SC6.8 Concrete batching plants planning scheme policy

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1 Introduction

1.1 Relationship to planning scheme

This planning scheme policy:

1. provides information the Council may request for a development application;
2. provides guidance or advice about satisfying an assessment benchmark which identifies this planning scheme policy as providing that guidance or advice;
3. states a standard for the following assessment benchmarks identified in the table.

|  |  |  |
| --- | --- | --- |
| Column 1 –  Section or table in the code | Column 2 –  Assessment benchmark reference | Column 3 –  Standard in the planning scheme policy |
| Industry code | | |
| Table 9.3.12.3.A | AO1.6 | Section 2.1 |
| Table 9.3.12.3.A | AO8.3 | Section 2.2 |

1.2 Purpose

This planning scheme policy outlines standards to mitigate water and air pollution risks from concrete batching plant development.

1.3 Terminology

In this planning scheme policy, unless the context or subject matter otherwise indicates or requires, a term has the following meaning:

operational area: The operational or ‘contaminated’ area is the area that encapsulates the total area (including internal roads) of the land, excluding space occupied by aggregate storage, any buildings used for office or administration and any car park area utilised by staff and visitors

dirty area: is the area occupied by aggregate storage bins and aggregate handling area

clean area: is the area occupied by any buildings used for office or administration and any car park area used by staff

2 Standards

1. This section outlines the standards that can be used to satisfy assessment criteria to mitigate pollution risks from concrete batching plant development.
2. Alternative measures that achieve the same or better performance than the measures stated in this planning scheme policy may be used where justification is made to and accepted by Council.

2.1 Air quality and dust management standards

Development for a concrete batching plant is to include the standards outlined in this section to meet assessment criteria for air quality and dust.

2.1.1 Cement and fly ash handling facilities

1. All cement silos, hatches, inspection points and duct work for all equipment are to be rain and dust-tight.
2. The silo feed pipe is to be made of material able to withstand the effects of cementitious material. The delivery pipes are to be clearly labelled with the silo identification and material stored inside the silo.
3. The infill pipe is to be fitted with a butterfly or pinch valve, able to withstand high velocity product delivery, and located less than 1m above the fill point.
4. Silos are to be equipped with a high level sensor alarm and an automatic delivery shut-down switch to prevent overfilling.
5. A fabric filter incorporating a fabric-cleaning device such as a reverse pulse (or reverse jet) filter of an appropriate size is to be installed on each cement storage silo.
6. Silo discharge is to be controlled by an effective on/off valve, e.g. electronically controlled butterfly valve, fitted upstream of any flexible joints.
7. Failsafe actuators and valves are to be installed on the silo discharge valve to stop the flow of cement in an emergency.
8. The weigh hopper is to be totally enclosed and fitted with a filter system incorporating a fabric-cleaning device such as a reverse pulse (or reverse jet) filter of an appropriate size, on the cement silo/s, to prevent dust emissions.
9. A high level alarm probe is to be installed at the top of the weigh hopper. The alarm is to automatically shut-down the product delivery system to the weigh hopper in the case of a malfunction or an emergency.
10. A test circuit to test the operation of the high level alarm is to be installed.
11. The loading point of the agitator loading bay is to be designed to prevent the spillage of material.
12. The agitator loading point is to have water sprays or dust extraction similar to that described in 2.1.1(e) installed in the perimeter of the load point, set to start automatically whenever a batch is discharged.
13. The loading bay is to be roofed and enclosed on at least three sides for loading to minimise dust emissions.

2.1.2 Aggregates handling facilities

1. Aggregates are to be bulk stored in a bin (storage bay or bunker), with a design that minimises wind-blown dust and particulate matter).
2. The bin is to be roofed and enclose the stockpile on three sides. The walls are to extend 1m above the height of the maximum quantity of raw material kept at the facility, and extend 2m beyond the front of the stockpile to minimise dust emissions.
3. The bins, if not roofed, are to be fitted with water sprayers (coarse aggregate stockpiles only) which are to keep the material damp at all times, including deliveries, to minimise dust emissions. The spray nozzles are to emit spray that is fine enough to bind dust particles.
4. Where two-sided bins are utilised at the conveyor transfer point for temporary holding of sand and aggregates, these are to be fitted with water sprayers to keep the material damp at all times, including deliveries, to minimise dust emissions.
5. If overhead storage bins are used, these are to be fitted with water sprayers automatically activated prior to a front end loader or similar plant dumping material into it.
6. Conveyor transfer points, the conveyor, and the hopper discharge areas are to be covered to prevent dust from raw materials escaping into the atmosphere. Water sprays are to be provided where transfer points are not covered.
7. Conveyor belts are to be fitted with belt cleaners on the return side of the belt which ensure that any raw material collected by the belt cleaners is contained.

2.1.3 Cement weigh hoppers, agitator loading bay and slumping facilities

1. The weigh hopper is to be enclosed and vented through a fabric filter in accordance with section 2.1.1(e).
2. The load point outlet is to be made of material capable of withstanding continuous exposure to concrete ingredients. The chute or sleeve is to be long enough to prevent the spillage of material.
3. Slump stands should be designed so that trucks do not drive through slurry water generated by truck wash down.
4. Slump, truck wash down and drainage system are to be designed to prevent tracking of sediment offsite.

2.1.4 Dust management facilities

1. A truck wash down and drainage system is to be installed that is designed to prevent the tracking of sediment offsite by vehicles.
2. The site is to be sealed (e.g. concrete or bitumen).

2.2 Surface and groundwater protection standards

Development for a concrete batching plant is to include the standards outlined in this section to meet assessment criteria for surface and groundwater.

2.2.1 Cement and fly ash handling facilities

1. All cement silos, hatches, inspection points and duct work for all equipment are to be rain and dust-tight.
2. The silo feed pipe is to be made of material able to withstand the effects of cementitious material. The delivery pipes are to be clearly labelled with the silo identification and material stored inside the silo.
3. Silo discharge is to be controlled by an effective on/off valve, e.g. electronically controlled butterfly valve, fitted upstream of any flexible joints.
4. Failsafe actuators and valves are to be installed on the silo discharge valve to stop the flow of cement in an emergency.
5. The loading point of the agitator loading bay is to be designed to prevent the spillage of material.

2.2.2 Aggregates handling facilities

Conveyor belts are to be fitted with belt cleaners on the return side of the belt which ensure that any raw material collected by the belt cleaners is contained.

2.2.3 Storage of admixtures, chemicals and fuels

Hazardous chemicals and fuels are to be stored in a separate enclosed area with an impervious floor with impervious bunding and if outside, roofed. The capacity of the bunded area is to be at least 100% of the capacity of the largest tank or package plus 25% of the combined capacity.

Note—The Work, Health and Safety Act 2011 contains requirements for fuel storage/installations.

2.2.4 Cement weigh hoppers, agitator loading bay and slumping facilities

1. The load point outlet is to be made of material capable of withstanding continuous exposure to concrete ingredients. The chute or sleeve is to be long enough to prevent the spillage of material.
2. Slump stands should be designed so that trucks do not drive through slurry water generated by truck wash down.
3. Slump, truck wash down and drainage system are to be designed to prevent tracking of sediment offsite.

2.2.5 Dust management facilities

1. A truck wash down and drainage system is to be installed that is designed to prevent the tracking of sediment offsite by vehicles.
2. The site is to be sealed (e.g. concrete or bitumen).

2.2.6 Water management facilities

1. The site is to contain separate designated ‘clean’ (e.g. car park), ‘contaminated’ (operational) and ‘dirty’ (aggregate storage) areas.
2. The operational area, or contaminated area, is to be designed to grade towards the internal water collection system.
3. Contaminated stormwater run off is to be captured from operational areas by a first flush or similar system with the following minimum specifications:
4. The system’s storage capacity is to be sufficient to store stormwater run off from the operational areas generated by 20mm of rain over 24 hours. The facility design is to enable the full reserve storage capacity to be recovered within 72 hours of the rainfall event. The size of the water holding tank required to hold the first flush of rainfall is to be calculated by multiplying 20mm by the square metre area of the operational area catchment. The catchment and treatment system are to be large enough to hold or treat this quantity.
5. At a minimum of 1m upstream of the collection pit a diverter is to be installed to divert excess rainwater when the pit fills due to heavy rain (more than 20mm of rain over 24 hours).
6. Wastewater from any operational areas is to be drained to settling ponds and then pumped to a storage tank for recycling. The settling ponds are to be fitted with a primary pump triggered by a float switch and a backup pump which automatically activates if the pump fails.
7. Settling ponds are to be concrete, contain a sloping sludge interceptor to separate water and sediments, and be provided with two visual alarms. The first is to activate when the primary pump fails. The second is to activate when water reaches the high level mark in the pit. Both alarms are to activate warning devices on the plant operators’ console.
8. Equipment to recycle all returns and washout material is to be installed.
9. The design is to ensure that the concrete reclaimer incorporates on-site water treatment equipment to treat the water to be suitable for re-use in concrete batching processes.