ASH DEVELOPMENT ASSOCIATION

FURNACE BOTTOM ASH
THE ENGINEER'S FRIEND

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CASE STUDY NO. 6

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Boolaroo, NSW bowling club used a base of Eraring ROS ash under a synthetic playing surface.

INTRODUCTION

Here, the term furnace bottom ash (FBA) is used to describe the coarse ash recovered from the bottom of power station boilers fired with pulverised coal. The properties of FBA are influenced both by the properties of the coal used and by the configuration and operating conditions of the boiler. For a given source, ash properties are substantially constant. Across the range, FBA may be as fine as beach sand or coarse enough and strong enough for use as lightweight aggregate in concrete.

In some power stations, FBA is flushed to pond storage along with any fly ash which has not been subject to dry disposal. This material is correctly termed run-of-station (ROS) ash although, in common parlance, may be referred to as bottom ash. Washed and screened FBA is available from contractors operating at some power stations.

USES FOR FBA

The potential uses for FBA vary both with the source and processing of the ash and with local needs. The coarser types are highly prized as drainage layers under pavements and sporting facilities such as playing fields and greens for bowls and golf.

The success story of Eraring ROS ash as a sub-grade material over Minmi Swamp in construction of the F3 Freeway is dealt with in detail in ***Guide to the use of fly ash and bottom ash in roads and embankments*** compiled byPhilip D. Marsh of Pacific Power International. This booklet was published by the Ash Development Association of Australia, with editorial review by Kieran Sharp, manager ALF Program, ARRB Transport Research, Vic. It carries endorsement from RTA, NSW and deserves a place on the bookshelf of those civil engineers working on projects within economical transport distance from a power station. Topics covered include road pavements and structural fills and embankments, with additional data on the use of fly ash in concrete and asphalt pavements.

The same ash was chosen by Newcastle Pavements as a sub-base 2 to 3 m thick under a car park for a block of flats constructed by Active Developments.

Western Earth Moving chose FBA from Vales Point to provide a drainage layer for a subdivision at Parklea.

Screened FBA in the 10 to 2 mm size range is suitable for use as lightweight aggregate in concrete masonry blocks. the finer grades are popular for inclusion in potting mixes and synthetic soils.

Both FBA and ROS ash have been used successfully in flowable cementitious fills in the general category of controlled low strength materials (CLSM). This range of products will be dealt with in detail in separate handouts.

A further project for Eraring ROS ash was the preparation of a training track for Newcastle Jockey Club at Broadmeadow. Similar tracks are in service at Coffs Harbour, Wyong and Randwick.

ASH DEVELOPMENT ASSOCIATION OF AUSTRALIA

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