below waste water; the water is recycled and reused in the washing process. These washout pits are cleaned of waste concrete once a week and can hold approximately 70 tonnes of material. Waste concrete is disposed at the Holcim Postans quarry (near Kwinana) where it is used in limestone block production.

## Night Operations (to be implemented)

As approved in the 2012 Minister's decision, prior to the commencement of night operations (7pm to 6am), Holcim will implement key changes to the operation of the Site. Holcim will undertake the following measures as per the recommendations in the Noise Management Plan prepared by Herring Storer Acoustics (Appendix B):

- Reverse the day time mixer truck route, such that trucks enter and exit the Site via Claisebrook Road.
- Install a roofed night Slump Stand adjacent to the washout pits/ground bin building.
- Install an automatic door on the western entry to the Plant building loading bay (similar to that installed on the eastern side).
- Ensure that the personnel entry door to the production tower (upper storey on the western side of the Plant building) remains closed between 7pm and 7am.

Night operations will commence once all of the above developments have been approved by the City of Vincent (Building Licences) and are constructed in accordance with the Noise Management Plan (Appendix B).

During night operations, the Claisebrook Road entrance to the Site will be used for ingress and egress by all site traffic. This will remove the need for site traffic to travel along Caversham Street.

Trucks operating at night will reverse the daytime traffic route by entering the Plant building loading bay from the west. The trucks will then exit the loading bay to the east prior to entering the covered night Slump Stand. Mixing trucks will turn around onsite, pass by dust suppression sprinklers, and exit the Site via Claisebrook Road.

With the installation of the control measures, trucks will be loaded with concrete, undertake slumping and be washed out within enclosed areas; so limiting the level of noise and dust emissions beyond the Site boundary.

Note that Holcim does not have approval for concrete batching on Sundays; or for trucks or semi-trailers to access the Site on Sundays or public holidays.

# Dust and Concrete Waste Management

## Objectives

1. To minimise the impact of cement and raw materials dust and concrete waste generated from operational activities.
2. Protect the amenity of residents surrounding the East Perth Concrete Batching Plant, by ensuring dust levels are compliant with requirement of the Department of Environment and Conservation and the City of Vincent.
3. Ensure that dust levels are managed in accordance with the approval conditions set by the Minister for Planning; Culture & the Arts; Science & Innovation (Appendix A).

## Scope

This procedure applies to all activities and personnel, contractors and visitors at the East Perth Concrete Batching Plant.

## Related Documents

The following documents relate to dust management at the Site and should be consulted where applicable. This list is not exhaustive and other SHE MS guideline documents and legislative requirements may also apply.

- SHE Guideline 3.01: Risk Management
- SHE Guideline 3.22: Dust - other than Silica (Nuisance Dust)
- SHE Guideline 4.1: Permits, Licences and Approvals
- SHE Guideline 4.2: Environmental Hazards and Operating Procedures
    - 4.2.1: Hazard Identification
        - 4.2.1A: Environmental Hazard Register and Action Plan
- *Environmental Protection Act* 1986 (WA)
- Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998.

## Management Strategy

### General

- Raise the awareness of the workforce about dust management. All new employees will undergo site specific awareness training during inductions. The dust component of the training will include:
    - Knowledge of operational procedures that have the potential to generate dust.
    - Dust management measures that have been/may be implemented around the Site.
    - Knowledge on the effect of wind and weather conditions of possible dust generation and suppression.
    - Issues relating to the management of dust emitted from the Site and staff responsibilities (community concern and monitoring).

- Sprinklers used for onsite dust suppression will be maintained through regular inspections to ensure safe and efficient operation.
- Ensure that when sprinklers are in use, there is no water spray beyond the boundary of the allotment, which may cause a nuisance to users of the road reserve.
- Quarterly dust monitoring will be undertaken in compliance with accredited Australian Standards.
- A Complaints Handling System will be established for the Site to record the date, nature, and resolution action of any complaints. Complaints will be directed to the Site Operations Manager or delegated employee for resolution (such as the Duty Manager). If the complaint is verified as being due to a site source, remedial action will be undertaken within two working days.

### Minimisation and Control

The Site will be managed to minimise the potential for dust generation from the Plant, slumping areas and vehicle operation. Minimisation measures that are currently in place for daytime operations and will also be undertaken during night operations, these include:

- Ensuring that raw materials and aggregates trucks are covered when they enter and exit the Site.
- Utilising a housed ground bin building, and an underground conveyor for transport of raw materials and aggregates to the Plant building.
- Ensuring that doors are closed on the ground bin building and the Plant building when unloading and loading. The automatic door on the western entry to the Plant building loading bay to be utilised during night operations.
- Regular washing down of trucks at the Slump Stand (including the enclosed night Slump Stand during night operations) prior to trucks leaving the Site.
- Regular use of sprinklers on the western Site boundary and at the washout pits to suppress dust onsite (Figure 2).
- The brushing down of semi-trailers and quad dogs following unloading of raw materials and aggregates in the ground bin building.
- Regular sweeping of Caversham Street, Claisebrook Road and Edward Street. This will occur a minimum of three (3) times per week (once by the City of Vincent and twice by an independent contractor hired by Holcim).
- Rapid spill response by immediately reporting any material spills internal and external to Site (on Caversham Street, Claisebrook Road or Edward Street) to the Operations Manager. The Operations Managers is to co-ordinate the spill clean-up within 24 hours of notification.
- Any spills external to the Site will be immediately reported to the City of Vincent, with cleaning-up arranged within 24 hours (if not sooner). In the event of a major spill, the City of Vincent will be contracted to coordinate and assist with the clean-up.

## Monitoring and Performance Indicators

### Monitoring

Visual monitoring of cement and raw materials dust as well as concrete waste around the Site will be conducted daily by the Operations Manager or delegated employee. Weekly visual inspections of the immediate surrounds of the Site (Caversham Street, Claisebrook Road and Edward Street) will be conducted by the Operations Manager or his delegate.

All employees to undertake environmental and safety training, as well as refresher training, and will be informed of the new night operations requirements. Truck drivers and existing employees will also be informed via regular 'toolbox' meetings of the importance of reporting any cement, raw

material/aggregate, or concrete dust evident on trucks or on Caversham Street, Claisebrook Road and Edward Street to the Operations Manager.

Holcim will undertake dust monitoring for a period of 24 hours on a quarterly basis. The monitoring will be in accordance with Australian Standard AS 3580.9.6-2003 *Determination of suspended particulate matter -$PM_{10}$ high volume sampler with size selective inlet-Gravimetric method*. The air monitoring equipment will be placed near the Claisebrook Road entry gate, as this is the most location with respect to dust emissions from the Site. The quarterly testing and the interpretation of results will be completed by an independent consultant/laboratory.

### Performance Indicators

- Zero incidents or complaints involving dust onsite or in the surrounding community.

## Accountabilities

| Role | Accountability |
|---|---|
| **Site (Operations) Manager** | • Ensure that all personnel who report to you are aware of and conform to this procedure.<br>• Ensure the site conditions of contract include dust management requirements.<br>• Ensure sprinkler and brushing mechanisms are maintained.<br>• Ensure the Site Complaints Handling System is maintained (with complaints and enquiries recorded in the Complaints and Enquiries Register; Appendix B) and that appropriate actions are taken within two working days if required.<br>• Review and, if necessary, update this plan every 12 months or earlier if monitoring indicates that changes to dust emissions are required. |
| **All Persons** | • Conform to this procedure at all times.<br>• Ensure any incidents (dust emissions or spray mechanism malfunction) are reported to the Operations Manager. |

## Review, Revision and Reporting

This EMP will be reviewed annually and reported to the City of Vincent. Holcim will also audit the EMP under its SHE MS.

# Noise Management

## Objectives

1. Minimise the noise impact of activities at the Site, and to protect the amenity of residents surrounding the East Perth Concrete Batching Plant.
2. Ensure noise levels meet the requirements of the Environment Protection (Noise) Regulations 1997 and are managed in accordance with the approval conditions set by the Minister for Planning; Culture & the Arts; Science and Innovation (Appendix A).
3. Undertake Noise management in accordance with the detailed Noise Management Plan provided in Appendix B.

## Scope

This procedure applies to all outdoor activities and all personnel, contractors and visitors at and around the Site at all times.

## Related Documents

The following documents relate to noise management at the Site and should be consulted where applicable. This list is not exhaustive and other SHE MS Guideline Documents and legislative requirements may also apply.

- SHE Guideline 3.01: Risk Management
- SHE Guideline 3.17: Noise
- SHE Guideline 4.1: Permits, Licences and Approvals
- SHE Guideline 4.2: Environmental Hazards and Operating Procedures
    - 4.2.5: Noise
        - 4.2.5A: Environmental Noise Survey Report (Example)
- *Environmental Protection Act* 1986 (WA)
- Environmental Protection (Noise) Regulations 1997
- Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998.

## Management Strategy

### General

Noise generated by plant, trucks and other heavy machinery is currently minimised and managed during day operations by the following measures, these will be extended to night operations:

- Prohibiting the use of engine brakes.
- Ensuring the 10 km/hour speed limit is followed onsite.

- Actively maintaining plant and machinery to ensure that all worn parts are replaced and that correct greasing, lubrication and replacement of acoustic covers takes place to reduce noise emissions.
- Silencers and noise attenuation will be investigated when purchasing any new equipment for the concrete plant and noise predictions will be incorporated into any new proposed buildings onsite. Examples of noise attenuation devices that will be considered include; directional reversing beepers for new trucks and loaders and suitable design for new plant.
- Trucks will be retrofitted with directional reversing beepers, prior to the commencement of night deliveries.
- Raise the awareness of the workforce about noise management by:
    - Training employees in the correct operation of fix plant that has the potential to generate noise.
    - Awareness training in the operation of trucks and other vehicles to minimise noise emissions.
    - Issuing hearing protection to staff as required.
    - Issues relating to the management of noise emitted from the Site and staff responsibilities (community concern and monitoring).
    - All employees undertake environmental and safety training, as well as refresher training, and will be informed of the new night operations requirements.
- A Complaints Handling System exists for the Site to record the date, nature, and resolution action of any complaint. The person responsible for maintaining the register is the Operations Manager (or delegated employee such as the Duty Manager). This information is to be submitted to the City of Vincent on a quarterly basis.
- During night operations, if the monitored noise levels are greater than $L_{A10(7pm-10pm)}$ 56dB or $L_{A10(10pm-7am)}$ 51dB [*], the Duty Manager will review the operations process and take immediate steps to minimise the generation of the noise or relocate the noise source, as far as practical, so as to minimise its impact until practical measures can be implemented to achieve compliance with the regulations. For major noise non-conformances the Duty Manager will immediately notify the Operations Manager. Practical measures may include the use of temporary noise barriers or alternative equipment. Noise monitoring will continue to be undertaken until the noise levels generated are within the criterion for the Site.

## Minimisation and Control

In addition to the above, during night operations when it is possible that noise levels may exceed criteria for the Site the following additional management practices will be undertaken:

- Sensitive receptors likely to be affected by noise levels to be notified by the Operations Manager at least 48 hours in advance of activities.
- Noise levels will be monitored using a hand level meter (at regular intervals) or automatic data logger (continuously) during night operations. In the event that complaints are received, the following actions will be undertaken:
    - The Duty Manager will respond to the complaint and explain the activities being undertaken.
    - If noise levels are shown to be greater than $L_{A10}$ 51dBA and complaints are received, the Duty Manager will review the operation process. Noise measurements will continue to be undertaken to measure the noise levels generated until noise levels are within criteria for the Site.
- Between the hours of 7 pm and 6 am, the following noise controls must take place:

[*] $L_{A10}$ represents the A weighted noise level exceeded 10% of the measurement time interval. $L_{A10}$ 51dB refers to an assigned night time noise levels as per the Noise Regulation. Between 10 pm and 7am Monday to Saturday the assigned outdoor noise level is 35 dB plus the Site's 16dB influencing factor as calculated by Herring Storer Acoustics in 2008. Between 7 pm and 10 pm assigned night time noise level is $L_{A10}$ 56db (See also Appendix B) .

- The gates on Caversham Street must be closed.
- The automatic doors on the western (yet to be installed) and eastern sides of the Plant building loading bay and ground bin building must be closed during loading.
- The personnel entry door on the western side of the upper level of the Plant building must remain closed.
- Construction of a new roofed night Slump Stand as per the Noise Management Plan (Appendix B).
- Slumping must only take place within the roofed night Slump Stand located adjacent to the ground bin building during night operations, and may not take place anywhere else onsite.
- Implementation of a new traffic route onsite utilising Claisebrook Road for entry and exit.
- Maintaining the underground conveyor from the Ground bin to the Plant building.

# Monitoring and Performance Indicators

## Monitoring

- Equipment maintenance and inspection schedules shall be implemented to ensure that all equipment is operating in accordance with the manufacturer's instructions and within regulatory requirements. This will include ensuring that all noise control equipment is correctly fitted and operating at design performance.
- Regular Noise monitoring will be conducted at the boundary of 150 Claisebrook Road (Rainbow Lodge backpackers) East Perth, during night operations and reviewed by the Site Operations Manager to evaluate the effectiveness of noise control measures. An Environmental Noise Survey Report will be prepared to record the results of the noise monitoring and demonstrate compliance with the Environmental Protection (Noise) Regulations 1997.
- The noise monitoring location will be reviewed on an annual basis by the City of Vincent, Holcim and an acoustic consultant agreed by both parties.

## Performance Indicators

- Zero noise incidents or complaints.
- Compliance with Environmental Protection (Noise) Regulations 1997.

# Accountabilities

| Role | Accountability |
|---|---|
| **Site (Operations) Manager** | • Ensure that all personnel who report to you are aware of and conform to this procedure.<br>• Ensure the process for awarding and varying contracts requires internal environmental approval (where the contract has an environmental aspect).<br>• Ensure the site conditions of contract include noise management requirements.<br>• Ensure plant and machinery is regularly inspected and maintained to ensure they are operating correctly and noise control equipment is fitted properly.<br>• Ensure the Site Complaints Handling System is maintained and that appropriate actions is taken within two working days if required.<br>• Ensure noise monitoring is carried out regularly during night operations.<br>• Review and, if necessary, update this plan every 12 months or earlier if monitoring indicates that changes to noise levels are required. |
| **All Persons** | • Conform to this procedure at all times.<br>• Ensure issued hearing protection is worn when required.<br>• Ensure plant, machinery and vehicles are operated correctly to minimise noise emissions.<br>• Ensure any incidents (noise complaints) are reported to the Operations Manager. |

# Review, Revision and Reporting

This EMP will be reviewed and reported annually to the City of Vincent. Holcim will also audit the EMP under its SHE MS.

# Traffic Management

## Objectives

1. To ensure the safe and environmentally responsible operation of vehicles in and around the Site.
2. Ensure that all vehicle drivers are appropriately informed about the impacts of heavy vehicle use and related impacts of dust and noise onsite and on the surrounding community.

## Scope

This procedure applies to all activities and all personnel, contractors and visitors at the Site at all times.

## Related Documents

The following documents relate to traffic management at the Site and should be consulted where applicable. This list is not exhaustive and other SHE MS Guideline Documents and legislative requirements may also apply.

- SHE Guideline 3.14: Traffic Management
- SHE Guideline 3.16: Road Vehicles and Transport
- SHE Guideline 2.4: Contractor Management
- SHE Guideline 3.01: Risk Management
- Road Traffic (Vehicle Standards) Regulations 2002
- Road Traffic (Vehicle Standards) Rules 2002.

## Management Strategy

### General

The following management practices will be adopted in order to meet the objectives of the EMP:

- All staff and contractors will be informed of the requirements of this EMP.
- Raise the awareness of the workforce about the traffic management plan. All employees, including drivers, will undergo site specific awareness training during inductions. The traffic component of the training will include:
    - Awareness of the day and night operations truck routes.
    - Awareness of speed limits onsite and offsite.
    - Awareness training in the operation of trucks and other vehicles to minimise noise emissions.
    - Awareness of driving techniques, such as not using engine brakes, to minimise noise and improve safety.
    - Awareness of public and employee safety.
    - All employees undertake environmental and safety training, as well as refresher training, and will be informed of the new night operations requirements.
- Clear signage will be established and maintained onsite to assist in safe operation of vehicles.

### Minimisation and Control

- Between the hours of 7 pm and 6 am, all vehicles and persons entering or exiting the Site must do so via Claisebrook Road gates. The Caversham Street gates will be closed during night operations.
- Concrete trucks must enter the Plant building loading bay from the west, exit the loading facility via the east of the building, move to the night Slump Stand located adjacent to the washout pits/ground bin building, and then exit via Claisebrook Road (Figure 2).
- All vehicles will operate within the Site speed limit of 10 km/hour.
- All drivers will be advised to comply with the designated speed limits in built up areas outside of the Site.
- All Drivers will be advised to comply with the Road Traffic Code 2000.
- All concrete trucks will be washed regularly at the Slump Stand (the night Slump Stand during night operations) to reduce the possibility of dust being carried onto public roads (Figure 2).
- Hazards associated with traffic will be regularly reviewed in Site safety/toolbox meetings.

## Monitoring and Performance Indicators

### Monitoring

- Where practical, traffic monitoring will be undertaken daily by the Operations Manager to ensure all vehicles are following management procedures.
- Regular 'toolbox' meetings will discuss the implementation and practicality of traffic management procedures.

### Performance Indicators

- Zero incidents or complaints relating to dust, noise and safety related to Holcim vehicle traffic.

## Accountabilities

| Role | Accountability |
|---|---|
| **Site (Operations) Manager** | • Ensure that all personnel who report to you are aware of and conform to this procedure.<br>• Ensure the process for awarding and varying contracts requires internal environmental approval (where the contract has an environmental aspect).<br>• Ensure the site conditions of contract include transport management requirements. |
| **All Persons** | • Conform to this procedure at all times. |

## Review, Revision and Reporting

This EMP will be reviewed annually and reported to the City of Vincent. Holcim will also audit the EMP under its SHE MS.

# Complaints Handling System

## Objectives

To ensure effective communication between nearby occupants and residents and Site Management; by recording any complaints and responding directly to the complainant until the source of the incident is verified and resolved as far as is practicable.

## Scope

All stakeholders; including but not limited to nearby residents, commercial business operators in the vicinity of the Site, City of Vincent and Holcim employees, contractors and visitors. The Complaint Handling System applies to any area which may be affected by the Site's activities or roads around the Site.

## Related Documents

- SHE Guideline 4.5: Right to Know Reporting;
- SHE Guideline 4.6: Community Awareness
    - Attachment 4.6 A: Holcim Complaints Form
- SHE Guideline 4.7: Environmental Objectives, Targets and Performance Indicators
- SHE Guideline 5.1: Incident Reporting, Recording & Investigation
    - Attachment 5.1R: Example of 5 Why's
- SHE Guideline 5.3: Audits
    - 12.7 Instructions for Environmental Self-Assessment
    - Attachment 5.3C: Environmental Management System Audit Worksheet.

## Management Strategy

### General

To effectively manage community health, safety and environment concerns, Holcim has implemented a Complaints Handling System. Complaints and enquires will be recorded in the Complaints and Enquiries Register (Appendix C). The register will record the date, nature, and resolution of any action from a complaint.

Within two working days of a complaint being made, the complaint will be recorded on the Complaints and Enquiries Register, investigated by the Operations Manager and a response sent to the complainant if necessary. Actions will then be taken to resolve the point of conflict.

All complaints will be directed to the East Perth Site office.

- Phone: (08) 9227 6783, Fax: (08) 93288987
- After hours (outside of 6am and 7pm): Call the Site office number above and if unattended call 131 188.

- Email: craig.malcom@holcim.com (Operations Manager) until further notice.

A sign will be placed on the front and side gates of the Site to inform the public of the above information.

Within 28 days of commencement of night operations, Holcim will place an advertisement in the local community newspapers and undertake a letter drop of the streets surrounding the Site to inform the local community of the Complaints Handling System and the Site's 24 hour contact details.

The Complaints Handling System will be manned during all hours of operation to log complaints and enquires. It is noted that the Site may not be operational every day for 24 hours as the night operations will depend on the demand for concrete, and the Complaints Handling System will not be manned if the site is not operational (see Appendix A).

# Monitoring and Performance Indicators

## Monitoring

The Complaints Handling System will be monitored during operations. The Operations Manager and/or Duty Manager will maintain contact with any complainant until the source of the incident is verified and resolved as far as is practicable.

## Performance Indicators

- The Operations Manager and/or Duty Manager maintaining contact with any complainant until the source of the incident is verified and resolved as far as is practicable.

# Accountabilities

| Role | Accountability |
|---|---|
| **Site (Operations) Manager** | • Ensure that all personnel who report to you are aware of and conform to this procedure.<br>• Ensure the Site Complaints Handling System is maintained and that appropriate actions is taken within 48 hours if required.<br>• Review and, if necessary, update this plan every 12 months or earlier if monitoring indicates that changes to dust, noise, traffic, and/or complaints management are required. |
| **All Persons** | • Conform to this procedure at all times.<br>• Ensure complaints are directed to the Operations Manager for recording and response. |

# Review, Revision and Reporting

This EMP will be reviewed annually and reported to the City of Vincent. Holcim will also audit the EMP under its SHE MS. A record of complaints and enquiries lodged, as well as Holcim's follow up actions, will be provided to the City of Vincent on a quarterly basis for its monitoring information.

# Damage to Public Infrastructure

## Objectives

1. To ensure that any damage caused by Holcim's vehicles to roads/verges and footways and to any other infrastructure items located within the local area, is reported to Site management immediately.
2. To ensure that any damage caused by vehicles entering and exiting the Site is repaired at Holcim's expense.

## Scope

This procedure applies to trucks that use the City of Vincent's roads in the vicinity of the Site and transport materials to and from Site.

## Related Documents

The following documents relate to damage to the City of Vincent's infrastructure:

- Road Traffic Act 1974-1982
- Local Government Act 1995.

## Management Strategy

All drivers entering/exiting/ the Site shall be made aware of these objectives.

## Monitoring and Performance Indicators

- Where practicable the City of Vincent's representative together with the Holcim Operations Manager shall inspect all affected streets at least once every three months or sooner, if deemed urgent, as determined by the City of Vincent.
- Where it is agreed, in writing, between the two parties, that the damage was caused by the operations associated with the batching plant, the City will undertake the rectification works.
- Holcim shall submit to the City an 'infrastructure maintenance' bond of $5,000.
- Any agreed (in writing) repairs will be funded from this bond and bond 'topped up' within 14 days of the amount being expended to ensure that a $5,000 bond is held at all times.
- If the value of the repairs exceeds the value of the bond Holcim will be required to fund any shortfall in funds over and above $5,000.
- Holcim is not required to pay further bond where the City has used funds in a way which is contrary to Holcim's approval; and
- Holcim is not required to pay for damage caused to infrastructure which, in Holcim's view, has resulted from failure by the City to consult with Holcim about changes to infrastructure and Holcim is not required to pay a further bond thereafter.

# Appendix A – Notice of Determination of Application by the Minister for Planning; Culture & the Arts; Science & Innovation, dated 22 May 2012

**Minister for Planning; Culture & the Arts; Science & Innovation**
**Government of Western Australia**

Our ref: 33-16340

Mr Jamie Harrington
HOLCIM AUSTRALIA PTY LTD
PO Box 1269
BENTLEY DC WA 6983

Dear Mr Harrington

**HOLCIM AUSTRALIA PTY LTD AND CITY OF VINCENT: DR 225/2011**

I have considered the State Administrative Tribunal's recommendations as provided in DR 225/2011 and I agree with the Tribunal's recommendations. I have determined that the application for review is allowed, and the deemed refusal of the respondent is set aside and conditional approval is granted. I attach a notice which gives effect to my decision.

Pursuant to the requirements of s247(4)(a) of the Planning and Development Act 2005, you are advised that the reasons for my determination on the application are those set down in DR 225/2011.

In summary, I determined that Holcim Australia Pty Ltd be given conditional approval to operate for a further five years, during which time the necessary strategic planning framework should be finalised to indicate clearly the ultimate development intent for the subject land. I have written to the Western Australian Planning Commission to request that this planning be commenced and carried out as a priority, in liaison with the City of Vincent, in order to provide certainty to all parties with an interest in the future of the area.

Yours sincerely

**JOHN DAY MLA**
**MINISTER FOR PLANNING;**
**CULTURE AND THE ARTS**

Att 22 MAY 2012

cc Ms Margie Tannock, Partner, Squire Sanders

11th Floor, 2 Havelock Street, West Perth, Western Australia 6005
Telephone: +61 8 6552 6200 Facsimile: +61 8 6552 6201 Email: Minister.Day@dpc.wa.gov.au

## NOTICE OF DETERMINATION OF APPLICATION BY MINISTER

**Pursuant to section 246 of the *Planning and Development Act***

The Minister for Planning has pursuant to the provisions of Section 246(2)(b) of the *Planning and Development Act 2005* in the matter of Holcim Australia Pty Ltd and the City of Vincent determined the application for review as follows:

1. Planning approval be given for the development of the applicant's East Perth concrete batching plant, subject to the following conditions:

    1) This approval is granted for a term expiring on 16 October 2017.

    2) This approval authorises concrete batching operations and access to the site by trucks and semi-trailers at any time between Monday and Saturday inclusive.

    3) There is to be no access to the site by trucks and semi-trailers on Sundays or public holidays.

    4) Within one calendar month of the grant of approval, the applicant must submit to the City for its approval and thereafter implement either an updated version of the Environmental Management Plan East Perth Concrete Batching Plant (Holcim) dated 24 March 2011, or a new environmental management plan which addresses the following matters:

        a. Noise management for on-site activities;

        b. Dust and concrete waste management including regular washing down of trucks before exiting the site, dust control on-site and the regular sweeping and cleaning of materials spilled on surrounding roads;

        c. A traffic management plan for all vehicles entering and exiting the site, including driver education in regard to truck routes, vehicle speeds, and operations to minimise disturbance and public safety concerns;

        d. The implementation of a complaint handling system which provides:

i. A telephone number, facsimile number and email address to be manned during all hours of operation to log complaints and enquiries; and

ii. A record of complaints and enquiries logged, and the applicant's response, which must be provided on a quarterly basis to the City for its monitoring information;

e. The annual review of the environmental management plan after each year following the grant of approval; and

f. The inclusion in the environmental management plan of any addenda necessary to address any specific matter identified by either the Applicant or the Respondent between annual reviews, which addenda are to form part of the environmental management plan.

5) The development must be carried out in accordance with the recommendations made in the Herring Storer Acoustics Noise Management Plan (Ref: 12645-3-10164), or other Noise Management Plan approved by the City, including in particular, but without limitation:

a. Reverse the truck access route during night operations (7pm to 6am), so mixing trucks enter the loading area from the west, travel east through the loading bay building, then move to the night slump stand, located behind the existing delivery shed then following slumping, they turn within the site and exit via Claisebrook Road;

b. The installation of an automatic door on the western entry point of the loading area, similar to that which is installed on the eastern side; and

c. Ensuring that the personnel entry door to the production tower is not left open between 7pm and 7am.

6) Prior to the issue of a building licence for this development, the following shall be submitted to and approved by the City:

a. An amended plan detailing:

   i. Material, colour and a minimum of two significant design features being incorporated in the proposed sound attenuation wall to reduce the visual impact on the adjoining properties; and

   ii. Relocated footpath, footpath material, separation between proposed crossover and Westrail crossover, type, material and finish of proposed gate, which is to be visually permeable, curved mirror and appropriate internal warning signs; and

b. A construction management plan addressing the following issues:

   i. Public safety, amenity and site security;

   ii. Contract details of essential site personnel;

   iii. Construction operating hours;

   iv. Noise control and vibration management;

   v. Air and dust management;

   vi. Waste management and materials re-use;

   vii. Parking arrangements for contractors and subcontractors;

   viii. Consultation plan with nearby properties; and

c. A detailed landscape and reticulation plan for the development site and adjoining road verge drawn to scale of 1:100 showing the following:

   i. The location and type of existing and proposed trees and plants;

   ii. All vegetation including lawns;

   iii. Areas to be irrigated or reticulated and the method to be used;

   iv. Proposed watering system to ensure the establishment of species and their survival during the hot and dry months; and

   v. Separate soft and hard landscaping plans (indicating details of materials to be used).

7) The following plans, as approved by the City, shall be implemented:

a. The amended plan referred to in condition 6(a);

b. The construction management plan referred to in condition 6(b); and

c. The landscaping and reticulation plan referred to in condition 6(c).

**JOHN DAY**
**MINISTER FOR PLANNING;**
**CULTURE AND THE ARTS**

21.5.2012.

*Reasons for decision:*

*Holcim Australia Pty Ltd applied for development approval to allow the continuing operation of an existing concrete batching plant in East Perth. Holcim Australia Pty Ltd then sought review of the City of Vincent's deemed refusal of that decision by the State Administrative Tribunal. The Minister for Planning considered that the application to the Tribunal raised issues of such regional importance that it was appropriate for the application to be determined by the Minister. The Minister directed the Tribunal to hear the application but, without determining it, to refer it with recommendations to the Minister for determination.*

*The matter was heard before the Tribunal on 1-2 March 2012 and the result and the reasons for the recommendations of the Tribunal are provided in DR 225 2011, which result and reasons are accepted by the Minister for Planning.*

*In summary, the Minister has determined that Holcim Australia Pty Ltd be given conditional approval to operate for a further five years, during which time the necessary strategic planning framework should be finalised to indicate clearly the ultimate development intent for the subject land.*

# Appendix B – Noise Management Plan for Night Operations (Herring Storer Acoustics)

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
**HERRING STORER ACOUSTICS**
Suite 34, 11 Preston Street, Como, W.A. 6152
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# HOLCIM

# PROPOSED
# BATCHING PLANT OPERATIONS

## 120 CLAISBROOK ROAD, EAST PERTH

## NOISE MANAGEMENT PLAN

DECEMBER 2010

OUR REFERENCE: 12645-2-10164

DOCUMENT CONTROL PAGE

# NOISE MANAGEMENT PLAN
## 120 CLAISBROOK ROAD, EAST PERTH

Copy #1

Job No: 10164

Document Reference: 12645-2-10164

FOR

# HOLCIM

| **DOCUMENT INFORMATION** | | | |
|---|---|---|---|
| **Author:** | Paul Drew | **Checked By:** | |
| | | | |
| **Date of Issue :** | 23rd March 2011 | | |

**REVISION HISTORY**

| Revision | Description | Date | Author | Checked |
|---|---|---|---|---|
| 1 | Report | 8/12/10 | PD | |
| | | | | |
| | | | | |

**DOCUMENT DISTRIBUTION**

| Copy No. | Revision No. | Destination | Hard Copy | Electronic Copy |
|---|---|---|---|---|
| 1 | 2 | Holcim | | ✓ |
| 1 | 2 | Allerding & Associates | | ✓ |
| | | | | |

# CONTENTS



# APPENDICES

# EXECUTIVE SUMMARY

Herring Storer Acoustics (HSA) was commissioned by Holcim Pty Ltd to complete a noise impact assessment and noise management plan of their current operations and proposed operations if modifications are made to the slumping area and addition of acoustic barrier walls.

The purpose of this report is to examine the noise associated with the concrete batching plant and assess noise emissions in accordance with the *Environmental Protection (Noise) Regulations* 1997.

In addition, this report presents a Noise Management Plan that has been prepared generally in accordance with the Department of Environment Draft *Compliance Monitoring & Reporting: Guidelines for Proponents – Preparing Environmental Management Plans,* May 2006.

This report examined the noise associated with the proposed operations and assessed noise emissions in accordance with the *Environmental Protection (Noise) Regulations* 1997 (the Regulations). It also presented a Noise Management Plan for the proposal. By employing these noise management practices, it is expected that the noise associated with the Holcim operations will comply with the applicable noise Regulations.

# 1.0 INTRODUCTION

Herring Storer Acoustics (HSA) was commissioned by Holcim Pty Ltd to complete a noise impact assessment and noise management plan for future proposed operations. The proposal covers modifications to reduce environmental noise impacts from day operations, and also provisions for 'night operations' similar to the current license conditions.

The typical day operations commence from 6am through to 7pm, although on most days activity at the East Perth site significantly reduces after 4pm. The main plant modifications which will have an impact on noise emissions are a new covered slump stand backing onto the north-west corner of the site, and acoustic barrier walls filling the gaps to the existing materials shed and the western boundary. Relocation of the truck exit further south on Claisebrook Road is also expected to reduce the impact of truck generated noise.

Night operations are proposed (when required prior to 6am) to use only the Claisebrook Road entry, with slumping at a dedicated slumping stand on the south side of the materials shed during the night period.

In addition to the above, there is ongoing effort to minimize noise emissions from the site, with a recent installation of an acoustically attenuated fixed site blower for tanker unloading so that noisier tanker blowers can be bypassed during unloading operations. Noise levels from attenuated blower system are some 9 dB(A) lower than for a standard truck blower and further attenuation is planned for this blower system.

Across Caversham Road, at a distance of approximately 25m from the Holcim property boundary, is the "Youth with a Mission" accommodation and educational facility. This facility is located within 100m of the Graham Farmer Freeway, and the adjacent railway corridor. Along the Holcim property boundary is a 10m high fully enclosed shed, used for receiving aggregates. This provides a significant screen between the site activities and the adjacent residences. There is a domestic residence further north along Claisebrook Road, indicated as R2 in Appendix A .

This report presents a Noise Management Plan for Holcim East Perth Operations that has been prepared generally in accordance with the Department of Environment Draft *Compliance Monitoring & Reporting: Guidelines for Proponents – Preparing Environmental Management Plans,* May 2006.

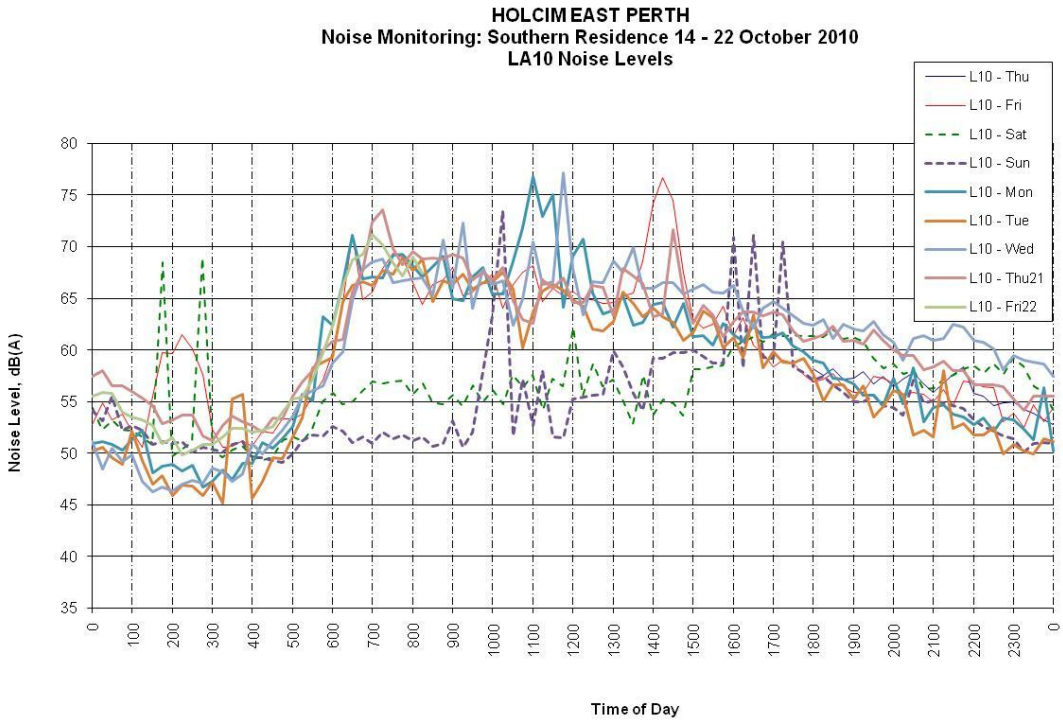
Regulation 3 of the Regulations states that it is not applicable to apply the limits to noise associated with vehicles from the site using the adjoining roads. It also adds that it does not apply to noise emissions associated with safety warning devices fitted to motor vehicles using the site. Although these do not need to be addressed under the Regulations, both vehicles traveling along the adjoining roads and reversing alarms are capable of causing noise disturbance to nearby residences. Holcim have adopted the strategy of minimizing the impact of vehicle generated noise where practical.

# 2.0 CURRENT OPERATIONS

At the time of making this assessment, current operations are generally limited to the period 6am – 7pm. The operational Noise Management Plan has provision for night operations, being predominantly based on cement truck entry and exit via Claisebrook Road, and slumping on the south side of the materials shed.

The day operations consist of concrete trucks entering off Caversham Street, slumping in the existing slump stand (as per Appendix A) and exiting via Claisebrook Road. During the day tankers deliver cement, trucks deliver aggregate and sand and there is occasional use of a front end loader for cleanup of slump pits.

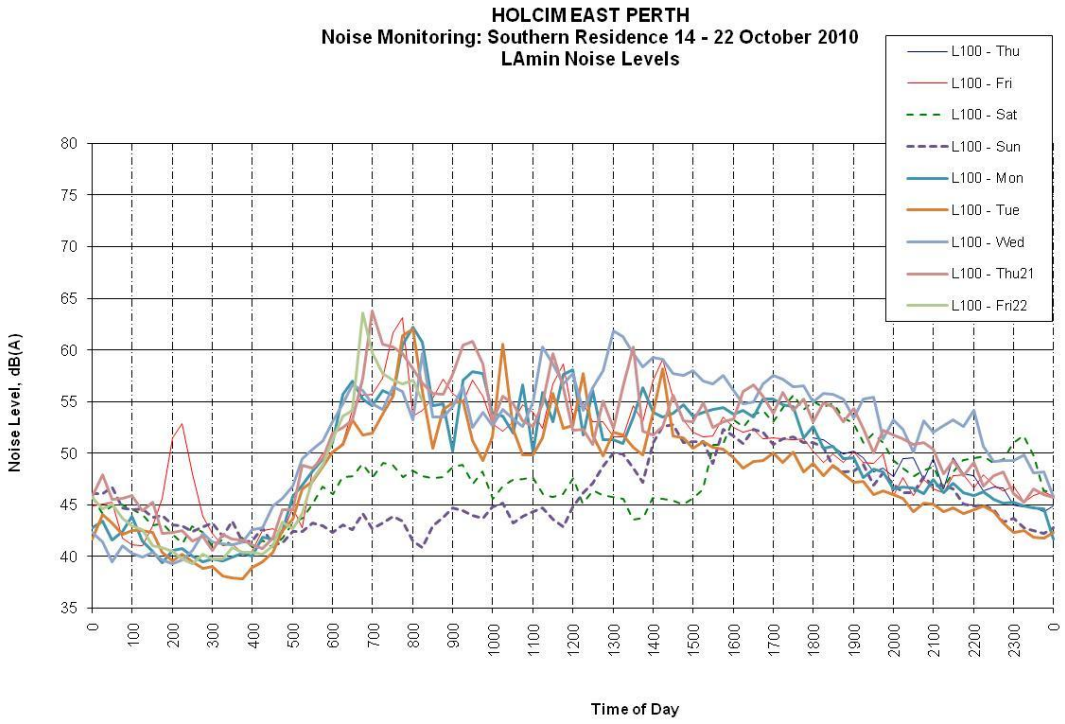
Statistical noise level measurement was conducted for a week at the roof level (first floor level) of the Youth With a Mission building (access provided by YWAM). The measured noise levels are dominated by road traffic on Caversham Road (including truck traffic using the Caversham Road Holcim entry). The measured noise levels show the change in background noise on weekends when not only is Holcim operations significantly reduced, but general traffic noise from the Graham Farmer Freeway, railway and local roads is also reduced.




The daytime 'assigned level' is an $L_{A10}$ of 61 dB(A) at Youth With A Mission receiver location. The background noise for much of the day period exceeds this level, due to a combination of local and Freeway traffic, with some influence from Holcim operations. This is supported by the equivalent 'minimum' measured noise levels, which are typically 55 dB(A) for the fifteen minute statistical measurement periods, showing that the measured noise levels vary over time.

It is not possible to separate the contribution from Holcim operations from the traffic / background noise based on the measured levels. However, acoustic modeling (and previous observations) indicate that Holcim predicted noise emissions are generally significantly less than the levels measured during the monitoring (the predictions do not include exempted traffic on Caversham Street). We understand that although activities vary on a daily basis, the majority of truck movements are between 6.00am –2.00pm, and there are few trucks after 4pm. The graphs do not show a sudden decrease in noise emissions when Holcim operations cease for the day, indicating that local traffic noise and background Freeway noise are significant contributors to the measured noise levels.

The 'night time' measured levels only decrease below the $L_{A10}$ assigned level of 51 dB(A) between the hours of midnight – 5am on some of the measurement nights. Therefore Holcim's noise impact during 'night periods' is unlikely to be significant. This is based on the predicted noise emissions for the 'night operation' mode as Youth With A Mission occupants are unlikely to notice much change in audible noise during night operations compared to existing background noise levels.




Measurements of each of the slumping and loading processes have indicated the noise levels were not tonal, modulating or impulsive. Therefore no adjustments to the testing undertaken have been for these noise characteristics.

# 3.0 PROPOSED OPERATIONS

## 3.1 PROPOSED DAY OPERATIONS

Day operations are proposed to be modified from the existing in that concrete trucks will enter the site via Caversham Street entry, fill and then slump at the proposed new covered slumping area. The proposed new slumping area (Appendix B) has been designed to attenuate slumping noise to the north and east, reducing the potential environmental noise impact on existing and future residential premises. The trucks will then leave the site via the proposed new exit on Claisebrook Road.

Day operation times are proposed to be from 6am weekdays up until 7pm, although normally the majority of truck activity will be from 6.00am to 2.00pm.

### 3.2 PROPOSED NIGHT OPERATIONS

The proposed night operations will include truck loading, and slumping. It is understood that the loader will not be used. Truck movements on site will be minimal; generally they will be arriving on site, loading then leaving, instead of lining up as they do in the daytime.

It is proposed that during night operations trucks will only enter or leave the site from the Claisebrook Road gate, avoiding generation of traffic noise along Caversham Street. Slumping is to occur on the south side of the materials building, maximizing the acoustic barrier attenuation to residential premises to the north. Loading of trucks will be behind a closed roller door, limiting noise emissions from this part of the process.

The proposed night operations are to facilitate early morning concrete pours, Monday to Saturday inclusive. On rare occasions particular construction projects may require operation through the night.

## 4.0 ENVIRONMENTAL CRITERIA

The principal environmental objective is to minimise noise received at nearby residential premises and to not exceed the stipulated criteria of the Regulations.

The Regulations stipulate allowable noise levels at any noise sensitive premises, such as residential dwelling, home or institution for persons requiring medical or rehabilitative treatment or educational facility, from another premises. The allowable noise level is determined by the calculation of an influencing factor, which is added to the baseline criteria set out in Table 4.1 of the Regulations.

**TABLE 4.1 – ASSIGNED OUTDOOR NOISE LEVELS**

| Premises Receiving Noise | Time of Day | Assigned Level (dB) | | |
|---|---|---|---|---|
| | | $L_{A10}$ | $L_{A1}$ | $L_{Amax}$ |
| Noise sensitive premises | 0700 - 1900 hours Monday to Saturday | 45 + IF | 55 + IF | 65 + IF |
| | 0900 - 1900 hours Sunday and Public Holidays | 40 + IF | 50 + IF | 65 + IF |
| | 1900 - 2200 hours all days* | 40 + IF | 50 + IF | 55 + IF |
| | 2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays* | 35 + IF | 45+ IF | 55 + IF |

*Represent relevant criteria for this application

It is a requirement that noise from the site be free of annoying characteristics (tonality, modulation and impulsiveness) at another premises, defined as per Regulation 9 as:

> "impulsiveness" means a variation in the emission of a noise where the difference between $L_{Apeak}$ and $L_{Amax}$ slow is more than 15 dB where determined for a single representative event;
>
> "modulation" means a variation in the emission of noise that –
> (a) is more than 3dB $L_{A\ fast}$ or is more than 3dB $L_{A\ fast}$ in any one-third octave band;

(b) is present at least 10% of the representative assessment period; and
(c) is regular, cyclic and audible;

*"tonality" means the presence in the noise emission of tonal characteristics where the difference between –*
(a) the A-weighted sound pressure level in any one-third octave band; and
(b) the arithmetic average of the A-weighted sound pressure levels in the two adjacent one-third octave bands,
is greater than 3dB when the sound pressure levels are determined as $L_{Aeq, T}$ levels where the time period, T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ slow}$ levels.

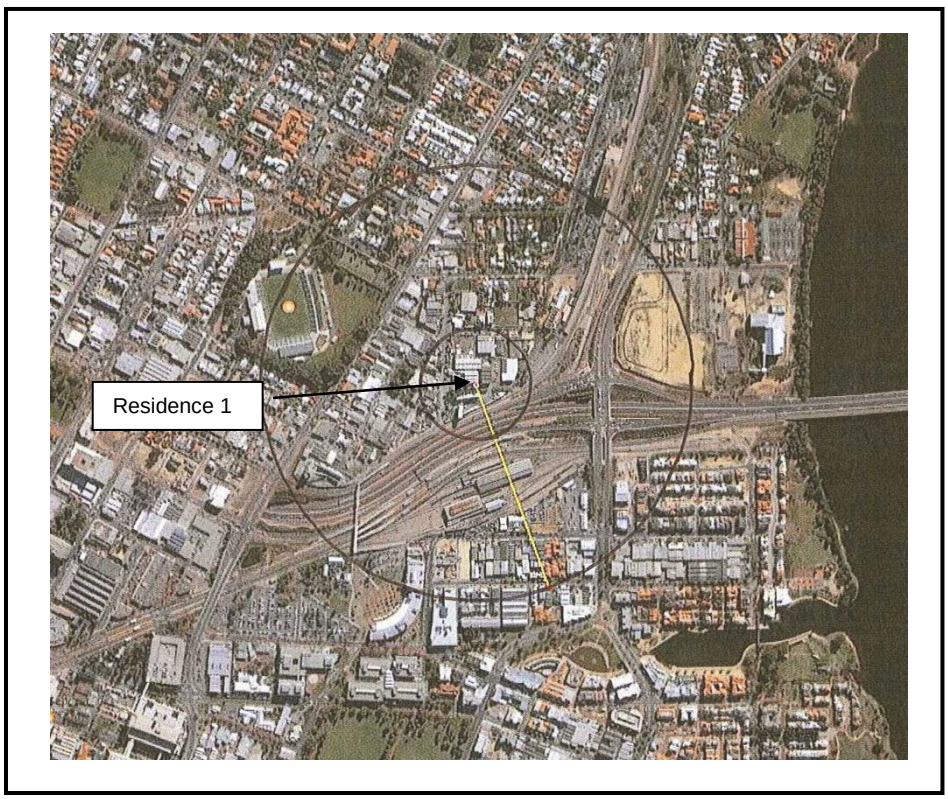
Where the above characteristics are present and cannot be practicably removed, the adjustments shown in Table 4.3 are made to the measured or predicted level at the receiving premises.

**TABLE 4.2 – ADJUSTMENTS TO MEASURED LEVELS**

| Where **tonality** is present | Where **modulation** is present | Where **impulsiveness** is present |
|---|---|---|
| +5 dB(A) | +5 dB(A) | +10 dB(A) |

The influencing factor has been calculated based on the100m and 450m radii concentric circles shown in Figure 1.

**FIGURE 1: INFLUENCING FACTOR**




Based on the location of the residences and the nearby industrial premises, the influencing factor has been calculated to be 16 for Residence 1 (Youth With a

Mission) and 15 for Residence 2 (Claisebrook Road). Table 4.5 shows the 'assigned noise levels' at the nearest residence, Youth With A Mission.

**TABLE 4.3 – ASSIGNED NIGHTTIME NOISE LEVELS AT RESIDENCES**

| Premises Receiving Noise | Time of Day | Assigned Noise Level (dB) | | |
|---|---|---|---|---|
| | | $L_{A10}$ | $L_{A1}$ | $L_{Amax}$ |
| Noise sensitive premises | 0700 - 1900 hours Monday to Saturday | 61 | 71 | 76 |
| | 1900 - 2200 hours all days | 56 | 66 | 71 |
| | 2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays | 51 | 61 | 71 |

Owing to the nature of the operations, it is considered appropriate to apply the $L_{A10}$ parameter to the majority of the activities on the Holcim site, including loading, slumping and the hopper.

# 5.0 NOISE IMPACTS

## 5.1 MEASURED NOISE LEVELS

Measurements of each of the slumping and loading processes have previously indicated the noise levels were not tonal, modulating or impulsive, therefore no adjustments have been made to the predicted noise levels.

Section 2 of this report includes results of noise monitoring at the nearest noise sensitive premises (Youth With A Mission).

## 5.2 PREDICTED NOISE LEVELS

Noise emissions from the site have been modelled using the acoustic modelling software "SoundPlan 7" and the Concawe algorithms in accordance with Draft 8 Guidance Note issued by the DEC.

The resultant noise level predictions are shown in Table 5.2. The predictions include three trucks slumping at within the proposed slump stand and the tanker unloading. This represents a likely worst-case scenario

**TABLE 5.1 – PREDICTED NOISE LEVELS**

| Location (Ref Appendix A) | Predicted Noise Level, $L_{A10}$ dB(A) | Complies with Assigned Noise Level $L_{A10}$ dB(A)? |
|---|---|---|
| **Day Operation – 3 trucks slumping** | | |
| Receiver RL1 | 55 | Yes |
| Receiver RL2 | 47 | Yes |
| **Night Operation – 1 truck slumping in night slump bay south of materials shed** | | |
| Receiver RL1 | 49 | Yes |

| | | |
|---|---|---|
| Receiver RL2 | 39 | Yes |

# 6.0 PERFORMANCE INDICATORS

The effectiveness of the Noise Management Plan will be reviewed against the following performance indicators:

- Compliance with the assigned noise levels in the Environmental Protection (Noise) Regulations 1997; and
- Noise complaints associated with night operations.

# 7.0 NOISE MANAGEMENT

## 7.1 OPERATIONAL NOISE MANAGEMENT

The management of day operation noise emissions is based on construction of a roofed slumping stand as shown on the drawing in Appendix C, concrete trucks leaving site via the new exit on Calisebrook Road and provision of a fixed and attenuated blower for tanker unloading. The predicted noise emissions from the Holcim East Perth site comply with the Regulation 'assigned levels' for the nominated 'day period'.

The predicted noise level acoustic modelling shows that for night operations the carrying out of slumping at a dedicated 'night' slumping stand will achieve compliance with the regulation requirements.

A dedicated night slump stand can be located at the existing truck washout area on the south side of the materials building. The night slump stand will be required to have a roof, along with a wall out from the delivery shed, following the line of the existing 1.2m high above ground pits. The roof should be lined with foil-faced insulation (or an alternative sound absorbing product) to minimise reverberation within the space. This location will allow the existing shed to form a significant barrier between the slumping stand and the nearest residences.

In addition to moving the slump stand during the night, there are a number of measures which will be implemented to minimise the impact on nearby noise sensitive receptors. These include:

- Reverse the truck access route, so mixing trucks enter the loading area from the west, travel east through the loading bay building, then move to the night slump stand, located behind the existing delivery shed; following slumping, they turn and exit via Claisebrook Road;
- The installation of an automatic door on the western entry point of the loading area, similar to that which is installed on the eastern side; and

- Ensuring that the personnel entry door to the production tower remains closed at all times during the night period, between 7pm and 7am.

In addition, measures to be implemented to minimise noise impacts during general operations both during the day and night:

- Using the quietest reasonably available equipment;
- Ensuring that plant and equipment is well maintained, regularly serviced and is in good working order;
- Ensuring all employees or contractors are trained in appropriate noise management practices;
- Ensuring ongoing consultation with key stakeholders to determine the success of noise management practices; and
- Ensuring adequate complaint response procedures.

### 7.2 VEHICULAR MOVEMENTS AND REVERSING ALARMS

Trucks and other vehicles entering the site via the Caversham Street gate have the potential to cause annoyance to the nearby noise sensitive receptors. Although vehicles travelling along roads are exempt from the Regulations, Holcim recognises that minimising vehicular traffic along Caversham Road during night hours can assist in reducing the impact of operations on Youth With A Mission occupants. It is proposed that the Caversham Street gate be closed during night hours.

Although not required to be assessed under the Regulations, reversing alarms installed on all of the trucks entering the site have the potential to annoy nearby residences. To minimise the impact of the reversing alarms, trucks being used during the night may be retrofitted with either *Directional* or *Broadband* reversing alarms. It is understood that Holcim already employs this practice at other sites.

## 8.0 ROLES AND RESPONSIBILITIES

The Environmental Manager for the Holcim site is responsible for the implementation and maintenance of this Noise Management Plan.

The Environmental Manager will also be responsible for ensuring that training and an awareness program are provided to all staff and contractors working on the site.

## 9.0 MONITORING

Following implementation of the noise control measures proposed in this Noise Management Plan, monitoring of noise emissions at the nearby Youth With a Mission premises is proposed to determine the effectiveness of the noise control and to identify any practises or environmental noise emissions that require further attention.

## 10.0 CONTINGENCIES

The management of noise emissions from the site will be reactive, in that any non-conformance indicated by the noise level monitoring and/or complaints will result in a review of the process will be triggered.

A Complaints Register has been established to receive, investigate and respond to any community complaints regarding the Holcim East Perth operations.

The Complaints Register includes:

- The name(s) of the complainant(s) if provided;
- Date and time;
- Nature of the complaint; and
- Resolution action undertaken.

The investigation into the complaint includes:

- Investigations into the operations and activities to identify the likely source of the event;
- Investigate further noise amelioration strategies and record corrective actions taken.

## 11.0 STAKEHOLDER INFORMATION

Relevant stakeholders include:

- The Town of Vincent Council;
- Department of Environment and Conservation; and
- Local community liaison groups.

## 12.0 AUDITING

The Site Manager is responsible for ensuring that all management actions as per the Noise Management Section of this document are carried out.

## 13.0 REVIEWS AND REVISION

The management measures defined in this plan, and the work instructions arising from it will be reviewed on a regular basis and amended if required. Effectiveness will be judged by the outcomes of the monitoring program, contingency procedures, key performance indicators and feedback from complainants and/or stakeholder consultation.

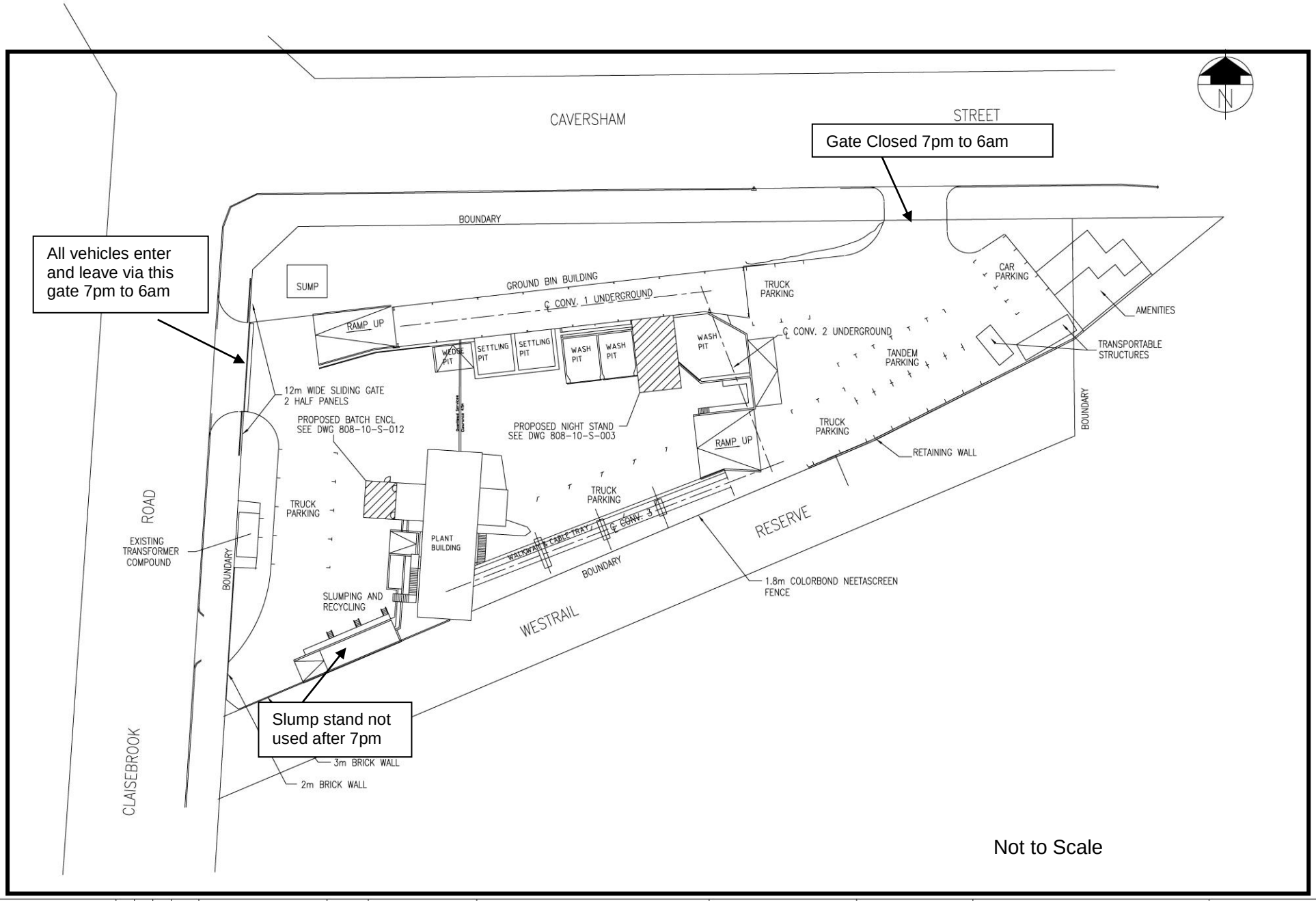
# APPENDIX A

AERIAL PHOTO OF SITE AND SURROUNDINGS


RL2
Youth with a Mission
RL1
Caversham St, Perth WA 6
Holcim Site
Commercial
Graham Farmer Freeway
Rail Corridor

# APPENDIX B

2010 SITE CONFIGURATION
WITH PROPOSED NIGHT OPERATION MEASURES




| No. | Details of Revisions | By | Chkd | Appr | Date | Reference Drawings | Drawing No |
|---|---|---|---|---|---|---|---|
| A | CAR/TRUCK PARKING REVISED | M.R.K | - | - | 07/02/12 | | |
| 0 | ISSUED AS PROPOSAL | M.R.K | - | - | 28/12/10 | | |



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31 ORESTES ST, SAN REMO
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Tel: +61 8 9583 3956
Fax: +61 8 6369 0843
MAXXAL Pty Ltd

THIS DRAWING DONE UNDER CONTRACT FOR HOLCIM AUSTRALIA

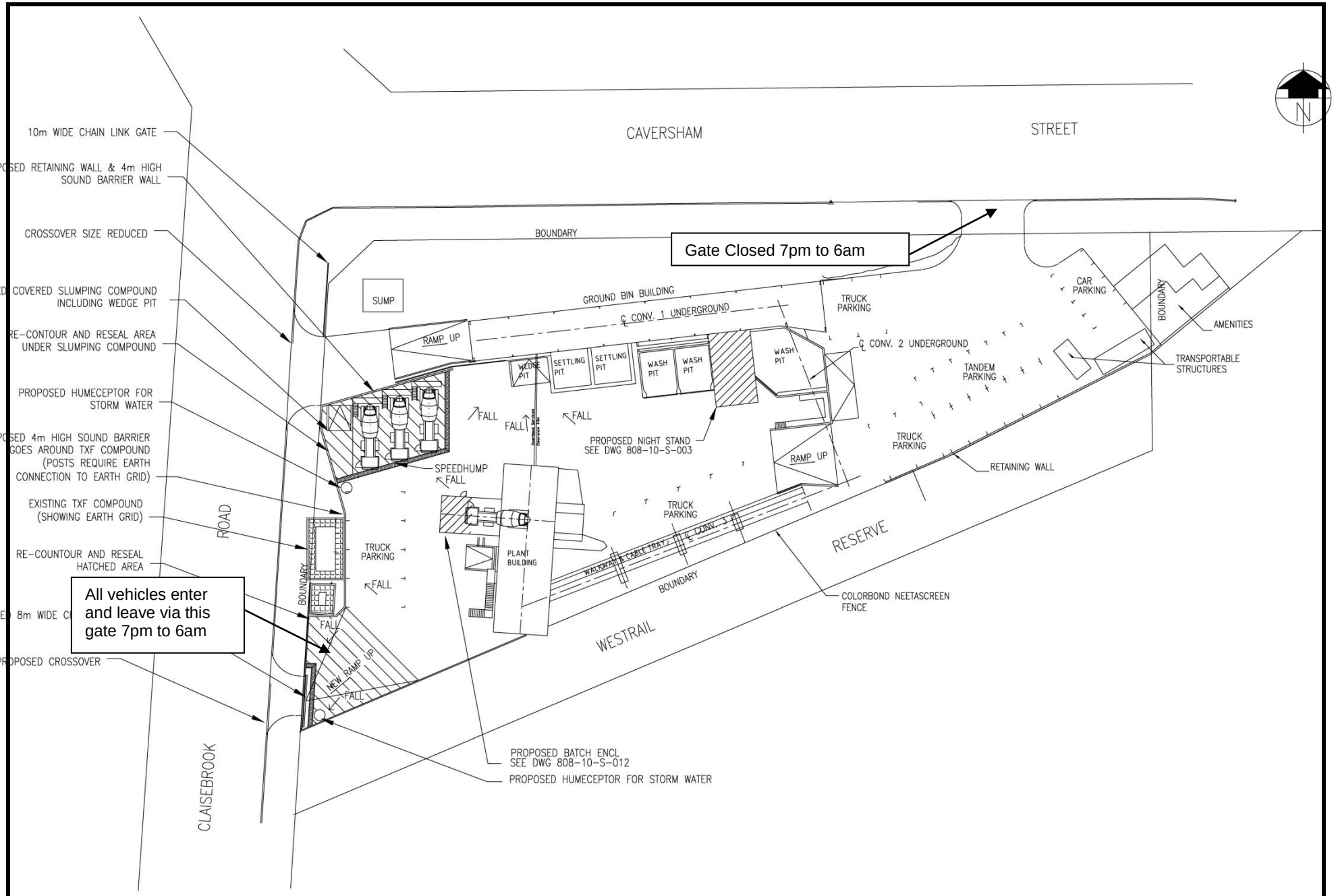
Holcim

| | |
|---|---|
| Designed | M.E.K |
| Drawn | M.R.K |
| Checked | M.E.K |
| Approved | M.E.K |
| Scale | 1:250 |

# EAST PERTH CONCRETE PLANT
## SOUND INSULATION PROJECT
## NEW NIGHT STAND & BATCH ENCL
## SITE PLAN
## PROPOSAL ONLY

| Drawing Number | Revision |
|---|---|
| MXL131-017 | A |
| HOLCIM Drawing Number | Size |
| | A1 |

# APPENDIX C
PROPOSED SITE CONFIGURATION




| No. | Details of Revisions | By | Chkd | Appr | Date | Reference Drawings | Drawing No |
|---|---|---|---|---|---|---|---|
| A | Re-orientated the slump stands | MEK | | | 15-03-11 | | |
| 0 | ISSUED AS PROPOSAL | M.R.K | - | - | 07/02/11 | | |



ACN 137750979
31 ORESTES ST, SAN REMO
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Fax: +61 8 6369 0843
MAXXAL Pty Ltd

THIS DRAWING DONE UNDER CONTRACT FOR HOLCIM AUSTRALIA

Holcim

| | |
|---|---|
| Designed | M.E.K |
| Drawn | M.R.K |
| Checked | - |
| Approved | - |
| Scale | 1:250 |

Not to Scale

EAST PERTH CONCRETE PLANT
SOUND INSULATION PROJECT
NIGHT STAND, BATCH ENCLOSURE & SOUND BARRIER WALLS
SITE PLAN

| Drawing Number | Revision |
|---|---|
| MXL131-021 | A |
| HOLCIM Drawing Number | Size |
| | A1 |

# APPENDIX D

Summary of Noise Management Measures

## APPENDIX D: Summary of Noise Management Measures

| Management Objective | Action | Performance Indicator | Timing | Responsibility |
|---|---|---|---|---|
| To ensure that noise from the day operations do not adversely impact on nearby noise sensitive residences | Provide a roofed slump stand with barrier walls (4m high) to the north-west part of the site, immediately south of the western entry to the materials building and provide an additional exit for concrete trucks on Claisebrook Road.<br>(Day operations) | Compliance with the assigned noise levels in the *Environmental Protection (Noise) Regulations 1997.* | During Day | Environmental Manager |
| To ensure that noise from the night operations do not adversely impact on nearby noise sensitive residences | Provide a Night slump stand to the existing truck washout area and install a roof and a wall out from the delivery shed, following the line of the existing 1.2m high above ground pits.<br><br>Reverse the site access process at night, so trucks enter the loading area from the west, and exit via the east of the building, then move to the night slump stand, located behind the existing delivery shed; following slumping, they turn and exit via Claisebrook Road<br><br>Provide an automatic door on the western entry point of the loading area;<br><br>Ensure that the personnel entry door to the production tower remains closed at all times during the night period, between 7pm and 7am;<br><br>Use of the quietest reasonably available equipment;<br><br>All employees or contractors are to be trained in appropriate noise management practices;<br><br>Ongoing consultation with key stakeholders to determine the success of noise management practices. | Compliance with the assigned noise levels in the *Environmental Protection (Noise) Regulations 1997.* | During Night | Environmental Manager |
| Monitoring | Following implementation of the noise control measures proposed in this Noise Management Plan, monitoring of noise emissions at the nearby Youth With a Mission premises is proposed to determine the effectiveness of the noise control and to identify any practises or environmental noise emissions that require further attention.<br><br>Measure noise emissions if there are repeated complaints about regular noise emissions. | | Day or Night | Environmental Manager |

# APPENDIX E

COMPLAINTS REGISTER

**APPENDIX E: OUTLINE OF COMPLAINTS REGISTER**

| Date | Name of Complainant | Address of Complainant | Date & Time of Noise Event | Nature of the Complaint | Remedial Action Taken | Responsible Officer |
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The investigation into the complaint should include:

- Investigations into the operations and activities to identify the likely source of the event;
- implement effective noise amelioration strategies and record corrective actions.

# Appendix C – Complaints and Enquiries Register

| Date | Name of Complainant | Address of Complainant | Nature of Complaint | Remedial Action Taken | Responsible Officer |
|---|---|---|---|---|---|
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# Noise and dust Complaints and Enquiries Register

| Ref No: | Date | Name of Complainant | Address of Complainant | Date and Time of Noise Event | Location of Dust Hazard | Nature of Complaint | Remedial Action Taken | Responsible Officer |
|---|---|---|---|---|---|---|---|---|
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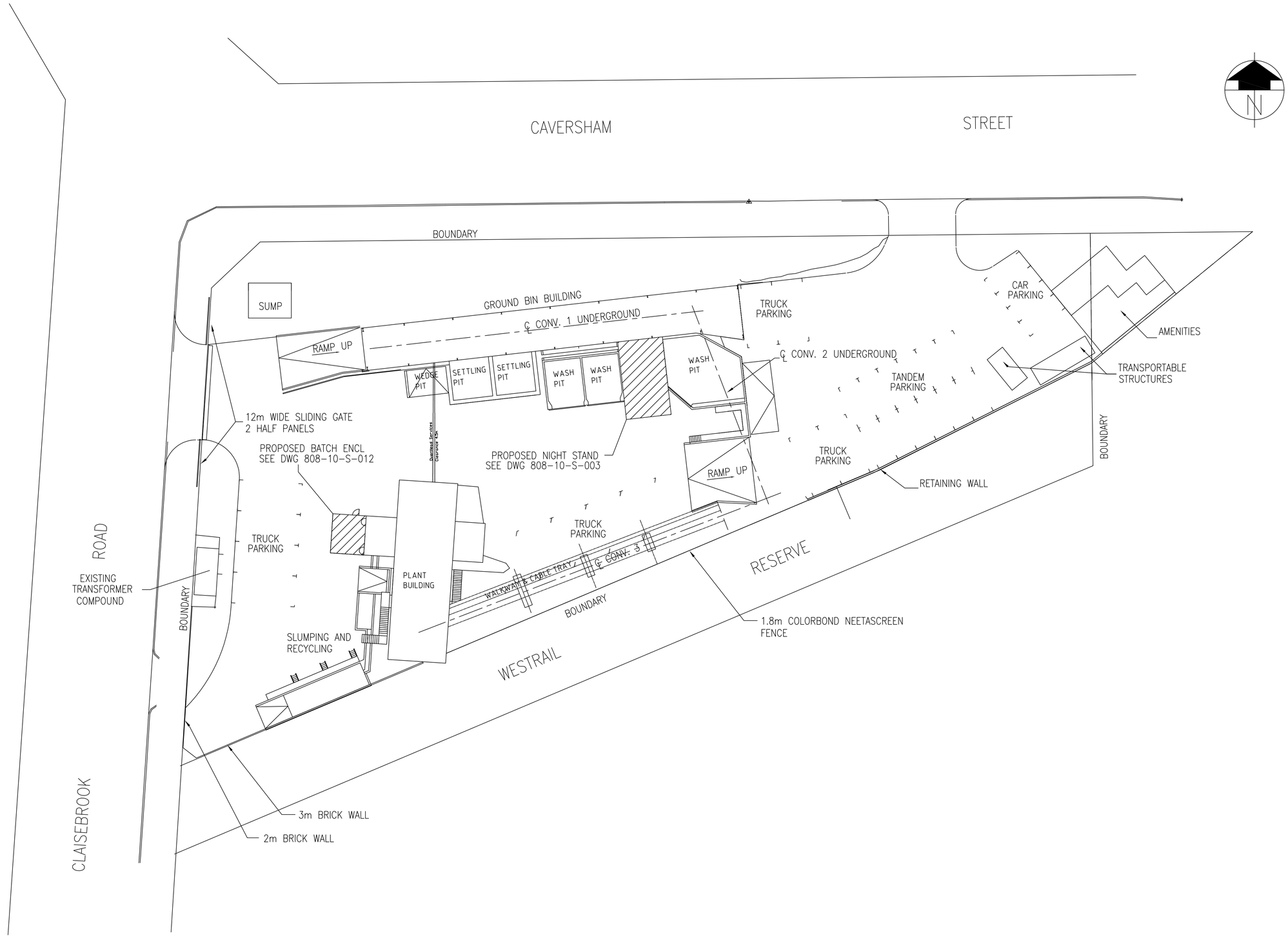
# Figures


| | | | | | |
|---|---|---|---|---|---|
| **Holcim (Australia) Pty Ltd** | **East Perth Concrete Batching Plant<br>Environmental Management Plan** | | | **Site Location<br>(Source: Google 2009)** | |
| URS | Drawn: JN | Approved:JN | Date: 28/10/2009 | **Figure: 1** | Rev.A |
| | Job No: 42907197 | | File No: n/a | | A4 |




| No. | Details of Revisions | By | Chkd | Appr | Date | Reference Drawings | Drawing No |
|---|---|---|---|---|---|---|---|
| A | CAR/TRUCK PARKING REVISED | M.R.K | - | - | 07/02/12 | | |
| 0 | ISSUED AS PROPOSAL | M.R.K | - | - | 28/12/10 | | |



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THIS DRAWING DONE UNDER CONTRACT FOR HOLCIM AUSTRALIA

Holcim

| | |
|---|---|
| Designed | M.E.K |
| Drawn | M.R.K |
| Checked | M.E.K |
| Approved | M.E.K |
| Scale | 1:250 |

# EAST PERTH CONCRETE PLANT
## SOUND INSULATION PROJECT
## NEW NIGHT STAND & BATCH ENCL
## SITE PLAN
## PROPOSAL ONLY

| Drawing Number | Revision |
|---|---|
| MXL131-017 | A |
| HOLCIM Drawing Number | Size |
| | A1 |

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