



# Birkenhead

## community news



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## Welcome to Birkenhead community news

Our community newsletters are one of the ways we keep you up to date with what is happening at Adelaide Brighton Cement.

In this edition, we will outline our ongoing environmental improvement initiatives, from our noise reduction program to the expansion of our wetlands.

If you want to find out more or to get in touch with us, you can visit our website at [www.adelaidebrightoncommunity.com.au](http://www.adelaidebrightoncommunity.com.au) or email us at [BirkenheadCommunity@adbri.com.au](mailto:BirkenheadCommunity@adbri.com.au).

During our normal business hours of 8.30am and 5.00pm, you can reach us on 8300 0300.

For matters that arise after hours, please contact our **Community Hotline on 8300 0520**.



*The Birkenhead Plant in 1938.*

## Celebrating 100 years

**Last year Adelaide Brighton Cement celebrated 100 years of cement manufacture at the Birkenhead Plant.**

Since its early and humble beginnings the Birkenhead plant has changed significantly and through a series of innovations and expansions over the years has become one of the most energy efficient plants in Australia.

This is an important milestone for the company and with 100 years of history to build on we look forward to maintaining integral relationships with all our major stakeholders, of which our local community is a fundamental part.

As a contributor to the local, state and Australian economy and infrastructure for 100 years – the Birkenhead Plant represents a great South Australian story of which the company is very proud.



*Rotation of gantry fan outlet.*

# Noise Reduction Program

As part of our ongoing commitment to reduce noise impacts in the adjacent community, two major milestones have been achieved during the course of the last year.

## Stack silencer refurbishment

Our ongoing independent acoustic noise studies and surveys over an extended period have verified that noise emanating from the top of one of our major stacks (4A) was producing a dominant tone in the neighbourhood (noise actually comes from large fans at the bottom of the stack). In discussion with our acoustic consultants our noise reduction team decided that the best option would be to modify an existing noise silencer/attenuator located midway in the stack. The design of the silencer was subsequently assessed by the noise consultants for its suitability and any improvements that could be made to possibly eliminate the tone. After significant planning and review the silencer was removed for assessment and refurbishment during a major shutdown in March last year. The silencer underwent a complete overhaul and two subsequent periods of external noise testing has verified that the dominant stack tone has been completely eliminated.

## Gantry dust collector

Last year a comprehensive analysis of an intensive noise study identified the gantry dust collector fan as a major contributor to noise in the adjacent neighbourhood.

As a result of investigation by our engineering team and acoustic consultants, the fan outlet from which the noise was emanating was facing east (that is away from residential zone), however the noise was in fact reflecting off opposing walls back into the adjacent neighbourhood. Noise absorption barriers on the opposing walls were the first line of thought, but our own engineering staff felt that by lifting and rotating the fan outlet away from the opposing wall it would provide a more permanent solution. The feasibility and engineering design was subsequently completed by our senior mechanical engineering staff and with the help of a 50 tonne crane, a 3 metre high by 2 metre wide outlet duct extension was installed in September last year.

The project proved to be a great success as subsequent external monitoring verified the noise from the gantry dust collector impacting the adjacent local community has been eliminated.



*Foam suppression testing – with foam suppression and without.*

## Materials Management (MM) – foam suppression system

The MM tipping bay is used to feed raw materials (shale, clay) into the cement making process.

Through ambient air monitoring analysis and visual inspection of the materials tipping process this area was identified as a minor discharge point for fugitive dust emissions. It was subsequently added to the current Birkenhead Environmental Improvement Program (EIP) by the Environmental Protection Authority (EPA) and Community Liaison Group (CLG).

After a successful trial of the foam suppression system, it was fully implemented in late 2014. The system has reduced fugitive dust loads generated during tipping and unloading (front end loaders and trucks) of materials into the MM tipping bay through the use of the foam spray. This patented dust suppression solution is used to essentially 'weigh down' dust particles, effectively preventing them from becoming airborne. Any dust captured in the foam will fall back into the hopper and into the materials delivery system.

## Materials Management (MM) stockpile mesh canopies

The MM stockpile bay was also identified as a discharge point for fugitive dust emissions. The MM system is an active stockpile area used to store raw materials which are fed into the cement making process by front end loaders and trucks.

To minimise fugitive dust generated in this area, a mesh canopy arrangement was considered. Operations and technical personal worked together to design a canopy that would capture the optimum level of dust generated from tipping and loading activities. The canopy's primary purpose is to act as a wind barrier and effectively contain any dust generated within the loading bays. Installation is scheduled for early this year.



# Community park update



## LEGEND

- Existing trees retained
- Proposed evergreen trees
- Proposed buffer shrubs
- Low planting
- Wetland planting
- Irrigated turf
- Paving
- Cement stabilised gravel/sand
- Coloured rubber softfall mound
- Black granite boulders
- New 1.7m high black ARC fence

## KEY

- 01. Paved park entry zone with park signage and self closing gate
- 02. Secondary park entry/exit with self closing gate
- 03. Paved flow path for stormwater entry into basin
- 04. Stormwater detention basin with irrigated turf to banks
- 05. Raingarden with gravel mulch and wetland planting to base of basin
- 06. Wetland planting and rocks to flow path
- 07. Outlet connected to main stormwater drain
- 08. Timber bridge crossing over flow path
- 09. Existing air test infrastructure to be relocated
- 10. Paved circulation path
- 11. New shelter with platform seat
- 12. Irrigated grass recreation lawn with shade trees to perimeter
- 13. Coloured rubber play mounds. Mound heights vary between 0.5-1m high.
- 14. Nature play rock boulders, logs and hardy low planting
- 15. Buffer shrubs to soften and screen neighbouring fence
- 16. Drinking fountain with tilt dog bowl
- 17. Park edge/buffer zone with low planting. Underprune existing trees and shrubs for increased visibility and remove any toxic plants (Oleander)
- 18. Low hardy planting with shade trees
- 19. New waste bin with dog bag dispenser
- 20. New park bench
- 21. Service access gates

IMAGE: Revised concept and plans for the Birkenhead community park.

Following consultation with the community, Adelaide Brighton Cement (ABC) shared the community dog park plans with residents via flyers, the community website and Community Liaison Group meetings. The design captured the feedback from the community survey that showed overwhelming preference for a dog exercise area.

At the June 2014 Community Liaison Group (CLG) meeting a number of residents raised concerns around flooding in nearby streets to the proposed park and asked whether plans could be reviewed to assist in abating some of the stormwater flooding.

Taking these comments onboard, ABC worked with a sub-committee comprised of local community members and the Port Adelaide Enfield Council (PAEC) to determine the viability and design of a revised multi-purpose park. The sub-committee's aim was to work together to create a park that was dog friendly, but that also had capacity to provide as much relief as possible during times of severe flooding.

The redesign was carried out by a leading park designer in conjunction with stormwater consultants and included:

- Optimising the space for stormwater retention in major flooding events while ensuring an inviting park under normal conditions through the use of a detention basin.

- Maintaining key features of the original design in this more versatile dog friendly park. These include two strategically placed entry points, several exercise zones, passive rest zones, active play areas, sheltered areas and a wide range of native flora and fauna.
- Stormwater entry through near surface inlet point located at the lowest point on Alfred Street to allow flood waters to flow into the parks detention basin.
- Ensuring visibility is maintained for security and safety reasons.
- Use of equipment, plants, grasses etc that can withstand occasional flooding.
- Creating an outlet valve to ensure water is easily removed from the detention basin after a flood event to maintain public health and safety.

The water detention basin is envisaged to operate at a greater than a one in five year flood event. This is the point where the stormwater system may be overwhelmed. While the basin is small compared to the capacity of the PAEC adjacent new pumping station, it will provide critical minutes of extra capacity and therefore additional protection to surrounding houses in these severe flood conditions.

The amended draft concept was shown to residents at the December 2014 CLG meeting and received overwhelming support.

We would like to thank everyone for their feedback in the survey and the sub-committee members for their time and effort. We are hoping to complete the park in the first quarter of 2015.

# Environmental Improvement Program

Adelaide Brighton Cement has been working closely with the EPA and the Community Liaison Group on environmental improvement projects and have an ongoing Environmental Improvement Program (EIP) aimed at enhancing our performance.

After an series of workshops and meetings in 2011 with the Community Liaison Group, residents and the EPA the current EIP was signed off in January 2012. The major EIP focus has been on reducing dust and noise impacts from the Birkenhead plant.

## Environmental Improvement Projects update

Activity	Description	Benefits	Completion dates	Complete
1 <b>Stockpile and Raw Materials Management Plan</b>	Plan provides standardised procedures including: construction and maintenance of concrete bunkers to contain raw materials; road sweeping and wetting of hot spots; dust suppression of stockpiles; maintaining relevant heights; minimise traffic movements; assigns responsibilities to relevant personnel; ensures drivers inducted on environmental responsibilities; and environmental equipment is maintained and operated as required.	Dust minimisation	2012 Ongoing	✓ Ongoing
2 <b>Major doors on plant</b>	Best available technology doors (i.e. rapid raise) fitted in the following priority areas: <ul style="list-style-type: none"> <li>North and south end gantry;</li> <li>South end Cement Mill Clinker storage shed;</li> <li>North end Raw Materials Management system delivery hopper.</li> </ul> Rapid raise doors open and close within seconds subsequently minimising fugitive dust escaping from buildings during unloading and loading activities.	Dust minimisation	2012 2013 2014	✓
3 <b>Bypass dust load out facility</b>	New loading chute, with improved sealing and dedicated dust collector installed.	Dust minimisation	2012	✓
4 <b>Extra ambient dust monitors</b>	Installation of two additional (now six in total) ambient dust monitors located at: <ul style="list-style-type: none"> <li>Community park/Victoria Road and north east end of plant (adjacent Port River).</li> </ul> Monitors identify levels of dust (10micron), direction dust is originating from and assist in understanding external environmental impacts on residents and drive improvement projects.	Dust minimisation	2012	✓
5 <b>Stack and Ambient Dust Monitoring Reporting System</b>	Implementation of an environmental management reporting system (E-desktop) to present online real time information to identify, reduce fugitive and stack dust impacts/ hot spots via ambient air monitors and stack emission levels.	Dust minimisation	2012	✓
6 <b>Implement stormwater management plan</b>	Site audit of stormwater systems completed: comprehensive site wide stormwater management plan developed: including mapping, volumes and flow rates. Several new site stormwater catchment areas implemented – effectively no stormwater leaves the Birkenhead plant site.	All stormwater treated, diverted into wetlands and gardens	2012	✓
7 <b>Increased Community Communication</b>	Implemented ABC community dedicated interactive website and regular updates, including newsletters/flyers.	Increased feedback and community consultation	2012 Ongoing	✓ Ongoing
8 <b>Loading canopy northern end of Victoria Road gantry</b>	Installed a loading canopy at north end gantry to ensure that all material movements and loading of trucks can be conducted with doors closed to maximise effectiveness of gantry dust collector and stop dust escaping from doorway. Loading of trucks previously occurred with door open due to space constraints.	Dust minimisation	2013	✓
9 <b>Implement actions to improve dust on wharf weighbridge</b>	Installed new de-dusting vents on loading chutes to ensure optimum loading conditions and to minimise dust within building.	Dust minimisation	2013	✓
10 <b>Dust analysis and source identification</b>	Purchased x-ray crystal identification diffraction machine to assist in analysing samples to identify sources of contamination.	Dust minimisation	2013	✓
11 <b>Reduce waste to landfill</b>	Recycle cement kiln bypass dust (previously disposed of to landfill) into cement: <ul style="list-style-type: none"> <li>2014 – over 10,000 tonnes recycled.</li> </ul>	Reduce waste to landfill	2013 2014	✓
12 <b>Increase wetlands/ stormwater catchment system</b>	Expanded existing wetlands/stormwater catchment area at northern end of Victoria Road / Port River Expressway: <ul style="list-style-type: none"> <li>7,500m<sup>2</sup> of land rehabilitated, 2000 trees, ponds.</li> </ul>	Comprehensive wetlands/ ecosystem	2014	✓
13 <b>Fringe Materials Management Delivery System (MM system)</b>	Automated foam dust suppression system installed in loading bay. Wind breaking canopies installed on top of concrete bunker walls and extend over raw materials.	Dust minimisation Dust minimisation	2014 2015	✓ Ongoing
14 <b>Implement plant vegetation and greening program</b>	Ongoing site wide greening program, including all site boundaries, Victoria Road, Port River, Elder Road and around site, etc. Over 3000 trees and scrubs planted.	Aesthetics/ improved visual impact	Ongoing	✓ Ongoing
15 <b>Noise monitoring and reduction program</b>	Comprehensive day/night quarterly noise surveys including extended 24/7 monitoring before and after major shutdowns to identify noise sources and any improvements. Major improvements include elimination of gantry dust collector and 4A noise stack fan which have halved the noise levels in the adjacent neighbourhood.	Noise reduction	2012 2013 2014 Ongoing	✓ Ongoing

For more information on the development of the new Environmental Improvement Program, see back page.



# Wetlands expansion

Located at the southern most end of the Birkenhead plant Schroder Park wetland provides an environmentally significant space within a highly developed and commercialised zone. Great biodiversity can be seen through the abundance of provenance plants used to recreate the vegetation communities along the Lefevre Peninsula prior to European colonisation.

Constructed in the late 1990's, the array of fauna at this wetland supports healthy water quality and a good range of habitats. The wetland captures and cleans onsite grey water and stormwater preventing it from flowing untreated into the Port River.

After the completion of the Port River Expressway and the Tom Diver Derrick Bridge, Adelaide Brighton Cement acquired 7,500m<sup>2</sup> of industrial waste land directly adjacent our Schroder Park wetlands.



*New growth and plantings in the expanded Schroder Park Wetlands.*

In late 2013 the expansion of wetlands was started and the initial phase was to clear the area. Approximately 100 tonnes of waste debris was removed, including old bitumen roads, fencing, timber and concrete slabs. The area was then topped up with quality soil, shaped to include two ponds and several mounds so as to blend in with the existing wetland. In mid 2014 over 2000 natives plants were strategically planted and by this stage, reeds had already begun to establish themselves in the ponds.

The expansion project has more than doubled the wetland size to nearly four acres and the development of a substantially larger and more diverse wetland/ecosystem has been very successful.

The wetland provides community involvement opportunities and activities and is an impressive educational resource.

## New Elder Road truck wash

Following the completion of the Port River Expressway and the Tom Diver Derrick Bridge, Elder Road (adjacent the Port River) became a “no through road”.

As a result, trucks no longer had easy access to the previous truck wash facility having to go out of their way to wash their vehicles.

The new truck wash provides easy access for trucks to be washed before leaving our site, thereby reducing airborne dust from the top of truck loading chutes and tyres being transported onto the roads and into the adjacent neighbourhood.

In 2014, a fully automated truck wash facility was built with key features including;

- A fully automated traffic control system.
- Wheel and chassis cleaning.
- Full body wash.



*The new Elder Road truck wash system installed at the Birkenhead plant.*

The truck wash has a recycling capability of up to 95% of water used, recycling approximately 20 million litres of water per annum, which is the equivalent of water used by approximately 170 domestic households annually.

# Supporting the annual Christmas Parade

Adelaide Brighton Cement was proud to once again be the major sponsor of the Port Adelaide Enfield Council annual Christmas Parade.

Despite the rather unforgiving weather, the large community group in attendance enjoyed the colourful array of floats, marching bands, vintage cars and detailed nativity floats.

A visit by Father Christmas delighted the many children who came to enjoy the parade.

As a long time supporter of the PAEC Christmas Parade, Adelaide Brighton Cement would like to congratulate all participants on their efforts, input and attendance at this great annual community event.



The 2014 Port Adelaide Enfield Council Christmas Parade.

## Development of the new Environmental Improvement Program (EIP)

The current EIP is scheduled for completion in December 2015. Plans are already in place to develop the next EIP with a series of presentations and workshops scheduled for 2015, including:

- A residents' meeting is proposed for 16 March to receive a presentation outlining the structure of an EIP, details of the existing EIP and to receive feedback from residents on the Birkenhead Plant's operation.
- A draft EIP which considers the outcomes of the March 2015 residents' meeting will be developed and presented at the 1 June 2015 Community Liaison Group Meeting.
- The new EIP will be further reviewed at the 7 September 2015 2015 Community Liaison Group Meeting.

The residents' meeting will be advertised on our website and in the Portside Messenger. Local residents and interested parties are welcome to attend.

This above development process for the new EIP was endorsed by the Community Liaison Group at the December 2014 meeting.

## Next community liaison group meeting

The next meeting is scheduled for Monday, 2 March 2015 at 7:00pm at the Port Adelaide Town Hall, Nile Street, Port Adelaide.



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