Photograph 1

Oaklands site looking north from eastern boundary

Photograph 2

Centre of site, looking south across diused rail line

Photograph 3

Sheds & small building to north of site

Photograph 4

Grazing land to the east of the site

Photograph 5

Rail crossing over Daysdale Road and Grain Storage Site to west of site

Photograph 6

O'Dwyer Main Channel – low flow

3 PROJECT DESCRIPTION

3.1 SITE LAYOUT

The proposal will excise through subdivision the southern portion of the existing property and includes locating the main components of the ethanol production facility in the eastern portion of the site. The remainder of the site will be used for dams and plantations.

The plant footprint proposed as part of the facility will be approximately 300m x 300m and will include the following:

- an office/administration area comprising a reception area, offices, meeting room areas, bathroom facilities and a first aid room;
- a storage building providing for storage of all chemicals and products (other than grain) on the site;
- a grain storage building (silo). This building will be the tallest building on the site and will have a maximum height of 35 metres;
- a fermentation building;
- a liquefaction and saccharification building;
- Liquid Petroleum Gas (LPG) storage;
- a maintenance workshop and store which also includes a plantation services facility;
- a shift silo; and
- a distillation building and tower.

A grain storage area will be located adjacent to the main buildings with a one-way road access provided around the storage areas. This area will be surfaced with a prepared road base foundation and maintained to minimise dust generation.

A new shallow run-off catchment dam is proposed adjacent to the production buildings which will contain and evaporate runoff from the buildings and hard surface areas.

The proposal will require the extraction of approximately 8ML of water per day from the Murray River via the O'Dwyer Main Channel. A new process water dam, with a capacity of up to 200 ML, is proposed adjacent to the production buildings. This dam will be used to store water to be used in the ethanol production process.

A new effluent storage dam is also proposed and will be located adjacent to the process water dam. This dam will have a capacity of approximately 30 ML and will be used to store effluent waste water from the facility, which may also be used to irrigate the plantation.

An aerated wastewater treatment system will also be installed on the site to treat sewerage and allow the majority of wastewater to be reused within the production process.

Access to the site will be provided by Daysdale Street. The access road through the site will be sealed (to minimise dust) and will be wide enough to accommodate passing road train trucks. Ethanol product will be transported from the site by truck to the New South Wales market and by truck and/or rail to the Victorian market.

A water pipeline of approximately 2 km in length will be constructed from the property west to a new pumping station and 200ML dam to be constructed adjacent to the O'Dwyer Main Irrigation Channel.

Detailed plans of the proposed ethanol production facility are yet to be finalised however will be provided in the project application.

Figure 3 shows the indicative layout for the production facility. *Photograph 7* shows an ethanol production plant in the United States, similar to that proposed at Oaklands.

3.2 PROPOSED ETHANOL PRODUCTION PROCESS

The following sections provide a detailed description of the ethanol production process.

The production of ethanol involves the receival and storage of grain, milling of the grain to flour followed by a cooking, fermentation and distillation process.

Grain Receival and Storage

The ethanol production facility will be capable of processing a range of cereal grains (corn, wheat, barley and sorghum), which are grown in the Murray region of NSW. The facility will require, at full capacity approximately 600,000 tonnes of grain each year from wheat, barley and corn.

Grain will be received principally via semi-trailers and B-double trucks. Trucks will enter the site and drive onto a weighbridge, where the gross weight will be recorded. At the weighbridge grain samples will be taken for quality control purposes. Once sampled and weighed the vehicle will proceed to one of two unloading areas where the grain will be stored waiting production.