Proposed landfill/recycling project, location 233 Lefroy Road, Beaconsfield

Moltoni Corporation Pty Ltd

Report and recommendations of the Environmental Protection Authority

Environmental Protection Authority
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Summary and recommendations

Location 233 Lefroy Road Beaconsfield is currently a large, unsightly hole which contains some unauthorised fill such as bricks and car bodies and is surrounded by schools, houses and a church.

In June 1990 Moltoni Corporation proposed to re-develop the site over a 25 year period by landfill using waste materials from a crushing and recycling plant to be built on site. It was also intended to construct a briquette manufacturing plant which would use organic wastes such as garden refuse. The proposal was outlined in the Consultative Environmental Review and drew vigorous public comment. In response to the public submissions and following discussions with state and local government agencies the proposal has been significantly modified.

As a result of the comments and suggestions made by the public and government agencies the proponent dropped major parts of the proposal and changed other parts of the proposal to reduce environmental impacts.

Major issues raised

Several major issues were raised by the public and the Environmental Protection Authority in response to the original proposal and these have been addressed either by the proponent or the Authority. Major issues raised by the public or the Environmental Protection Authority to the project *as originally proposed* have been addressed as follows:

"Roads in the area are already dangerous and additional traffic will increase this".

The following measures should address this issue:

- **Traffic to the site would come from Hamilton Road via Clontarf and Mather Road.**
- **Traffic flows have been reduced from 884 to 350 truck movements per week.**

"Filling and crushing operations will generate too much noise".

- **Clear noise limits will be imposed** and **vibration will be controlled.** The Environmental Protection Authority has taken noise measurements of the crusher which will be used at Beaconsfield.

"Don't like the project next to me".

- The site is currently a large hole which is an eyesore, and **fill is taking place next to Location 233 already. To achieve a better use** (such as a high standard residential development) at the site, **filling is required.**

"The filling and crushing will go on for ever".

- **This proposal will have a definite time limit of seven years** and should be staged based on previous performance.

"Fill material will pollute our air with dust and groundwater with contaminants".

- **Every load tipped on site will need to have a signed certificate** that only dry inert materials are in the load. The way each load is handled will prevent dust. Filled areas will be watered and grassed.

"We don't trust the proponent".

- **The approval will be staged.** By requiring staged approval based on performance, the proponent is responsible for whether the next stage will proceed.

"The Carlisle crushing operation is not good".

- **The company is complying with all environmental and health requirements at Carlisle.**

"This will affect property values".

- There will be minimum disruption to adjacent land and activities, and **with site screening, it will not be noticeable.**

"This is not a good activity in a residential and educational area".

- Control of activities will mean that the operation will not be apparent and once filling is completed, the quarry will be re-developed for a better and more appropriate use.

Changes to the proposal

The proponent has made the following changes to the proposal:

Period of operation reduced to 7 years

The proponent intends to complete landfilling within seven years of starting the proposal. This would be achieved by reducing the amount of materials, such as crushed concrete, steel and bricks, sold for off-site use and increasing the retention on-site of landfilling materials which could have been recycled. Recycling selected materials from the site will occur, but the volume of material used for fill will increase proportionately, to complete the operation within 7 years.

Briquette plant deleted

The briquette plant has been deleted from the proposal. Only inorganic materials would now be accepted on site.

Traffic flows reduced and routes determined

Traffic flows have been reduced from 884 to 350 truck movements per week.

Traffic routes to the site have been defined. Traffic would come from Hamilton Road via Clontarf and Mather Road. **Traffic will not use surrounding residential streets.**

Crushing plant detailed

The crusher will be transported to Beaconsfield on an as-needs basis from the company's existing operation at Carlisle. At Carlisle the Environmental Protection Authority has measured noise levels from the crusher at 80 dBA at 10 m and dust is not visible. Based on this information noise levels will be acceptable at the boundaries of the quarry.

Noise control

A silenced loader will be used on site and a solid fence to assist further with noise control would be built along Moran Street and Lefroy Road.

Dust control

Areas not being actively filled will be seeded with quick growing grasses and watered to prevent dust.

End use of quarry determined

Residential development has been nominated as the end-use of the site.

In combination, project changes have been made to address previous environmental concerns about the proposal. These concerns related to noise, materials, dust, vibration, transport and operational period. The Environmental Protection Authority now considers that the proposal can be implemented without causing unacceptable environmental impacts. Control of the project through licensing under the Environmental Protection Act and implementation of the commitments given by the proponent are important elements in the projects implementation.

The Environmental Protection Authority notes that the City of Fremantle has been operating a landfill operation on land next to Location 233 for a number of years. The Authority has received no complaints about this operation. As a consequence of the changes that have been made to the Moltoni proposal, the major differences between the two sites relate to the volume of imported material and the use of a crusher to reduce the size of the material. The City of Fremantle should ensure that the conditions applying to its fill operations also apply to those on Location 233.

The City of Fremantle has yet to approve this project and the Authority would expect that this environmental advice would form part of Council's consideration. This advice does not pre-empt the Council's decision.

Recommendation 1

The Environmental Protection Authority concludes that the proposal by Moltoni Corporation Pty Ltd to undertake a landfill/recycling project at Location 233 Lefroy Road, Beaconsfield, as modified during the process of interaction between the proponent, the Environmental Protection Authority, the public and government agencies that were consulted, is environmentally acceptable.

In reaching this conclusion the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as:

- **Noise levels from the crushing operations and earthmoving equipment on site;**
- **Control of dust from the crushing and filling operations;**
- **Types of material acceptable for crushing and filling at the site; and**
- **Traffic flows and access to the site.**

The Environmental Protection Authority concludes that the environmental factors mentioned above have been addressed adequately by: the proponent changing the proposal; environmental management commitments given by the proponent; the Environmental Protection Authority's recommendations in this report; or through the works approval and licensing provisions of the Environmental Protection Act.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to:

- **the Environmental Protection Authority's recommendations in this Assessment Report;**
- **the proponent's commitments which appear in Appendix 1, which were drawn from the Consultative Environmental Review and the proponents response to public submissions; and**
- **works approval and licensing of the operation under the Environmental Protection Act.**

Recommendation 2

The Environmental Protection Authority recommends that the proposed fill and recycling operations on this site should be completed by stages within seven years, and that approvals under the works approval and licence provisions of the Environmental Protection Act and the City of Fremantle's Town Planning Scheme should be based on the proponent demonstrating satisfactory performance during the previous stage of the operation.

Recommendation 3

The Environmental Protection Authority recommends that the works approval and licence include requirements related to:

- noise levels, as described by the Environmental Protection Authority Environmental Noise Management Procedure (ie Noise levels to be at or below:

  50 dBA between 7 am and 7 pm, Monday to Saturday inclusive

  45 dBA between 7 pm and to 10 pm on any day

  40 dBA between 10 pm and 7 am on any day)

- control of vibration from the crusher;
- dust control from crushing and filling operations to ensure compliance with the Department of Occupational Health, Safety and Welfare standards at the crusher and standards consistent with those in force at Moltoni Corporation licence at Carlisle;
- control of materials permitted to be crushed, filled or stored on site by implementation of a system of independent written reporting that material transported to the site only contains dry inert materials; and
- access routes and hours of operation to control traffic impacts, and to ensure traffic does not use adjoining residential streets.

Recommendation 4

The Environmental Protection Authority recommends that, if dust and noise levels are not to the satisfaction of the City of Fremantle and within the specifications of the Works Approval and Licence, the Council should cause operations to cease until they can be acceptable.

1. Introduction and background

Moltoni Corporation Pty Ltd has proposed to use Location 233 Lefroy Road, Beaconsfield, for crushing, filling, recycling of materials and manufacture of briquettes.

The majority of Location 233 is zoned 'Inner Urban' under the City of Fremantle Town Planning Scheme, while a portion currently has a Controlled Access Highway reservation over it. Location 233 is owned by Moltoni Corporation. Land immediately to the east is currently used by the City of Fremantle for landfill.

Disposal of building materials is a major issue for all cities, including Perth. Many thousands of tonnes of concrete, road pavement etc are generated annually as existing structures and roadways are pulled down or ripped up. As Perth expands, finding places to put this material becomes more difficult. The filling in of wetlands, a traditional use of these materials, is no longer acceptable to the community. There are significant advantages to be gained from recycling these materials, but not everything can yet be productively re-used.

At the same time, there are some places in Perth where significant redevelopment may be advantageous. Many of these sites need to be filled or reconstructed to allow the recycling into preferred long term uses. Moltoni Corporation considers that this is the case with Location 233, which has been extensively quarried of limestone and some unauthorised dumping of sand, cars and other materials has occurred in recent years.

There have been a number of applications to quarry and fill Location 233 Lefroy Road in recent years. An indication of the nature of these proposals is given in Table 1, which also indicates the level of approval obtained by each application.

Table 1. Summary of recent applications and approvals in relation to Location 233, Lefroy Road, Beaconsfield

Year	Month	Status of approvals
1986	April	Snashall Bros Pty Ltd (in liquidation) gain conditional planning approval to quarry and fill Location 233 Lefroy Road from the State Planning Commission (now Department of Planning and Urban Development). Approval valid for two years and subject to the applicant consulting with Council.
1987	September	Conditional planning approval granted by the City of Fremantle to Moltoni Corporation to remove further limestone and fill the site for a twelve month period only.
1988	July	The City of Fremantle seeks fulfilment of condition relating to fencing of the site and re-considers access. Council notified of intention to import crusher and requests testing of dust & noise levels prior to granting approval to operate
1988	August	Access licence granted conditional on Council granting approval to a development application, crusher testing (as per July 1988), the right of Council to dump excess road spoil and tree clippings and other conditions.
1989	May-June	Another application received by the City of Fremantle for same development. Application referred to Environmental Protection Authority because City of Fremantle considers crusher operation may need Works Approval and Licensing. Environmental Protection Authority decided such approvals would be necessary but did not recommend formal assessment. Moltoni Corporation did not follow up with applications for Works Approval and Licensing.
1990	May-June	New development application forwarded to City of Fremantle and Environmental Protection Authority which includes crusher and a plant for recycling organic materials. Formal level of assessment set.

Following referral of the last application, the Environmental Protection Authority considered that both formal assessment at a Consultative Environmental Review (CER) and subsequent Works Approval and Licensing would be used to publicly examine and address environmental aspects of the proposal, especially in relation to adjacent land uses. The two environmental approval processes, combined with other approvals required under planning legislation from the City of Fremantle, should ensure that the proposal does not proceed unless the level of impact on the surrounding community is acceptable.

The City of Fremantle currently uses land bordering the South Fremantle Senior High School for fill disposal. In addition, the land between Location 233 and this land is zoned for a Controlled Access Highway, which would require filling prior to construction.

2. Description of proposal

As originally proposed in the CER the following activities were intended:

- manufacture of combustible briquettes for solid fuel heating from organic materials such as timber and garden wastes;
- crushing of rubble to create road base materials, scrap steel and fines. The fines would have been used as fill at the site and the other materials sold as recycled materials; and
- landfilling of other dry inert materials.

It was intended to conduct these activities over a 25 year period.

The proposal has been significantly changed during the course of interaction between the proponent, the Environmental Protection Authority, the public and government agencies.

In their response to issues raised by public submissions Moltoni Corporation now proposes to fill the site with dry inert materials over a period of 5 to 7 years and has made a commitment that a closure management plan will be prepared to the satisfaction of the City of Fremantle within seven years. The shortened life span will be achieved by directing a greater portion of the crushed materials to landfill, rather than selling the crushed material for off-site use (ie recycling). This method of shortening the life span of the proposal also significantly reduces the number of truck movements each week to and from the site. Recycling of materials from the site, mainly steel, bricks and crushed concrete, will occur but at a diminished level to that proposed in the CER. The commitment for a closure management plan will ensure that the operation of the site does not continue indefinitely.

The proponent has also nominated residential development as the ultimate end use of the site. The Authority understands that if the site is to be re-developed as a residential development the materials used for fill must be small enough to be able to pass through a 100 mm sieve (ie materials must be less than half the size of a normal brick) so that air pockets are not created within the fill.

The proposed manufacture of combustible briquettes has been deleted from the proposal.

The crusher to be used at Beaconsfield is the same crusher currently used at the company's operations in Carlisle; the company intends to transport the crusher from the Carlisle site on an as-needs basis. The crusher would be located where it was originally proposed in the Consultative Environmental Review and the crushing of materials such as concrete for resale as recycled materials would be dependent on the need to fill the site to levels suitable for urban development. Only dry inert materials such as building rubble will now be brought on to the site and crushed.

Changes to the proposal are detailed in Moltoni Corporation's response to public submissions, a copy of which appears in Appendix 2. In summary the proposal has changed in the following ways:

- the proposed operational period has been reduced from 25 years to five to seven years and the proponent has nominated residential development as the ultimate end use of the site;

- the crusher will be transported to the site on an as-needs basis;
- predicted traffic volumes have been significantly reduced from an anticipated 884 vehicles per week to 350 truck movements per week and include movements associated with the transport of recycled materials off-site;
- noise control would be assisted by a modified loader with a significantly lower noise emission than typically occurs from such machinery and a solid fence along Moran Street and Lefroy Road; and
- areas not being actively filled will be seeded with quick growing grasses and watered to prevent dust.

3. Public consultation

There was a large public response to this proposal. The Environmental Protection Authority initially considered that the normal 4 week public review period would be adequate for the Consultative Environmental Review, however this was extended to 10 weeks in response to requests from the public, community groups and the City of Fremantle. The proponent agreed with the extensions suggested by the Authority. The public review period began on 24 November 1990 and closed on 2 February 1991. During the public review period the following occurred:

- the City of Fremantle contacted the Authority in mid-December 1990 to indicate it considered the public submission period should be extended and that it considered there was a high proportion of people in the area with ethnic backgrounds that would not be aware of written material on the proposal. This information was passed on to the proponent;
- the Authority was contacted by community leaders and representatives with an ethnic background. These people were requested to discuss the proposal with the wider community; and
- an information day organised by the proponent was advertised in English and Italian and the proponent communicated directly in both languages with people who attended the day.

The Authority wishes to acknowledge that local bi-lingual residents, the Concerned Citizens of the Southern Suburbs group (CROSS), and the proponent made efforts to communicate with people of a non-English speaking background.

The Authority considers that the length of public review period combined with the efforts of community leaders and the residents group provided sufficient opportunity for the views of the community to be expressed.

During the public review period the Authority received submissions, form letters and petitions as described below:

- one hundred and two submissions were received by the Authority either as written submissions or as oral submissions given at the information day;
- one submission from a local resident was supported by a petition of approximately 528 signatures;
- two hundred and thirteen form letters were received by the Authority;
- identical petitions with a total of approximately 2 825 signatures were presented to local politicians and were forwarded to the Authority; and
- the City of Cockburn forwarded a petition of approximately 233 signatures registering opposition to the use of Clontarf Road as an access route to the landfill operation.

A summary of all the issues raised was prepared (See Appendix 2) and a response sought from the proponent. The proponent's response to public submissions is published in full in Appendix 3.

Major issues raised in the public submissions included:

- Role of the planning system and need for assessment.
- Publicity, notification and adequacy of public review.
- Adequacy of documentation in addressing issues.
- Recycling and alternative proposals.
- Amenity.
- Noise.
- Evaluation of existing noise levels and potential noise levels.
- Acceptability of noise impacts.
- Monitoring and control.
- Monitoring of materials dumped.
- Dust.
- Historical notes and existing situation.
- Nature and extent of dust which could be generated.
- Potential health effects of dust.
- Comments on proposed dust control measures.
- Fungal spores and potential health impacts.
- Traffic.
- Comments in relation to specific streets or intersections.
- Groundwater drawdown and pollution.
- Drainage water and adequacy of detail and design regarding effluent disposal.
- Groundwater drawdown effects and need for remedies.
- Potential for groundwater pollution and need for remedies.
- Vibration.
- Odour.
- Vermin.
- Planning and future land use issues.
- Monitoring and Compliance.
- Monitoring responsibility, standards and reporting.

4. Existing environment

The Consultative Environmental Review document describes the existing environment in detail. Aspects of the environment particularly relevant to the environmental assessment of the project include:

- Previous quarrying involved removal of the eastern portion of a limestone hill down below ground level, with the result that the bottom is many metres below adjacent land and the slopes to its boundaries are very steep;
- Land use around the quarry is mixed but is predominantly residential and educational (refer to Figure 1). There are six educational institutions within 750 m of the site. The quarry site and surrounding land has a range of urban and schools zonings;
- The quarry has been used in the past for legitimate landfill and for unauthorised dumping. There has been little rehabilitation of the quarry;

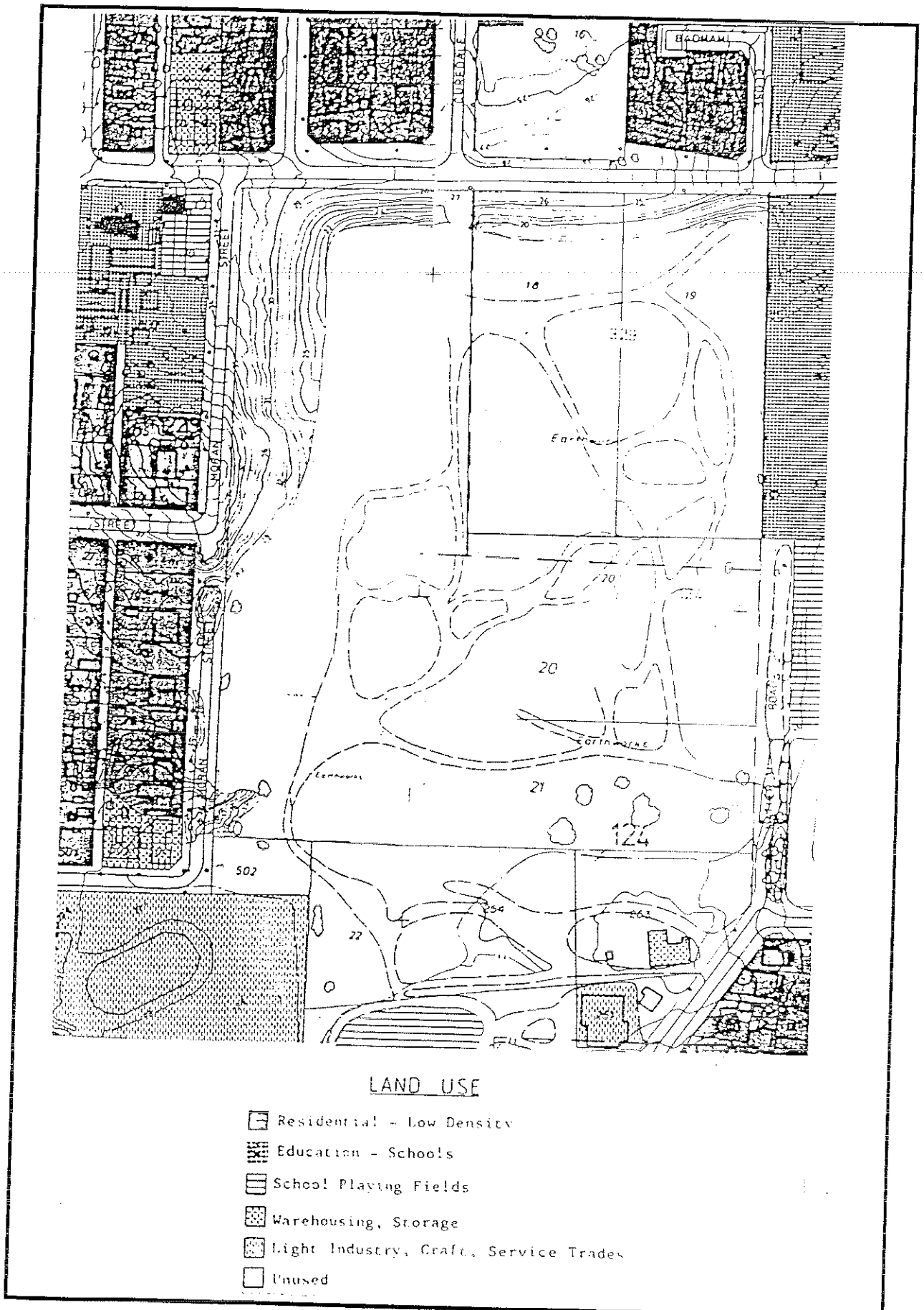


Figure 1. Land use around Location 233 Lefroy Road Beaconsfield

- The quarry is currently an eyesore and out of keeping with its surrounding land uses;
- The quarry site is located in porous and fissured Tamala Limestone, so materials which are dry and inert could cause groundwater contamination;
- Groundwater downstream of the proposal is used for irrigation of private and public areas;
- This proposal only affects the western portion of the hole left by the quarry. The City of Fremantle is currently filling the eastern portion of the site. A Controlled Access Highway reserve dissects the quarry and would ultimately affect finished height levels; and
- The site is windy, with wind speeds of more than 11 km/h being common (Refer to Figure 3 of the CER for details).

5. Discussion of environmental issues

As noted in the description of the proposal the crusher which is to be used at Beaconsfield is the same crusher used at Moltoni Corporation's operation at Carlisle (Corner of Planet and Briggs Street). This operation was licensed by the Authority in June 1991 and its operation has been closely monitored by the Authority and other relevant government departments, such as Department of Occupational Health Safety and Welfare of Western Australia. Information gathered from this operation was considered by the Environmental Protection Authority in its assessment of this proposal.

Major issues raised by the public or the Authority to the project as originally proposed have been addressed as follows:

"Roads in the area are already dangerous and additional traffic will increase this".

The following measures should address this issue:

- Traffic to the site would come from Hamilton Road via Clontarf and Mather Road
- Traffic flows have been reduced from 884 to 350 truck movements per week

"Fill and crushing operations will generate too much noise".

- Clear noise limits will be imposed on the operation and vibration will be controlled. The Environmental Protection Authority has taken noise measurements of the crusher which will be used at Beaconsfield.

"Don't like the project next to me".

- The site is currently a large hole which is an eyesore, and fill is taking place next to it already. To achieve a better use (such as a high standard residential development) at the site, filling is required.

"The filling and crushing will go on for ever".

- This proposal will have a definite time limit and should be staged based on previous performance.

"Fill material will pollute our air with dust and groundwater with contaminants".

- Every load tipped on site will need to have a signed certificate that only dry inert materials are in the load. The way each load is handled will prevent dust. Filled areas will be watered and grassed.

"We don't trust the proponent".

- The approval will be staged. By requiring staged approval based on performance, the proponent is responsible for whether the next stage will proceed.

"The Carlisle crushing operation is not good".

- The company is complying with all environmental and health requirements at Carlisle.

"This will affect property values."

- There will be minimum disruption to adjacent land and activities, and with site screening, it will not be noticeable.

"This is not a good activity in a residential and educational area".

- Control of activities will mean that the operation will not be apparent and once filling is completed, the quarry will be re-developed for a better and more appropriate use.

The Authority has considered the environmental impacts arising from the amended proposal put forward by Moltoni Corporation following public review of the consultative Environmental Review. This report relates to that amended proposal, which includes:

- operation on the site for about 7 years;
- importation and crushing of inert materials only;
- transportation of the crusher to the site on an as-needs basis;
- use of a noise controlled rubber wheeled loader;
- construction of a solid fence along Moran Street and Lefroy Road;
- dust suppression throughout the site;
- truck access to the site from Hamilton Street along Clontarf and Mather Roads; and
- residential development as the proposed end use of the site.

Recommendation 1

The Environmental Protection Authority concludes that the proposal by Moltoni Corporation Pty Ltd to undertake a landfill/recycling project at Location 233 Lefroy Road, Beaconsfield, as modified during the process of interaction between the proponent, the Environmental Protection Authority, the public and government agencies that were consulted, is environmentally acceptable.

In reaching this conclusion the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as:

- **Noise levels from the crushing operations and earthmoving equipment on site;**
- **Control of dust from the crushing and filling operations;**
- **Types of material acceptable for crushing and filling at the site; and**
- **Traffic flows and access to the site.**

The Environmental Protection Authority concludes that the environmental factors mentioned above have been addressed adequately by: the proponent changing the proposal; environmental management commitments given by the proponent; the Environmental Protection Authority's recommendations in this report; or through the works approval and licensing provisions of the Environmental Protection Act.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to:

- **the Environmental Protection Authority's recommendations in this Assessment Report;**
- **the proponent's commitments which appear in Appendix 1, which were drawn from the Consultative Environmental Review and the proponents response to public submissions; and**
- **works approval and licensing of the operation under the Environmental Protection Act.**

5.1 Noise and vibration

The Environmental Protection Authority has examined the noise report prepared by consultants to the proponent (See Appendix A of Appendix 3) and considers that the report correctly reflects both the noise sources and predicted noise levels at adjacent residences and schools. The proposed use of a modified loader has significantly reduced noise levels. The proponent has made commitments to construct a masonry wall along Moran Street and Lefroy Road to ensure noise levels are acceptable in residential areas and to maintain equipment so that noise levels do not exceed acceptable levels (See commitments (i) & (xi), Appendix 3)

The noise levels are within the levels identified as environmentally acceptable in the Environmental Protection Authority's Environmental Noise Management Procedure. A copy of the Procedure appears as Appendix 4. Given the noise levels anticipated during site operation, compliance with the Environmental Noise Management Procedure would only be possible between the hours of 0700 and 1900 (ie 7 am to 7 pm) Monday to Saturday inclusive. Therefore **the site will only be able to operate between 7 am to 7 pm Monday to Saturday inclusive.**

The procedure requires that the introduced noise from a project does not cause the noise in the surrounding residential areas to exceed 50 dB(A) from 7 am to 7 pm, 45 dB(A) from 7 pm to 10 pm, and 40 dB(A) from 10 pm to 7 am. These levels should not be viewed as normal operating levels for the plant but rather they are the legal upper limits above which action would be taken by the Environmental Protection Authority.

Vibration sources would include the crusher and the dumping of materials on-site. Compaction of the fill using a Sheepsfoot roller would not cause off-site vibration. The proponent has made a commitment that dynamic vibration equipment and tracked machinery will not be used on-site (See commitment (vii), Appendix 3). With proper engineering design vibration from the crusher can be adequately controlled. Tipping activity is unlikely to result in vibration being transmitted off-site.

The Authority considers that both noise and vibration can be adequately controlled and monitored through the Works Approval and Licensing provisions of the Environmental Protection Act and commitments made by the proponent. The Authority considers provisions for noise control as described in the Environmental Protection Authority Environmental Noise Management Procedure should apply in the Works Approval and Licence for this site (See Recommendation 3).

5.2 Dust

Potential sources of dust from the proposed operation are primarily the crusher, stockpiles, traffic and recently filled areas. Concern has been expressed that dust from the operation would include toxic materials which would affect the health of adjacent residents and school children.

Dust from stockpiles, traffic and recently filled areas can be adequately controlled with water sprays and sealing of the access road The proponent has made commitments with regard to dust control at the crusher, for filled areas, sealing of access routes and for monitoring of dust levels (See commitments (vi) & (x), Appendix 3).

5.2.1 Toxic materials and health impacts from dust

The issue of potential health effects from dust from materials dumped or crushed at the site has been a major concern of adjacent residents. This was also a concern expressed by residents near the proponent's Carlisle operation.

At the Carlisle operation, licence conditions control the nature of materials accepted and crushed at the site and include a requirement for an independent statement on materials coming on site. Conditions G2 to G4 of the licence provide for certification of demolished premises, visual screening of materials dumped at the site, and restriction of access to the site to authorised vehicles to ensure toxic materials such as asbestos and PCBs are not brought onto the site. A copy of the licence for the company's operation at Carlisle appears in Appendix B of Appendix 3.

Monitoring of the crusher operation at the company's operation at Carlisle has clearly demonstrated that dust from the crusher and conveyor belts can be adequately controlled and that health impacts from respirable silica dust is negligible. Appendix C of Appendix 3 reproduces a Department of Occupational Health, Safety and Welfare of Western Australia assessment of health impacts on workers. Implicit in this assessment is that there would be no health impacts on neighbours.

Further information regarding the control of materials which could be accepted at the site appears in Section 5.4 of this report. The proponent has made a commitment that only dry inert fill will be accepted on site (See commitment (ix), of Appendix 3)

The Authority considers that dust, and any potential health impacts from dust, could be adequately controlled and monitored through the Works Approval and Licensing provisions of the Environmental Protection Act and the proponents commitments. The Authority considers similar provisions for dust control to those in force at Carlisle should apply in the Works Approval and Licence for this site (See Recommendation 3).

Some submissions suggested that asbestos had been brought in some of the unauthorised material dumped at the site. Should asbestos be present on Location 233, the Authority would expect and require that established and approved methods of removal and disposal be used by the proponent.

5.3 Traffic

The proponent has indicated that traffic flows to the site are now likely to be approximately 350 truck movements per week and that access to the site will be from Mather Road (See Figure 1, Appendix 3). The proponent has made a commitment that all trucks will be directed not to use surrounding residential streets (See commitment (vi), Appendix 3).

The increased traffic levels from the proposal would occur for the lifetime of the proposal (ie five to seven years) and would then cease.

Advice was sought regarding the acceptability of the likely increased traffic flows in the area.

The Authority was advised by the Department of Planning and Urban Development that there would be no capacity problems with some minor improvements to the roads, but that current planning proposals for the area were directed towards reducing heavy truck traffic. The Fremantle Traffic Calming and Port Access Study has recommended that Hampton Road and Clontarf Road be designated as "secondary truck routes" which would permit the introduction of traffic calming devices such as hard and soft staggerings and small roundabouts to discourage heavy truck movements.

The City of Cockburn advised the Authority that it classifies Clontarf Road as a local, rather than a district distributor road and has notified the Authority that it intends to install traffic management devices east of Mather Road this year to discourage the use of Clontarf Road by heavy trucks.

Mather Road has housing on the eastern side and housing and light industry on its western side. The Authority understands that the City of Fremantle would need to either upgrade Mather Road to at least a local distributor road or agree to a higher level of traffic flows for a period of time in order for the proposed traffic flows to be permitted along Mather Road. Advice to the Authority also raised concerns that the road surface of Mather Road would not withstand heavy truck traffic for a long period.

The proponent did attempt to negotiate access to the site from Hampton Road through the industrial area (via Culver, Naylor and Strang Street and then through vacant and industrial land to the site around the south-east side of the Portuguese Club oval). The Authority understands the proponent reached agreement for access between Strang Street and the site with all but one party along this route. **In view of the prevailing industrial land use the Authority considers this route from Hampton Road would be preferable to Mather Road.**

The Environmental Protection Authority considers that the acceptability of traffic impacts in the light of potential traffic impact control measures should be determined by the City of Fremantle.

Potential control measures, which could be enforced by planning approval or licence conditions issued by the Authority include:

- Specification of traffic routes to the site to ensure trucks only come from Hampton Road and then travel via Clontarf Road and Mather Road to the site. Trucks should not be permitted to use adjacent residential roads such as Lefroy Road and Annie Street. The proponent has given a commitment that trucks would not be permitted to use surrounding residential streets;
- Speed limits of 30 to 40 km per hour could significantly reduce adverse impacts of truck traffic along Mather Road;
- The days of the week and times of day that trucks would be permitted to use Mather Road could be stipulated. These would relate to the requirements for noise level compliance; and
- Trucks using Mather Road should be required to employ covers to ensure no material is spilt between the source site and the filling site.

The Authority considers provisions for definition of access routes to and from the site should apply through the Works Approval and Licence, as has been done at Carlisle (condition G6 Appendix B of Appendix 3) (See Recommendation 3).

5.4 Groundwater

Groundwater pollution could result if organic wastes were accepted at the site, however the proponent has made a commitment that only dry inert fill will be accepted on site (See commitment (ix), Appendix 3). The Authority has previously defined dry inert fill as follows;

> "The word dry is used to clearly indicate that no liquids, such as oils, acids, sewage or sludges (eg. wet concrete) should be disposed of at a dry inert fill site.
>
> The dictionary definition of inert indicates that material is 'without active properties' or 'chemically inactive'. In the context of a landfill operation this definition implies that there would be no chemical change to the material as a result of biological activity or interaction of the material with water. If the definition of inert is strictly applied the oxidation of steel materials to form rust classifies these materials as non-inert. The Authority has decided to adopt the dictionary definition of inert as stated above as the general definition of materials that may be dumped at a dry inert fill site and to create a list of non-inert materials that either degrade at rates which are not likely to cause groundwater pollution or degrade to chemical substances which are not of concern which may be dumped at dry inert fill sites.
>
> The Authority considers that the following materials are inert; asphalt from former roads, bricks, fibreglass, plastic, road base materials, and soils such as topsoil, excavated rock material, sand, gravel and clay.
>
> The following non-inert materials may be dumped at dry inert fill sites; timber, metals used in building construction (Eg steel, galvanised iron, aluminium), and concrete blocks.
>
> It should be noted that the following materials are not considered inert and should not be dumped at dry inert fill sites; garden refuse such as tree loppings, grass clippings etc, containers such as chemical containers, sawdust and paper and cardboard wastes" (EPA, 1990).

As noted in Section 5.2 regarding dust, licence conditions can and will be used to control the materials accepted at the site.

Silt traps and oil separators would be incorporated in the construction of all vehicle washdown and maintenance areas. The proponent has made a commitment that such facilities would be inspected fortnightly and maintained and cleared by the proponent as required and that all recovered oils and contaminated wastes would be removed from the traps and disposed of at a site and by methods approved by the Local Authority (See commitment (iii), Appendix 3).

Sewage disposal from on-site facilities would conform with Health Department and local authority requirements (See commitment (ii), Appendix 3).

Although groundwater pollution is unlikely given the measures proposed above, the proponent has made a commitment to monitor groundwater quality to demonstrate that pollution is not occurring (See commitment (xiii), Appendix 3).

The Water Authority of Western Australia has advised the Authority that an adequate groundwater resource is available to service the project and that the proponent would be required to obtain a licence to extract groundwater. If groundwater is being utilised then the Water Authority of Western Australia would control the amount utilised in accordance with the Rights in Water and Irrigation Act to ensure that beneficial uses of the groundwater in this area, such as irrigation of school ovals in the area, are not adversely affected by drawdown.

5.5 Compliance monitoring

It is clear that, in view of the expressed concern from local residents about various aspects of the proposal, the proposal should be implemented on a staged basis. The proponent intends to implement the proposal in stages. The Authority considers that approvals applying to the fill and recycling operation should have a definite operational period, during which approvals should be based on demonstrated acceptable performance during each stage of the operation.

The Authority will licence the proposal and ensure licence conditions are monitored. A clause will be inserted into the the licence which requires that the person in charge of operations on-site is aware of and has reasonable access to the licence conditions.

The proponent has also made environmental commitments in respect of the proposal, which will become part of the Minister for the Environment's conditions if the Minister for the Environment authorises implementation of the proposal. The commitments which would become conditions appear in Appendix 1.

The Authority considers that the combination of staged approvals, licence conditions, commitments and inspections should ensure the project can be managed in a manner which would preclude any environmental problems.

Under the Environmental Protection Act the maximum penalty for a breach of conditions or licence conditions by a body corporate is $ 50 000 plus $ 10 000 for each day the offence continues.

5.6 Other issues

5.6.1 Site security

Access to the site should be restricted to ensure unauthorised dumping does not occur which could result in toxic substances being dumped and subsequent groundwater pollution. The proponent has made a commitment to fence the site to the satisfaction of the City of Fremantle and to inspect the fences weekly to check site security (See commitments (i) & (v), Appendix 3).

The Environmental Protection Authority considers that it should be the responsibility of the proponent to remove material which does not conform with the types of material permitted at the site. The proponent has accepted this responsibility (See commitment (xiii), Appendix 3).

5.6.2 Wind-blown litter

The proponent has made a commitment to remove windblown litter on a weekly basis (See commitment (v), Appendix 3).

5.6.3 Landscape and amenity

It is widely acknowledged that the site is currently an eyesore and that landscaping of the site should occur as a matter of urgency. The proponent has made a commitment to prepare within one month of receiving final approval, and then to subsequently implement, a landscape plan to the satisfaction of the City of Fremantle (See commitment (viii), Appendix 3).

5.6.4 Period of operation

Public submissions to the Authority expressed concern that the proposed crushing operation would continue indefinitely. The proponent has made a commitment to balance the fill and recycling components of the operation so that a closure plan can be developed in conjunction with and to the satisfaction of the City of Fremantle.This operation would cease within seven years of commencement. (See commitment (xii), Appendix 3 and Recommendation 2)

5.6.5 Planning issues: compatibility with surrounding land use and final contours

The compatibility of the proposal with the surrounding land use is primarily a planning issue, however environmental assessment has been necessary to predict the likely level of environmental impacts on adjacent land. Subsequent to obtaining environmental approval, but prior to implementation, this proposal will need to obtain planning approval from the City of Fremantle.

There is little doubt that some filling of the site would be necessary in order to permit residential or other development of the site. The height or depth of fill required to permit residential development depends on many factors, including access to the site. The proponent currently intends to fill to levels consistent with Lefroy and Moran Streets. Final site levels should be determined by the City of Fremantle.

The current fill operation by the City of Fremantle has been undertaken for a number of years without complaint, even though it is immediately adjacent to South Fremantle Senior High School. The Authority has recommended that the fill and recycling proposal on Location 233 should be subject to strict control, and the Moltoni Corporation has made strong commitments in line with those recommendations. The City of Fremantle should consider the basis of its adjacent fill operation, to ensure that both fill operations are managed in compatible ways.

The City of Fremantle should ensure that the conditions applying to its fill operations also apply to those on Location 233.

This report should not be seen to pre-empt any planning consideration by the City of Fremantle.

5.6.6 Issues formerly of concern

The changes to the proposal in response to public submissions have significantly reduced the potential environmental impacts of the proposal, and this is referred to in the text above. Some environmental impacts, as noted below, are no longer relevant.

Deletion of the proposed manufacture of combustible briquettes from organic materials such as garden clippings means that odour, and vermin are no longer issues of concern to the Authority. Fungal spores from decaying organic material causing health effects was raised in the public submissions but is no longer relevant. The potential for groundwater pollution, has also been reduced by deletion of the briquette plant.

5.6.7 Implementation of the proposal

Subject to Recommendation 1, the manner of detailed implementation of the proposal should conform in substance with that set out in any designs, specification, plans or other technical material submitted with the proposal by the proponent to the Environmental Protection Authority. In particular the proposal should reflect changes made to the proposal as identified in the proponents response to public submissions, which is reproduced as Appendix 3 to this

report. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications plans or other technical material in any way that the Minister for the Environment determines, on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

The Authority considers that if the proponent has not substantially commenced the project within five years of approval for the proposal based on this assessment, then the approval to implement should lapse and be void. The Minister for the Environment should determine any question as to whether the project has been substantially commenced.

Any application to extend the period of five years referred to above should be made before the expiration of that period, to the Minister for the Environment Therefore on expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority.

Recommendation 2

The Environmental Protection Authority recommends that the proposed fill and recycling operations on this site should be completed by stages within seven years, and that approvals under the works approval and licence provisions of the Environmental Protection Act and the City of Fremantle's Town Planning Scheme should be based on the proponent demonstrating satisfactory performance during the previous stage of the operation.

Recommendation 3

The Environmental Protection Authority recommends that the works approval and licence include requirements related to:

- **noise levels, as described by the Environmental Protection Authority Environmental Noise Management Procedure (ie Noise levels to be at or below:**

  50 dBA between 7 am and 7 pm, Monday to Saturday inclusive

  45 dBA between 7 pm and to 10 pm on any day

  40 dBA between 10 pm and 7 am on any day)
- **control of vibration from the crusher;**
- **dust control from crushing and filling operations to ensure compliance with the Department of Occupational Health, Safety and Welfare standards at the crusher and standards consistent with the Moltoni Corporation licence at Carlisle;**
- **control of materials permitted to be crushed, filled or stored on site by implementation of a system of independent written reporting that material transported to the site only contains dry inert materials; and**
- **access routes and hours of operation to control traffic impacts, and to ensure traffic does not use adjoining residential streets.**

Recommendation 4

The Environmental Protection Authority recommends that, if dust and noise levels are not to the satisfaction of the City of Fremantle and within the specifications of the Works Approval and Licence, the Council should cause operations to cease until they can be acceptable.

6. Reference

EPA, 1990 *Waste disposal, Nowergup* Bulletin 470 Environmental Protection Authority November 1990

Appendix 1

Summary of proponents environmental commitments

The following is a summary of proponents environmental commitments which the Environmental Protection Authority considers should form part of the conditions set by the Minister for the Environment or which can be administered under Part V of the Environmental Protection Act. It has been drawn from commitments made in the Consultative Environmental Review and in the response to public submissions. Some of the commitments represent a consolidation of two commitments and have been agreed to by the proponent.

Those which can be administered under Part V of the Environmental Protection Act are identified by an asterisk in brackets.

Noise

1.(*) The site shall be managed and operated such that noise emissions do not cause or contribute to sound pressure levels in excess of those prescribed in Table 1 Category B1 of the Noise Abatement (Neighbourhood Annoyance) Regulations 1979.

2.(*) All items of plant likely to have influence on noise emission will be maintained in a manner so as to minimise the generation of noise to the reasonable requirements of the Director, Pollution Control Division of the EPA.

3.(*) The site will be fenced on the north and western boundaries with fibre reinforced cement type fencing 1.8m high.

4. An noise testing inspection programme shall be developed in conjunction with, and to the satisfaction of, the Local Authority. Such a programme to be undertaken by the Local Authority at the cost of the Proponent.

Vibration

5. No dynamic vibration equipment or tracked machinery will be used on the site.

Dust

6.(*) All access roads to and on the site will be constructed to a bitumen seal standard to the satisfaction of the Local Authority prior to operations commencing.

7.(*) Water sprays will be operated as required on all crusher feed points and at all locations on the crusher and stockpiles where the potential for dust generation exists. Water spray rates will be staged to ensure dust is restricted to a maximum distance of 10 m from any point of generation.

8. Following the completion of each staged filling operation, the area will be covered with hydro-mulch incorporating rye and winter grasses. The areas will be watered and maintained to ensure an appropriate level of grass coverage is achieved that will preclude dust movements from the surfaces.

9.(*) A programme of dust monitoring employing tube type dust monitors on the perimeter of the site to obtain representative samples of airborne dust will be developed in consultation with the EPA. The implementation and operation of the programme will be undertaken by the Proponent and reports will be submitted to both the Local Authority and the EPA at agreed intervals.

Control of materials accepted on site

10.(*) A sorting and sampling programme developed to the satisfaction of the Local Authority and the EPA will be implemented prior to the acceptance of any material on site. Such a programme will require the Proponent to sample and test random loads at agreed intervals and submit reports to both the Local Authority and the EPA.

Traffic

11.(*) All trucks accessing the site will be directed by the Proponent not to use surrounding residential streets, e.g. Lefroy and Annie Streets.

Prevention of groundwater pollution

12.(*) Only inert dry waste materials will be accepted on the site. Any non-inert materials which come to notice will be removed from site.

13. Silt traps and oil separators will be incorporated in the construction of all vehicle washdown and maintenance areas. Such facilities will be inspected fortnightly and maintained and cleared by the Proponent as required. All recovered oils and contaminated wastes will be removed from the traps and disposed of at a site and by methods approved by the Local Authority.

14.(*) Prior to accepting materials on site, groundwater monitoring bores will be installed to evaluate existing ground water quality. The location of the bores and parameters to be measured will be in accordance with the requirements of the EPA.

15.(*) A programme for the on-going monitoring of ground water will be developed in conjunction with, and to the satisfaction of, the EPA.

16. All appropriate management actions will be taken to prevent further pollution should any be detected, and the Proponent will bear the reasonable cost of any ensuing amelioration work necessary which could fairly be ascribed to Moltoni Corporation's activities to the site.

Site security

17. A security fence will be erected around the site permitting only controlled access. The site will be fenced on the north and western boundaries with fibre reinforced cement type fencing 1.8m high. The remainder of the site will be secured with a 1.8m link mesh fence. All fencing will be erected to the satisfaction of the Local Authority.

18. All boundary fences will be inspected weekly for security by the Proponent.

Wind-blown litter

19. All boundary fences will be inspected weekly for wind blown litter and will be collected at that time by the Proponent.

Landscape & amenity

20. Prior to commencement of the operations, the site will be cleared of excess rubble and rubbish and levelled to remove all impediment to operations and to improve visual amenity.

21. All landscaping of the site will be undertaken in accordance with a landscaping programme and plan developed and implemented by the proponent to the satisfaction of the Local Authority. Such a plan and programme will be prepared within one month of receiving Works Approval.

22. On completion of the project, the site will be restored to the satisfaction of the Fremantle City Council, in part if not in whole, to a condition which makes it more useful and acceptable to the community that is the case at present.

Period of operation

23. The operations of the site will be managed to provide a balance between fill and recycling operations and in order to achieve the desired project life a closure plan will be developed in conjunction with, and to the satisfaction of, the Local Authority within five to seven years of commencing operations.

Public relations

24. The proponent will designate an employee on site as Public Liaison Officer who will record, investigate and take action on any complaints from the public. The complaints register shall be available for inspection by officers of the Environmental Protection Authority and the City of Fremantle.

25. The proponent will maintain liaison with the Fremantle City Council, the EPA or any other body concerned with environmental conditions at the site.

Appendix 2

Summary of comments and issues raised in public submissions

1. Role of the planning system and need for assessment

1.1 City of Fremantle zoning should but does not appear to adequately protect public from proposals such as these.

1.2 Some of the activities proposed clearly constitute an offensive/noxious industry under the Health Act and as such would not be permitted under the Town Planning Scheme.

1.3 EPA should have rejected the proposal outright and not let the project go this far. Consideration of a project likely to be rejected is a waste of taxpayers and ratepayers money.

1.4 EPA should not have approved document as suitable for public review because it lacked sufficient detail.

1.5 Concerned EPA would have no control of off-site impacts and could choose to ignore these.

1.6 Concerned assessment process favours industry and EPA is assisting proponent to get project through.

2. Publicity, notification and adequacy of public review

2.1 Appears proponent avoided local input at an early stage.

2.2 The amount of publicity and notification was inadequate, the proponent should have advertised and consulted more widely.

2.3 Proposal was put out for public review while schools were closed so many potential submissions would be avoided.

2.4 Clontarf Rd residents and Winterfold Primary School (neither the Principal nor the P&C) were not consulted.

2.5 Document sent to 71 residents is misleading and deceptive; it looked like junk mail. Survey carried out after letterbox drop only 1 of 10 families contacted were aware of project.

2.6 Multilingual information should have been provided as many residents are unable to communicate fluently (ABS data provided).

2.6 Concerned that negotiations with the City of Fremantle dated mid October 1990 regarding access and free disposal of road spoil and tree clippings pre-empted project which had not been raised on the Council agenda papers nor been publicised locally (See Appendix D of the CER).

2.8 Moltoni questionnaire distributed on information day misleading; one reason is that proposal will only fill one third of quarry; would query validity of any findings.

2.9 Concerned about statement indicating that the issue of dust and airborne pollution had been fully addressed with EPA which appeared in leaflet advertising information day. This is not backed up with detail in the CER and would seem to pre-empt the Authority's decisions on the proposal.

2.10 Closing date should have been extended.

3. Adequacy of documentation in addressing issues

3.1 General comments

3.1.1 PER or ERMP needed to properly assess environmental impacts.

3.1.2 Should have been more detailed and in-depth; too broad brush and lacking in detail; particularly with respect to machinery proposed and volumes of materials in and out.

3.1.3 Too much jargon, especially in the noise analysis where terms not explained.

3.1.4 Alternative sites not adequately investigated. Suggestions included Wattleup quarries, Cockburn tip, South Coogee and Spearwood.

3.1.5 Concerned that company's objective is not to fill quarry but to establish crushing & briquette plant only.

3.1.6 Consider that nearest residence to project is to the South-West, not the North.

3.1.7 Winterfold Primary School is within 750 m of site but not mentioned in CER.

3.1.8 Proponent has not sufficiently revealed impacts on residents/businesses within 500 m of the site.

3.1.9 No independent measure of wind or water conditions, or any attempt to experiment with noise levels and their ramifications.

3.1.10 Risks and hazards assessment not carried out.

3.1.11 Risks and hazards from dust, traffic, and other pollution not acceptable; one fatality from traffic accident/pollution each two years would breach EPA criteria of 0.5 per million deaths per year for schools.

3.2 Briquette factory/processing of organic materials

3.2.1 There is insufficient information on the proposed briquette factory (ie gaseous and liquid emissions and the curing process. Is heating involved?

3.2.2 Details on p 30 insufficient- what is considered to be a minor emission?

3.2.3 Given that many plants contain toxins (eg oleanders, caster oil bushes) and may have pesticide residues, emissions need to be closely examined.

3.2.4 Information is insufficient to determine if it is an offensive industry under the Health Act.

3.2.5 Noxious character of factory not elaborated in document.

4. Recycling and alternative proposals

4.1 Should be supported because it is a recycling proposal.

4.2 Use of word recycling in describing proposal gives wrong impression and should not be used to describe a concrete crusher.

4.3 Not opposed to recycling/strongly support recycling/ proposal is worthwhile, but it should not be located here.

4.4 Crusher could be located elsewhere (See 3.4 for suggested alternative sites)

4.5 Whole quarry (not just Lot 223) should be filled in as soon as possible; slow filling is not acceptable. Should be filled within 5 years with no on-site recycling; some groups strongly supportive of this option. Filled quarry could become an asset; suggestions include housing, recreational areas, not industrial.

4.6 Understood Moltoni had approval earlier to fill site within 18 months; this would have been acceptable.

4.7 Alternative uses such as parkland should be considered for the site; may be able to be used without need for filling (eg as a sunken amphitheatre which would not require complete filling) Note: Government plans in the late seventies planned for the site to be a local park; Parkland scarce in Fremantle.

5. Noise

5.1 General comments

5.1.1 Existing noise levels from the school and the joinery located in Mather St already cause annoyance; consider it unlikely that crusher noise would not do similar.

5.1.2 Noise levels from bulldozer working in quarry in 1977 operations caused concern to nearby resident(s).

5.2 Evaluation of existing noise levels and potential noise levels

5.2.1 Noise levels noted in documentation taken in noisiest time of year (stormy/rainy & thunderstorms in morning & on first day of school).

5.2.2 One day's measurement of existing noise levels is inadequate; an adequate baseline would be over 24 hours a day for at least a week.

5.2.3 Bus depot noise (loudspeakers, air brakes) already create unacceptable noise levels.

5.2.4 Existing noise levels effected by topography; can hear cheer leaders at school oval from Mather St because of sound reflection; Newmarket hotel etc.

5.2.5 Noise levels at high school specified on pp 36,37 of CER inconsistent with Appendix F p2.

5.2.6 Noise levels underrated, ie Trucks in low gear going up hills (ie Lefroy Road), amphitheatre effects, number of vehicles likely to increase and prevailing winds will carry noise.

5.2.7 Noise levels likely to be greatly underestimated for phase 2.

5.2.8 Concerned front end loader will operate more than 2 hours per week as indicated in CER.

5.2.9 Inconsistency in CER where it states no machinery would be used within 100 m of site boundary, but this is not possible because site is only 150 m wide. Also inconsistent where it notes loader would not operate within 50 m of the boundary; this would not be practical.

5.2.10 Noise level evaluation assumes specific machinery but this is not detailed; full machinery list and proposed noise control measures (ie buildings) for noise evaluation needed.

5.2.11 Report notes noise levels less than Welshpool but not specified by how much.

5.2.12 Machinery list changed after CER, replacing chipper with hogger; no noise levels given for hogger.

5.2.13 No information (or cumulative additions) for noise from the swing saw.

5.2.14 Addition of sound levels not properly considered; For example noise generation evaluation does not consider possible constructive sound wave interference which would occur as a result of landform and repetitive noise generation.

5.2.15 Don't think formula for diminishment of noise is correct.

5.2.16 Independent modeling suggests some noise levels at Christ the King School will be 60 dB (A) and at 55 dB (A) at many houses; well outside EPA regulations; other values allow no margin for faulty exhausts etc.

5.2.17 Document notes containment shed for noise may be built if necessary. It seems likely that unacceptable noise levels would occur until noise shed complete. Proponent must determine before project gets approval if a sound shed is needed.

5.3 Acceptability of noise impacts

5.3.1 Noise levels already excessive in the area; this does not justify additional noise.

5.3.2 Noise levels generated by proposal close to (or above) acceptable levels - likely to exceed such levels - if cumulative noise effects calculated to include existing noise levels; if exhaust systems wear out or when strong winds blow sound towards school.

5.3.3 If noise levels are found to be unacceptable after construction it would not be possible for project to operate; therefore if calculations show noise levels close to acceptable criteria, the project should be deemed unacceptable.

5.3.4 Noise levels in Mather Rd of 56 dB(A) as indicated in the CER are unacceptable.

5.3.5 Nature of noise not addressed; whine from loader can be particularly irritating; distracting intermittent noise likely.

5.3.6 Examination rooms are close to quarry and there are no alternative rooms (SFSHS & TAFE); noise levels must be low in examination rooms to enable concentration.

5.3.7 Proponent must clearly demonstrate compliance with noise regulations, particularly at weekends when criteria are stricter.

5.4 Monitoring and control

5.4.1 Can we assume noise regulations will be complied with?

5.4.2 There is no commitment to on-going monitoring of noise levels, despite predicted noise levels.

5.4.3 Monitoring equipment should be regularly checked by monitoring authorities and paid for by proponent.

6. Monitoring of materials dumped

6.1 Visual monitoring for non-inert materials inadequate; unable to detect PCBs (in small capacitors), soil contaminated with heavy metals or pesticides, asbestos fibres, lead and cadmium impregnated paints and other hazardous and toxic materials.

6.2 Would need to take 3 samples and test for hazardous materials from each load before it was placed on site.

6.3 Sites for disposal of hazardous wastes received not identified (costs and site availability in particular not considered).

6.4 No maximum time period specified for storage of hazardous materials.

6.5 CER notes arrangements to be made with City of Fremantle to dispose of hazardous materials; how will the City of Fremantle do this.

6.6 Inspection likely to be poor or non-existent during busy periods such as when a large contract (eg Canterbury Court) is happening.

7. Dust

7.1 Historical notes and existing situation

7.1.1 In 1977 dust caused problems with microscopes at TAFE and other equipment, causing protests.

7.1.2 Dust levels from East Fremantle tip already a concern; dust blows across Royal Fremantle Golf Course; is blown long distances & into Beaconsfield etc.

7.1.3 Brick cleaning works at Hampton/Duro Road are an example of high dust levels likely from proposed operation.

7.1.4 The need for extra cleaning of buildings and windows should not be tolerated and compensation may be sought for such costs.

7.1.5 There should be no further quarrying of limestone.

7.2 Nature of and extent of dust which could be generated

7.2.1 Concerned about asbestos dust in demolition rubble (Asbestos used as lagging around hot water pipes, insulation around electrical fixtures, caved in roofing; old buildings built with blue asbestos sheeting). May be hidden in large buildings which are imploded.

7.2.2 Concerned about dust which may have toxics such as pesticides and organochlorides attached (especially heptachlor/chlordane from building sites) and be a health risk. These pesticides do not degrade.

7.2.3 Concerned about dust which may have heavy metals (lead and cadmium from old paint), PCBs (from old capacitors) , arsenic, copper (from piping), chromium and nickel attached.

7.2.4 Asbestos found in analysis of roadbase material allegedly from Moltoni's Welshpool crusher shows screening process for these materials not effective; (Moltoni allege asbestos was planted).

7.2.5 Existing illegal fill contains asbestos, both on Lot 223 and Lots 18-20 Lefroy Rd; concerned that this should not be disturbed.

7.2.6 Using a Gaussian normal distribution model estimate that all dwellings within 100-350 m downwind of site would be affected by dust.

7.3 Potential health effects of dust

7.3.1 There may be (or is likely to be) allergic asthmatic & sinus response if dust control is inadequate; there are already high levels of problems; 1 in 4 children &1 in 20 adults suffer in the community; dust exacerbates allergic asthmatic & sinus response as dust and by permitting an increase in dust mites.

7.3.2 People exposed to dust show 73 times more prevalence of asthma than those not exposed; important with respect to proximity of schools. Increased dust levels likely to cause such effects.

7.3.3 High silica content of materials to be crushed/landfilled is a health concern (Bricks up to 50% silica, most building materials 18-30% silica); consider it would be safe to assume dust from site would be 25% free silica. Silica dust levels must be less than 0.1 mg/m^3 to be safe according to DOSHWA regulations; but lower levels are known to cause asthma attacks in 10-15% of the community. Acute silicosis can occur in 1-4 years or greater.

7.3.4 Silica dust does not have to be visible to be harmful.

7.3.5 Asbestos must be excluded from site; there is no threshold below which there is no risk of asbestos related cancers; cumulative dose related linearly to asbestoses risk.

7.3.6 Significant time lag before onset of asbestoses means monitoring must be effective.

7.3.7 Inhalation is primary route of absorption of lead, is cumulative, and likely to be on dust.

7.3.8 Concerned illnesses caused by pollution may be attributed to other factors such as smoking because many pollutants not visible.

7.3.9 Compensation for asthma sufferers and other people who may need to move away for health reasons should be made available by government or the proponent.

7.3.10 Concerned that if dust is found to be a health problem in future years adequate/quick compensation claims unlikely.

7.4 Comments on proposed dust control measures

7.4.1 Dust control using water did not work at South Fremantle Rubbish tip because of strong winds; therefore it is unlikely to work at Beaconsfield.

7.4.2 Dust would need to be controlled with water sprays 24 hours a day, 7 days a week to be effective; unlikely to happen because in strong winds as around Fremantle water on dust sources would evaporate within 10 minutes.

7.4.3 Dust control methods proposed not able to control dust from loading/unloading operations; stockpiles; tip trucks; front-end loaders; moving vehicles with unsecured/uncovered loads, machinery (ie crusher & conveyor belts) and compacting operations.

7.4.4 Control methods likely to generate sludges; how will these be disposed of and could it cause groundwater pollution.

7.4.5 Onus is on proponent to demonstrate amelioration of environmental impacts; broad statements regarding dust control inadequate (ie on-site dust control is by water to the full requirements of EPA) no details provided in CER!

7.4.6 Dust levels will be increased because of site topography and thermals causing increased air movement, making control impractical; sealed roads will increase thermals.

7.4.7 Particle sizes will decrease because of traffic causing it to blow more easily and further, particularly on roads; thus sealing and constant watering would be needed.

8. Fungal spores and potential health impacts

8.1 Fungi spores from garden waste may cause health problems and would be worsened by damping down waste with water; about 20% population sensitive to fungal spores & develop allergic alviolitis. Avoidance of spores is the only treatment. This would be unacceptable.

8.2 It is difficult to control fungal growth adequately.

9. Traffic

9.1 General comments

9.1.1 Interaction between students and trucks should be avoided; 2 000 students at one school (estimated 4780 full time and 10 000 part time students in the six schools within 750 m of the site).

9.1.2 Concerned existing traffic estimates may be too low and that traffic would increase significantly over time.

9.1.3 Cannot predict amount of material likely to be transported to site; possible traffic increases may be much greater than estimated; for example estimate for incoming rubble is about 15 600 tonnes per annum (See P 23 of CER) but 17 000 tonnes were carted in one month from Canterbury Court demolition.

9.1.4 At Carlisle counts have been up to 40 trucks an hour.

9.1.5 Police should regularly monitor traffic speeds and loads.

9.1.6 No control of truck routes possible because trucks using the site are not owned by Moltoni Corporation.

9.1.7 Increased damage to roads from trucks may be funded by Council/State government through rate increases etc.

9.1.8 There is no satisfactory and safe route for heavy vehicles to the quarry.

9.1.9 Existing roads are insufficiently wide to carry trucks.

9.1.10 Traffic hazards created by high traffic volumes difficult to fix with technical safeguards.

9.1.11 Hampton Road already too busy; also Carrington, South St.

9.1.12 Potential streets that trucks may use include (See map).

9.2 Comments in relation to specific streets or intersections

9.2.1 Annie Street

- Annie Street should be a cul-de-sac; is not suitable as a truck route because of the school.
- Annie St already used by some trucks to existing landfill; existing traffic noisy; an increase in traffic would be unacceptable.

9.2.2 Clontarf Road

- Safety on Clontarf Road an issue; existing traffic levels lead to accidents so volume of traffic should be reduced; speeding along road a problem.
- Intersection Mather/Clontarf Rd dangerous because of curves and slopes; accident reports for this corner should be examined.
- Intersection York St/Clontarf Rd is on a blind crest.
- Traffic lights would be needed at intersection of Clontarf/Carrington; already often a queue.
- City of Cockburn not consulted regarding use of Clontarf Rd; City of Cockburn intending to install traffic management devices to discourage heavy trucks after bus depot closes.
- Clontarf Rd is not a distributor road; was proposed to be but did not occur because residents expressed opposition (this is documented by the City of Cockburn).
- Clontarf Rd should not be used as quarry access; it is a residential commuter road which already is at maximum use by heavy traffic.
- Traffic levels along Clontarf Rd are likely to be high on weekends, when people are home.
- Clontarf/Mather Road is favoured because it minimises interaction between trucks and students.

9.2.3 Edmund Street

- Edmund St is wide so trucks may use it as an alternative access route.

9.2.4 Lefroy Road

- Lefroy Rd is a minor suburban street and many children live in Lefroy Road.
- Lefroy Rd busy when children leave school; children need to cross roads to catch buses; likely that accidents will happen with loaded trucks, especially with the steepness of the hill.
- Measures should be taken so trucks cannot use Lefroy Rd to get to the quarry.
- If access is from Lefroy Road the two high pressure oil pipelines along the road would need to be refurbished.

9.2.5 Mather Road

- Twenty children live in Mather Rd and many of them play on the street.
- Many students get off bus at corner Clontarf/Mather Roads and walk to their schools from there; many walk along Mather Rd.
- Mather Rd used by school children both getting to school and for school outings; School outings often involve walking along Mather Rd (approximately once a month).
- Existing traffic statistics for Mather Rd are an underestimate because they were taken at a time when drainage modifications took place and do not discriminate regarding type of vehicle.
- Request accurate traffic and pedestrian use statistics for existing use on Mather Rd prior to proposal being considered.
- Existing establishments (joinery & panel beater) along Mather Rd already generate too much traffic.
- Existing truck traffic cause vibrations in houses along Mather Rd.

10. Groundwater drawdown and pollution

10.1 Drainage water and adequacy of detail and design regarding effluent disposal

10.1.1 Stormwater flowing from Mather/Annie St Junction likely to be more polluted than at present.

10.1.2 Concerned about disposal of sewerage and industrial liquid wastes which may be generated as a result of processes on site; there is little detail in the CER.

10.1.3 Proposed pits for contaminates; no description of likely materials to be held, pond design and construction, catchment areas serviced, capability of ponds to contain volumes which are to be likely to produced, where and when they would be emptied or emergency procedures.

10.1.4 Care would need to be taken not to overflow pond bunds, especially when winter rainfall may cause extra filling.

10.1.5 Consider containment methods proposed not proven to work.

10.1.6 Containment ponds need to be fenced.

10.2 Groundwater drawdown effects and need for remedies

10.2.1 Understand that groundwater encroachment is taking place west of Carrington St, therefore yield requested by Moltoni is unsustainable.

10.2.2 Bore production at nearby bores has declined during the last two years (ie at South Fremantle Senior High School); concerned project will cause greater decline.

10.2.3 What will be the extent of groundwater drawdown?

10.2.4 Will or how many nearby bores will be affected by drawdown? It seems likely that some will.

10.2.5 Document does not adequately show bores which could be affected by drawdown effects (ie bores for the market gardens)

10.2.6 There are certain to be more bores in area than indicated by Geological Survey; there has been no recent bore census.

10.2.7 Concerned water requirements for adequate dust control will be greater than 77 kl per day.

10.2.8 Will compensation be available to bore owners who lose supplies as a result of drawdown effects.

10.3 Potential for groundwater pollution and need for remedies

10.3.1 The analysis of existing groundwater quality is inadequate and misleading; shows groundwater is of poor quality but nearby bore use does not support this (although South Fremantle Senior High School bore high in nitrate).

10.3.2 Groundwater flow is to the west, towards South Beach, not to the north-west and towards Fremantle Harbour as described in the CER.

10.3.3 Potential pollutants same as for dust (See 7.2.1 to 7.2.3).

10.3.4 Septic tank noted on p19 too close to groundwater table to be acceptable.

10.3.5 How reliable is removal of acids & heavy metals by limestone, especially if fissures exist.

10.3.6 Limestone has poor absorption characteristics for organics.

10.3.7 Given fissures in limestone spillages, overflow of containment ponds or leachates could easily pollute groundwater.

10.3.8 Concerned that leakage from containment ponds may pollute groundwater; another submission notes only 3 m between base of pond & groundwater; another concerned about spread of water-borne diseases as a result of chemical contamination of groundwater.

10.3.9 Proponent should guarantee no groundwater pollution will result prior to approvals being given.

10.3.10 If groundwater pollution does occur, nearby market gardens and private vegetable growers produce would be contaminated. What would happen is this occurs? Would compensation be available?

10.3.11 Concerned that CSIRO study showed it was difficult to detect many toxic substances; concerned that proponent would not be able to test adequately especially for pollutants which are toxic to humans in minute quantities.

10.3.12 Concerned that blame for any future groundwater pollution will be ascribed to previous dumping and Moltoni will not accept liability for pollution.

10.3.13 Can take a long time for acids effluents to develop and mobilise heavy metals. Concerned that contamination may not be detected until after operations have ceased and company no longer in existence.

11. Vibration

11.1 Is not addressed in the CER; should include that from machinery and heavy trucks.

11.2 Could be caused by recycling plant and vehicles; how is this to be monitored and controlled.

11.3 Likely to be substantial from chipper (400 hp) and pulveriser (400 hp).

11.4 Tipping activity likely to cause vibration.

11.5 Vibration difficult or impossible to control and unacceptable; no comment made in document about ability of limestone to absorb vibration.

11.6 All buildings in the vicinity should be inspected prior to commencement of operations.

11.7 May affect stained glass window of church on the hill which has heritage value.

11.8 Immediate penalties and halting of machinery should occur if damage detected until problem solved.

12. Odour

12.1 Processing of garden waste likely to lead to odour problems, particularly during summer.

12.2 Decaying organic matter, particularly lawn clippings, likely to cause odour.

12.3 Holding tanks may become stagnant causing odours.

13. Vermin

13.1 Cockroaches already a problem; used to be a rat problem in Clontarf Road.

13.2 Garden wastes would provide ideal habitat for vermin.

13.3 Anticipate vermin would include mice, rats, flies, seagulls & magpies which would feed snakes.

13.4 Use of water on site will exacerbate vermin problem.

13.5 Any materials which cause an increase in the infestation of vermin should be removed immediately; this should be enforced by the City of Fremantle.

13.6 What monitoring and control measures are proposed; none noted in documentation.

14. Planning and future land use issues

14.1 Location of proposal inappropriate in an area zoned inner urban.

14.2 Other landowners severely restricted as to what they may do within this zoning to protect character of neighbourhood.

14.3 Allowing this proposal to go ahead could set an undesirable precedent for similar proposals.

14.4 Existing planning decisions to allow industry to east of Mather Rd (opposite residential area to the west) which permitted joiner and panel beater to establish along Mather Rd causing noise and traffic problems already. Bad planning decisions should not be compounded.

14.5 Area east of Mather Rd should be re-zoned to residential; more residents needed for local (Winterfold) primary school.

14.6 Proposal includes part of road reserve the status of which is unknown and which could significantly impact on the best option for development of the site. Proposal should be put on-hold until status of road reserve is determined.

14.7 Proposal should be located in an industrial area with an appropriate buffer (suggested 200-500 m).

14.8 Understand Council at one time proposed using site as dump but that this was rejected because of proximity of sites to schools. This previous decision should be upheld.

14.9 Value of houses near the site is likely to fall and people will want to move out.

14.10 If proposal goes ahead and land values fall compensation should be made available either by government or the proponent.

14.11 No mention of future use of land once site is filled.

15. Monitoring and Compliance

15.1 Monitoring responsibility, standards and reporting

15.1.1 Responsibility for monitoring not clearly defined.

15.1.2 Responsibility frequency and parameters to be monitored should be clearly shown in tabular form.

15.1.3 Frequency of monitoring for each parameter should be clearly defined; is only stated for groundwater in the CER.

15.1.4 Does not show standards on which monitoring should be based.

15.1.5 Not satisfied with random sampling proposed in the monitoring.

15.1.6 Independent body should be responsible for monitoring.

15.1.7 Concerned that City of Fremantle does not have the equipment/resources to monitor as needed.

15.1.8 To state monitoring will be to the satisfaction of City of Fremantle is not adequate; more details should be provided.

15.1.9 A demonstration of monitoring equipment would be of interest.

15.1.10 Formal reporting should be more frequently than annually as suggested in the CER.

15.1.11 Formal reporting should be available to the public.

15.1.12 Procedures for public reporting of violations not clear.

15.2 Compliance issues

15.2.1 Moltoni Corp have been unresponsive to previous direct and written approaches from authorities to have site fenced and signposted; (compare fencing on adjacent lots around the quarry site); unsure that company would be responsive in the future.

15.2.2 EPA should investigate compliance & site operations at Welshpool in determining suitability of proponent to operate at Beaconsfield and the illegal dumping which has occurred at this site (ie Location 223).

15.2.3 Consider Welshpool operations have generated complaints which have not been properly addressed.

15.2.4 Compliance contract should be public.

15.2.5 Concerned that penalties for non-compliance may be built into operating costs.

15.2.6 Consider that if environmental approval given concerned City of Fremantle not likely to ensure compliance with planning conditions it may impose.

15.2.7 Concerned court actions take too long; conditions need to be set so there is an immediate response to problems.

15.2.8 Shut-down clauses/criteria should be built into compliance with clear time frames for action (particularly for dust). For noise the following criteria are suggested; shut-down within 7 days of notification, based on two above level readings within a period of 7 days.

16. Amenity

16.1 Likely to be an eyesore for 25 years; & source of dust (and any cumulative health effects thereof), vibration and traffic nuisance.

16.2 Recalculation of quarry volume divided by stated volume per week give a life of 38.5 years.

16.3 Document does not adequately describe proposed end land use; seems scope for a long period of dereliction between phase 2 & 3.

16.4 Concerned that life of crushing and briquette facility could be indefinite, especially if circumstances hinder its relocation.

16.5 Tipping 7 days a week is unacceptable.

16.6 Hours of operation are unacceptable.

16.7 Hours of operation have been up to 11 pm at Carlisle plant.

16.8 Hours of operation likely to be extended without notice if company gets a large contract such as Canterbury Court.

16.9 Fences (1.8 m) likely to be inadequate to control wind blown litter because of strong winds.

16.10 Wind blown litter would be unsightly along fences.

16.11 Wind blown litter needs to be monitored and controlled; how often will this be done?

16.12 Quarry must be fully fenced for safety reasons.

16.13 Details of screen planting inadequate.

16.14 Screen planting would take a long time to become effective and would not be effective for noise.

16.15 Trees may not grow on limestone soil of quarry or inert fill dumped.

16.16 No mention of falling debris from uncovered loads and clean up of this; debris may also fall of private vehicles if they are allowed to use facility.

16.17 Police have inadequate resources to adequately ensure loads are properly covered.

16.18 Fumes smell and are a health risk.

16.19 Mental and emotional health effects need to be considered; stress levels from noise, vibration, traffic etc could affect health; home is meant to be a place where can seek relief from stresses of the day.

Appendix 3

Proponents response to public submissions

Beaconsfield Landfill and Recycling Project
Proponents Responses

A report to the Environmental Protection Authority in response to the comments and issues raised in public submissions to the C.E.R. prepared by Dames & Moore for the Moltoni Corporation

MOLTONI CORPORATION
15 MOUNT STREET
PERTH W.A.

AUGUST 1991

LANDFILL/RECYCLING PROJECT, BEACONSFIELD

THE PROPONENT'S RESPONSES TO COMMENTS AND ISSUES RAISED IN PUBLIC SUBMISSIONS AS CONTAINED IN DAMES & MOORE CONSULTATIVE ENVIRONMENTAL REVIEW FOR THE MOLTONI CORPORATION

1. ROLE OF THE PLANNING SCHEME

1.1 The adequacy of the City of Fremantle Zoning Scheme is considered to be outside the scope of the C.E.R. Notwithstanding that the zoning is the responsibility of the Fremantle City Council, it is relevant to note that the proposals are not in conflict with adjacent industrial activities nor in deed landfill operations which are currently being undertaken adjacent to the subject land by the Fremantle City Council.

1.2 The Proponent has elected to discontinue the proposal for the treatment of organic materials on site. As such operations will be limited to the crushing of inert materials or the landfill with inert materials. Neither of which constitute an offensive or noxious industry under the Health Act or Town Planning Scheme.

1.3 - 1.6 Not Applicable

2. PUBLICITY NOTIFICATION AND ADEQUACY OF PUBLIC REVIEW

2.1 to 2.10 The Proponent firmly believes that the notification of the proposal and publicity of the proposal was more than adequate and exceeded the standard requirements of the E.P.A. The Proponent personally visited schools and other establishments within the perceived area of concern and had preliminary negotiations with the City of Fremantle at an informal level.

The closing date for Public Submissions after release of the C.E.R. was extended twice to allow input from the various interested sectors of the community and an Information Day was held on-site in an endeavour to fully disseminate information to the public.

3. ADEQUACY OF DOCUMENTATION IN ADDRESSING ISSUES

3.1.1 to 3.1.3 The level of assessments and the format of the documentation conformed to the requirements prescribed by the E.P.A. guidelines and the Proponent believes that together with additional information contained in this Report, all issues have adequately been covered.

It is important to note that the C.E.R. was presented for public comment after Dames & Moore had had considerable consultation with the E.P.A. concerning the content and information required in the documentation.

3.1 4 The location of the quarry represents a possible residential site which requires filling operations to be undertaken to fulfil its potential. The site is located conveniently to service the densely populated areas in the vicinity of Fremantle and generally south of the river.

On a cost benefit basis the site represents an attractive alternative for developers whom may not choose to use a recycling centre above traditional landfill sites if the latter were closer.

On an economic basis, the site is well situated for the sale of the crushed recycled product to developers in the metropolitan area particularly in the southern corridors.

Importantly it needs to be appreciated that the recycled product operates in the very competitive resource market and for any recycling development to be successful, the cost advantages that a central location represents need to be fully exploited.

While the recycling and on-site sale of demolition waste materials offers a cost advantage over the previously employed method of burial, it is important to recognise that the sale of recycled materials barely covers the cost of crushing and processing. As such it is important to minimise not only transport cost but also capital costs.

The choice of alternative sites will involve the Proponent in either purchasing of these sites freehold or entering into a lease agreement, both of which options would involve significant capital outlay.

The present proposal to operate in the Beaconsfield quarry negates the need for capital outlay as the Proponent owns this property freehold. On this basis it is highly unlikely that the proposed activities could be accommodated elsewhere in an economically viable format.

The consideration for crushing and processing at the demolition site has been looked at and discounted for the following reasons:

(i) as most major demolition contracts involve sites having a very high plot ratio, there is invariably the lack of spaces to accommodate a mobile crushing facility

(ii) most demolition contracts are contracted for minimum on-site time which would not allow for the extra time demand that would be imposed if crushing on-site were contemplated

(iii) as most works are undertaken in the central business district, management of noise assumes a paramount importance with regulatory authorities insisting that demolition works are minimised and undertaken as expeditiously as possible to ensure noise impacts are kept to a minimum

(iv) The associated costs for mobilisation and emobilisation present a sizeable economic barrier

(v) The proposal to locate a crushing facility at the quarry allows for the treatment of materials generated from sources other than a demolition contract held by Moltoni Corporation. The siting of a mobile crusher on individual demolition sites would preclude the treatment of feed materials from other sources thereby decreasing the economic viability of the project

(vi) The maximum utilisation of loading and crushing equipment can only be achieved at a facility as is envisaged in Beaconsfield as opposed to mobile operations.
This allows for a safer and more regulated operation whereby potential impacts can be profitable managed.

3.1.5 The Proponent's proposal is quite specific in the development of the site outlining both the extent of crushing and fill operations. The estimated 25 year development time frame reflected the proposed recycling effort and consequent excess material that could not be resold and therefore was available for filling of the site.
The estimates for the life of the site were based on predicted levels of demand which of course are very much subject to market forces. In recognition of the concern expressed by the surrounding community the Proponent undertakes to balance recycling and fill operations to ensure the life of the site is limited to 5 to 7 years. In order that the site is filled and compacted to an acceptable standard commensurate with the proposed residential end development, much of the fill materials coming through the site will be crushed prior to placement.

3.1.6 NOTED

3.1.7 Winterfold Primary School was not mentioned in the C.E.R. as it was considered to be far enough away from the project to be unaffected.

3.1.8 The Proponent contends that the impact assessments adequately cover impacts of residences and or businesses within 500 metres of the site

3.1.9 Wind conditions are believed to be adequately quantified from Bureau of Meteorology records and thus it is believed independent measure is unjustified.

The Proponent has undertaken to establish a multiport monitoring bore prior to work commencing if approval is given which will provide an independently supervised monitoring condition.

Noise levels and their impacts are further investigated and the results of this investigation are contained in Appendix A.

3.1.10 An assessment of risks and hazards show these to be insignificant and as such not requiring formal analysis.

3.1.11 Statisical data relating fatalities to traffic volumes do not support the risks indicated. Assessment of other hazards does not support the need for quantitative risk assessment.

3.2 Briquette Factory - Processing of Organic Materials.

In view of the concern voiced regarding emission from and impact of the processing of organic materials, the Proponent has decided to forego this activity at the site.

4. RECYCLING AND ALTERNATIVE PROPOSALS

4.1 Noted

4.2 The Proponent contends that the primary operation of the concrete crusher is to produce a material for which there is a proven market from a previously unuseable waste. As such the definition of recycling is most certainly warranted.

4.3 & 4.4 Refer to comments for 3.1.4

4.5 Staging of the Project

It is believed important to impress upon the authority that the applicant sees a real need for a recycling operation of the nature proposed in the Perth metropolitan area. Statistics quantifying level of inert waste materials being dumped annually at landfill sites in the metropolitan area cannot be ignored and it is considered ineffective resource management that does not take heed of and indeed promote recycling proposals which will go a long way to maximising the valuable ever increasing space available for waste disposal.

With this in mind and in recognition of the sensitive location of this large quarry site in relation to the surrounding residential areas, the Proponent proposes to undertake a more balanced operation of both recycling and filling in order that the expected life of operations at the site can be reduced to 5 to 7 years.

Generally, staging shall be as detailed below.

(i) Provision of service requirements i.e. water and electricity

(ii) Construction of access roads to bitumen seal standard in accordance with City of Fremantle requirements

(iii) Site security by way of fencing, provision of perimeter landscaping

(iv) Trimming of existing batters in order that these meet safety requirements

(v) General site cleanup, loose material removed from the floor, pushed into windrows and stockpiled as crusher feedstock. Floor of quarry covered with 500mm thick sheet of sand to dampen vibrations etc.

(vi) Bunding created to house the crushing operations. Crusher enclosure constructed.

(vii) Inspection facilities, guardhouse and on-site employee amenities

(viii) Truck turn-around facilities at gate and elsewhere provided.

(ix) Toilet facilities and septic systems installed.

The staging for the rehabilitation of the site is very much affected by the existing geography and the desired residential end use of the site which would require that fill be placed in layers and satisfactorily compacted to ensure the future structural integrity of housing foundations. Given this, it is not practical to complete each stage to the final contour prior to moving to the next stage; indeed there is no advantage to achieve such, and filling should be undertaken in horizontal lifts not greater than 0.500m (dependent upon compaction equipment) to a height of approximately 2.0m before moving on a rotation basis over the four staged areas.

In order to prevent dust, at the completion of placing fill and compaction using this with non dynamic means, the area will be sown with soil binding vegetation, watered and maintained.

Fill will continue on a rotational basis through a series of 2.0m lifts over the four staged areas until final contours are reached. At the completion of each staged lift the areas will be sown with vegetation and remain covered until rotational fill operations re-occur. The ongoing rehabilitation of staged lifts will thereby ensure that a minimum area of potentially capable of generating dust exists at all times. The concept of such sequential development is shown on Figure 3.

Notwithstanding this, area will always house the crushing plant and storage areas and therefore can not be filled to final contours until the end of the site development.

The Proponent's decision to not proceed with the fuel briquette operation and processing organic waste will allow the crushing operation to be better confined on site within the central bunded area and it is envisaged that the site can be filled through stages 1 to 4 to a contour of RL20 without any movement of the crushing plant from its original positioning.

This procedure is estimated to take approximately seven years.

Following the completion of the final filling operation, the site will be covered with topsoil which is a significant by product from the crushing operation. The area will then be seeded with quick growing grasses to provide all year round cover and be watered and maintained pending final development of the agreed end land use. In this way at all times apart from the area that is being filled, the site will be grassed with the crushing plant being contained within a landscaped bunded enclosure.

It is irrefutable that the proposal outlined above is a significant improvement on the environment and amenity that the existing site presents.

4.6 Not Applicable

4.7 Alternative uses for the quarry would be dependent on permissible land use under the City of Fremantle Planning Scheme and should such be Parkland or other community based use, this would need to be established by a Government Body prepared to purchase this site and develop it independent of the Proponent.

5. NOISE

All issues regarding noise have been dealt with by an independent Consultant whose report is attached as Appendix A.

6. MONITORING OF MATERIALS DUMPED

6.1 to 6.2 The Proponent is very mindful of the need to monitor materials entering the site. Initial monitoring of non-inert materials will be done visually. Loads will be inspected prior to being accepted into the facility. Visual monitoring will also be complemented with random sampling of loads as they enter the site. Samples thus taken shall be sent to an accredited laboratory for chemical analysis.

As stated in the C.E.R. document, (page 44) Moltoni will take appropriate action to prevent pollution and will bear the cost of all necessary remedial works where pollution is shown to be due to the actions of Moltoni. Having given this undertaking, it is clearly in the best interest of the Proponent to ensure contaminated materials do not enter the site.

Generally it is envisaged that all monitoring will comply with and be in line with the licensing conditions as set by the EPA for Moltoni's operation currently being undertaken at Welshpool.
(See Appendix B).

6.3 to 6.5 The likelihood of hazardous waste being received is minimal particularly in light of the monitoring commitments undertaken by the Proponent.
It is the Proponent's intent that should hazardous materials be discovered, these will be removed from the site in as short a time as is practical and disposed of in a manner acceptable to all concerned Statutory Authorities in a location prescribed by these authorities.

6.6 See 6.1 above

7. DUST

The crushing operation currently conducted at Welshpool by the Proponent has been subject of close investigation by various groups concerned with dust emissions. This resulted in an independent assessment of dust levels at the crusher source by the Department Of Occupational Health Safety and Welfare. These tests failed to discover dust levels above the prescribed limited. The results of these tests are shown in Appendix C.

7.1.1 It is believed that dust problems occurring in 1977 were the direct result of limestone extraction activities being performed by a tracked bulldozer. The nature of the operation proposed now are different to those undertaken in 1977 and thus a comparison cannot be drawn.

Dust cont'd..

Interim site revegetation proposals as outlined in 4.5 (Staging of Project) allow for substantial grassing of the site.

7.1.2 to 7.1.4 The issue of dust has, it is believed, been adequately covered in both the C.E.R. and relevant sections of this Report.

Dust control measures on the machinery will consist of continuous water spray which has proved to be completely effective. Similarly stockpiles and unvegetated sites will be sprayed with water as often as is necessary to ensure that dust is not air borne.

7.1.5 The Proponent has no intentions to further quarry limestone at the site.

7.2 Nature and Extent of Dust which could be Generated

7.2.1 to 7.2.3 The Proponent contends that the commitment to monitoring of materials will preclude the entry of materials containing the likes of asbestos, heavy metals, electrical equipment or lead base paints. Initial sorting of materials is carried out at demolition sites to ensure that like materials only travel in truck loads. Materials that have no salvage worth such as painted timbers, electrical equipment etc are disposed off via normal tipping methods. Materials with salvage value are directed to salvage yards elsewhere.

Initial sorting such as this will ensure that only concrete, brick and mineral based materials (gravel, crushed rock etc) enter the site.

Secondary monitoring at the Beaconsfield site where a programme of continuous visual inspection and random sampling involving laboratory testing of materials entering the site, will be undertaken.

The commitment by Moltoni to move any undesirable material inadvertently entering the site and the potentially high cost in achieving this will ensure that initial screening of materials is carried out to the highest level.

7.2.4 To date there has been no evidence that the Asbestos found in roadbase material from Moltoni's Welshpool Crusher did arrive as part of demotion materials.
It is important to note that all hazardous and toxic materials must be removed from structures to be demolished prior to commencement with any demolition works.
The manner of removal must be in accordance with the requirements laid down by the Occupational, Health, Safety and Welfare Act and as required by the Building Trades Association.
These hazardous materials include, but are not limited to, PcB's, asbestos, SMF's, CMF's and various chemicals that may be stored on site. Furthermore the construction industry is now in the process of instituting the requirement for hazard surveys to be undertaken by a NATA approved body on all demolition sites prior to commencement of any demolition works.

7.2.5 Noted

7.2.6 In using a Gaussian normal distribution model to estimate the extent of dwellings downwind that would be affected by dust would require assumptions on at least the following items:

- Initial concentration at source of the dust
- Initial height of the source
- Mean horizontal wind speed
- Atmospheric stability (and hence dispersion parameters) and settling velocity of particles greater than the 20 microns in diameter.

Given these unknowns, it is contended that the statement that all dwellings within 350 metres down-wind would be affected is unsubstantiable.

7.3 Potential Health Effects of Dust

It is believed that the findings of the independent dust monitoring by Department of Occupational Safety and Health adequately demonstrates that the proposed operation will not produce dust levels that are harmful to health.

Site monitoring should ensure that toxic substances are excluded from the site and dust control measures will further ensure dust levels are kept to a minimum.

7.4 Dust Control Measures

See comments for 7.3 above

8. FUNGUS SPORES AND POTENTIAL HEALTH IMPACTS

As the Proponent has elected not to proceed with treatment of organic material on site, concern of fungal spores is no longer applicable.

9. TRAFFIC

Access Route

In an effort to minimise the impact of the development's traffic on the residential amenity of the area, the proponent has endeavoured to obtain alternative access via Strang Street through private property. Unfortunately, to date, this has been unsuccessful however access has been obtained to the site from Mather Road following agreement with the owners of part Lots 1 and 225 Mather Road and the Main Roads Department (see Figure 1 over).

The Proponent undertakes to direct traffic to use Clontarf and Mather Roads and not to use surrounding residential roads - viz Lefroy and Annie.

Existing Traffic Volumes

Clontarf Road is classified as a District Distributor with a current traffic volume of 7370 (annual average weekday traffic - ex Main Roads Department). Mather Road is a local access road with traffic volumes in the vicinity of 1400 to 1500 vehicles per day (see Figure 2, Peak Hour Counts).

The Department of Planning and Urban Development indicates a desirable traffic volume of 800 vehicles per day for local access roads.

Mather Road is already substantially affected by traffic moving through to the schools in the vicinity and the light industrial businesses fronting directly onto it at the northern end.

The Fremantle City Council undertakes a significant fill operation on land north of Annie Street with access off Mather Road.

Traffic surveys show that approximately 9% of traffic is commercial; 2.5% of which is classified as heavy truck traffic.

Generated Traffic Volumes

Traffic generated by the proposed development has been affected by the Proponent's decisions to discontinue with the wood briquette manufacture and the move to increase the fill component associated with the inert waste recycling operations to substantially reduce the life of the development from 25 years to between 5 to 7 years.

Whilst the above decisions have generally led to a substantial reduction of total traffic from 884 vehicles per week (244 trucks and 640 vehicles) to 350 vehicles per week, the traffic will now consist almost exclusively of heavy truck traffic.

Based on a six-day site availability, the daily traffic flow in Mather Road will therefore be increased by approximately 60 vehicles (heavy trucks) per day.

Based on equivalent passenger vehicles, this represents an increase of 7% in total daily traffic flows in Mather Road.

When considering the existing operations served directly by Mather Road including a similar landfill operation undertaken by the City of Fremantle, it is believed the additional traffic flows will not adversely affect the current environment capacity of the location.

Traffic surveys have shown that cyclist activities are negligible at the intersection of Mather and Clontarf Roads at morning and evening peak traffic flow periods (ie 7am to 9am and 4pm to 6pm) and approximately 14 pedestrians cross the intersection. Almost all of the pedestrians were registered in the 10 years plus age group.

The recent addition of a central island channelisation in Mather Road will further assist with pedestrian movements across this intersection.

Conclusions

The efforts that the Proponent has made to establish site access which will cause minimum disruption to the surrounding residential areas has clearly shown his desire to be a good neighbour.

The Proponent's decisions to forego the recycled organic briquette manufacture at the site and increase fill operations to ensure an early completion of the project, have resulted in substantial reduction in predicted traffic movements to and from the site.

In choosing to access the site via Mather Road, the Proponent has recognised the existing level and nature of traffic currently using the street. It also needs to be noted that Mather Road lies at the interface of a large portion of land which presently is relatively undeveloped.

Should this area fulfil its potential as either residential or light industrial use, both of which we are advised would be acceptable under current zonings; Mather Road would be conveniently positioned to develop as a local collector road with possible traffic volumes of 3000 to 4000 vehicles per day.

In light of the above, the Proponent contends that impact from the traffic generated by the development will be minimal.

10. GROUND WATER DRAWDOWN AND POLLUTION

10.1.1 No longer applicable.

10.1.2 to 10.1.6 Liquid waste from the site will now be limited to sewage which will be disposed of by a septic system constructed to statutory requirements.

10.2 Ground Water Drawdown Affects and need for Remedies

10.2.1 It is the Proponent's assessment that groundwater supplies in the area of the proposed development are adequate to sustain existing and additional demands being placed on it by the proposed development.
The provision of a monitoring bore by the Proponent will also serve to monitor water table levels and identify any deleterious affects in terms of drawdown etc.

10.3 Potential for Groundwater Pollution and need for Remedies

In respect of this matter the Authority should note that the potential for groundwater contamination has been significantly reduced with the Proponent's decision not to proceed with the treatment of organic materials on site. Additionally the Proponent has given a commitment to putting in place multiport sampling bores on the perimeter of the site. This will permit ongoing monitoring of groundwater and will serve to identify any pollutant plumes should they develop. Should any such plume be identified, pollutant sources will be identified, isolated and removed.
Management procedures already outlined for the monitoring of incoming materials will ensure that no substance capable of entering groundwater is placed on site.
The Proponent is not prepared to accept responsibility or liability for possible pollution that may exist or be created by uncontrolled landfill operations currently being undertaken on adjoining sites.

11. VIBRATION

The Proponent proposes to place an absorbent sand sheet at the base of the quarry prior to the commencement of fill operations. Sheepsfoot type compactors will be used on site to avoid the development of vibrations normally associated with dynamic compactors. The crushing unit will be fed via conveyors to offset any vibrations that may have been generated by tracked feeder equipment originally nominated and similarly stockpiles of processed materials will be fed via conveyor.

In position, the crusher is equipped with damping devices that ensure that no vibration is transmitted from the jaws of the machine into the ground on which it is standing.

Previous experience has shown that the tipping of materials such as concrete, bricks etc do not result in vibrations being transmitted through the site.

12. ODOUR

In light of the Proponent's decision to remove the treatment of organic wastes, this is no longer applicable.

13. VERMIN

Inert landfill material is unlikely to attract vermin and improved management by the fill site operations will ensure vermin habitats are removed.

14. PLANNING AND FUTURE LAND USE ISSUES

These issues are under the control of both State and Local Government Planning Authorities and as such are beyond the scope of the Proponent.

15. MONITORING AND COMPLIANCE

Moltoni has given a commitment to the monitoring of prescribed aspects of the operation in his CER document.

Detailed programme of all monitoring procedures including frequencies and method of reporting is subject to subsequent issue of EPA Works Licence and consideration of the proposal by the Fremantle City Council as part of their planning process.

As such it is considered inappropriate to define set programmes at this stage but to defer and develop these in light of the requirements of the EPA Works Licence and Local Authority Development Approval.

The commitments given by the Proponent will be sufficient to ensure satisfactory compliance.

16. AMENITY

The Proponent is of the opinion that the development proposed can only improve the amenity of the site both in the short term and in the long term.

In order to screen the site from the residential areas immediately adjacent to the development, the Proponent has undertaken to erect an FRC fence and landscaping on the boundaries of Lefroy and Moran Streets.

Controlled hours of operation and responsible management procedures should ensure that the local amenity of nearby residents is not compromised.

Ultimate end use of the site is as previously stated, dependent on considerations by the Fremantle City Council.

17. COMMITMENTS

In support of the commitments undertaken by Moltoni Corporation as part of the original Consultative Environmental Review and having due consideration to the amendment to the proposed development as indicated previously in this document, Moltoni Corporation now undertakes the following commitments in respect to the Beaconsfield Landfill/Recycling Project.

(i) Prior to commencement of the operations, the site will be cleared of excess rubble and rubbish and levelled to remove all impediment to operations and to improve visual amenity.
The site will be fenced on the south and eastern boundaries with fibre reinforced concrete type fencing 1.8m high.
The remainder of the site will be secured with a 1.8m link mesh fence.
All fencing will be erected to the satisfaction of the Local Authority.

(ii) In conjunction with the construction of site ablutions, all sewage effluence will be disposed of via an approved septic system that satisfies all requirements of the Local Authority and the Western Australia Public Health Department.

(iii) Silt traps and oil separators will be incorporated in the construction of all vehicle wash-down and maintenance areas.
Such facilities will be inspected fortnightly and maintained and cleared by the Proponent as required. All recovered oils and contaminated wastes will be removed from the traps and disposed of at a site and by methods approved by the Local Authority.

(iv) All fuel storage on site will be constructed in accordance with the requirements of the Department of Mines.

(v) All boundary fences will be inspected weekly for security and blown litter on the site will be collected at that time by the Proponent.

(vi) All access roads to and on the site will be constructed to a bitumen seal standard to the satisfaction of the Local Authority prior to operations commencing.

All trucks accessing the site will be directed by the Proponent not to use surrounding residential streets, e.g. Lefroy and Annie Streets.

(vii) No dynamic vibration equipment or tracked machinery will be used on the site.

(viii) All landscaping of the site will be undertaken in accordance with a landscaping programme and plan developed and implemented by the Proponent to the satisfaction of the Local Authority.

Such a plan and programme will be prepared within one month of receiving Works Approval.

(ix) Only inert dry waste materials will be accepted on the site.

A sorting and sampling programme developed to the satisfaction of the Local Authority and the EPA will be implemented prior to the acceptance of any material on site.

Such a programme will require the Proponent to sample and test random loads at agreed intervals and submit reports to both the Local Authority and the EPA.

(x) Water sprays will be operated as required on all crusher feed points and at all locations on the crusher and stockpiles where the potential for dust generation exists.

Water spray rates will be staged to ensure dust is restricted to a maximum distance of 10.0m from any point of generation.

Following the completion of each staged filling operation, the area will be covered with hydro-mulch incorporating rye and winter grasses. The areas will be watered and maintained to ensure an appropriate level of grass coverage is achieved that will preclude dust movements from the surfaces.

Tube type dust monitors will be placed on the perimeter of the site at intervals sufficient to obtain representative samples of airborne dust.

The development of a programme of dust monitoring employing these monitors, will be developed in consultation with the EPA.

The implementation and operation of the programme will be undertaken by the Proponent and reports will be submitted to both the Local Authority and the EPA at agreed intervals.

(xi) All items of plant likely to have influence on noise emission will be maintained in a manner so as to minimise the generation of noise to the reasonable requirements of the Director, Pollution Control Division of the EPA.

The site shall be managed and operated such that noise emissions do not cause or contribute to sound pressure levels in excess of those prescribed by the EPA.

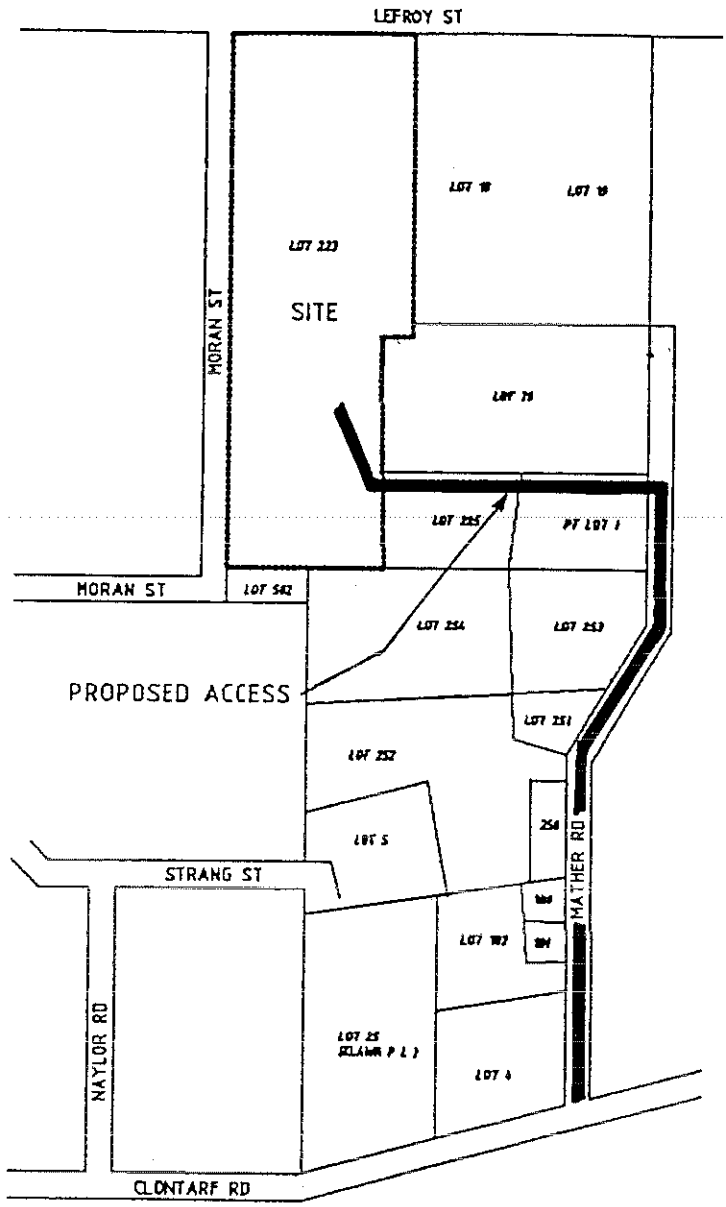
An inspection programme shall be developed in conjunction with, and to the satisfaction of, the Local Authority. Such a programme to be undertaken by the Local Authority at the cost of the Proponent.

(xii) The operations of the site will be managed to provide a balance between fill and recycling operations and in order to achieve the desired project life a closure plan will be developed in conjunction with, and to the satisfaction of, the Local Authority within five to seven years of commencing operations.

(xiii) Prior to accepting materials on site, multi-port monitoring bores will be installed to evaluate existing ground water quality. The location of the bores and parameters to be measured will be in accordance with the requirements of the EPA.

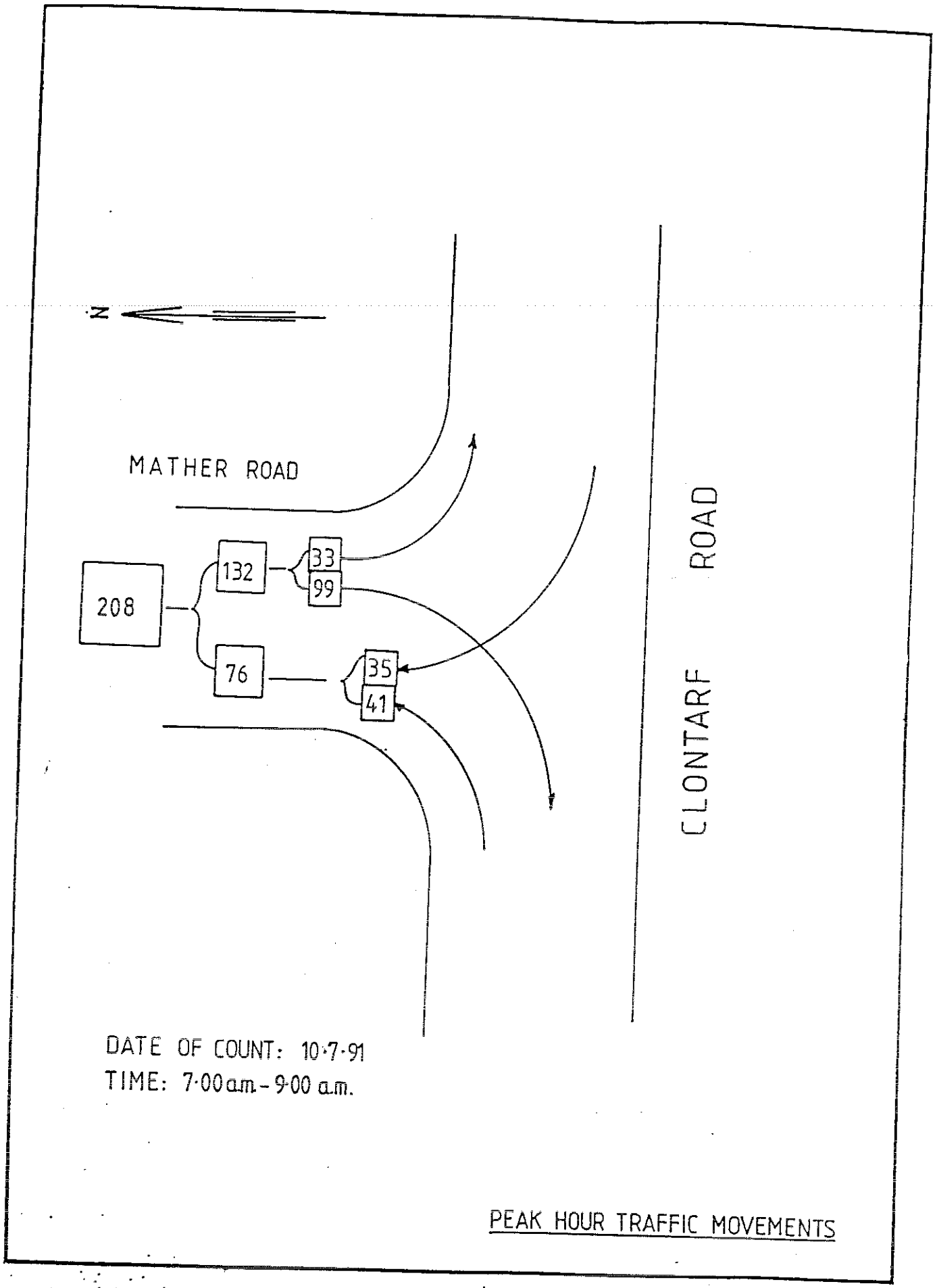
A programme for the ongoing monitoring of ground water will be developed in conjunction with, and to the satisfaction of, the EPA.

All appropriate management actions will be taken to prevent further pollution should any be detected, and the Proponent will bear the reasonable cost of any ensuing amelioration work necessary which could fairly be ascribed to Moltoni Corporation's activities to the site.



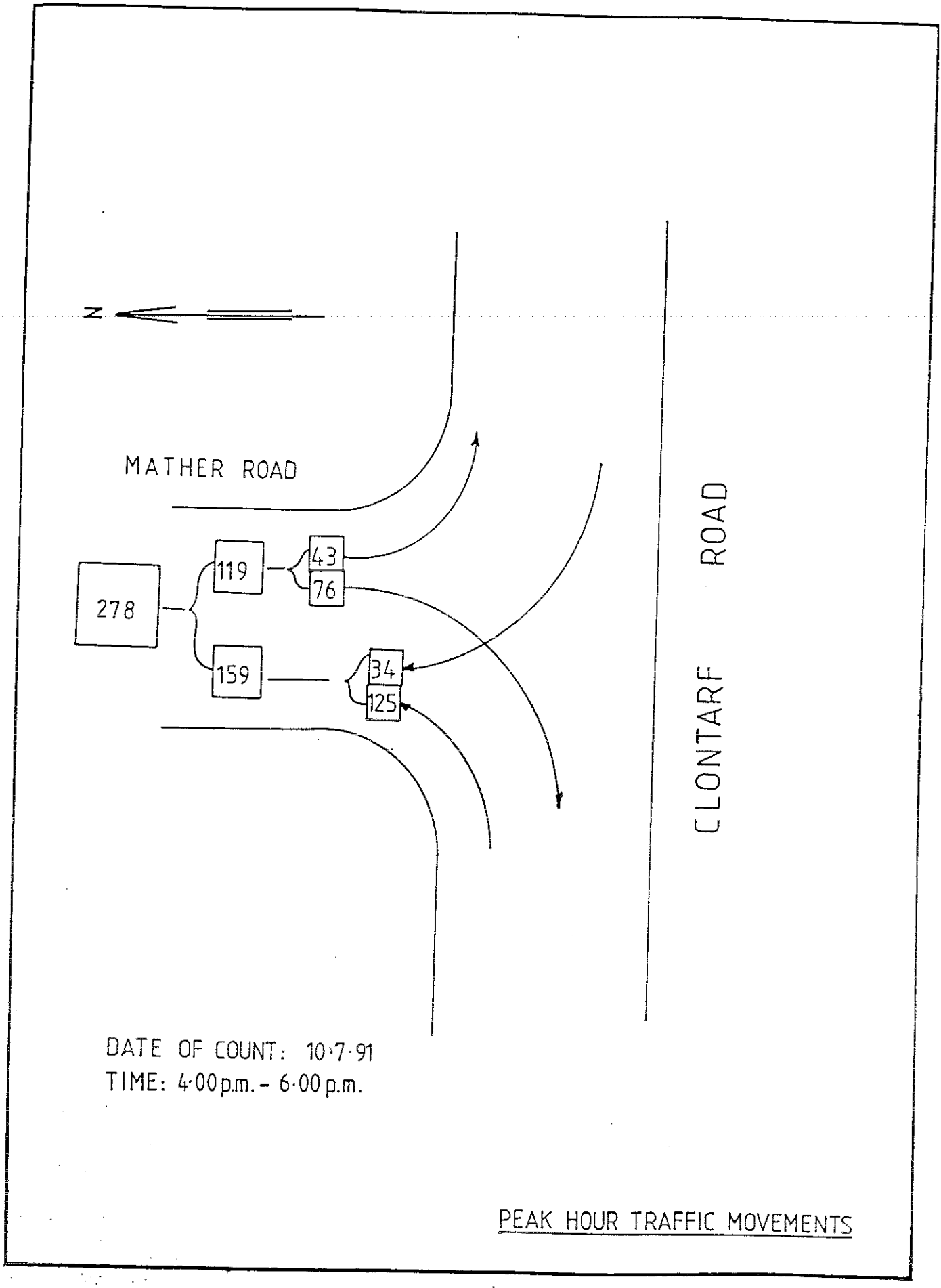
PROPOSED ACCESS TO MOLTONI SITE
N.T.S.
SUBJECT TO DETAILED SURVEY AND DESIGN

FIG. 1



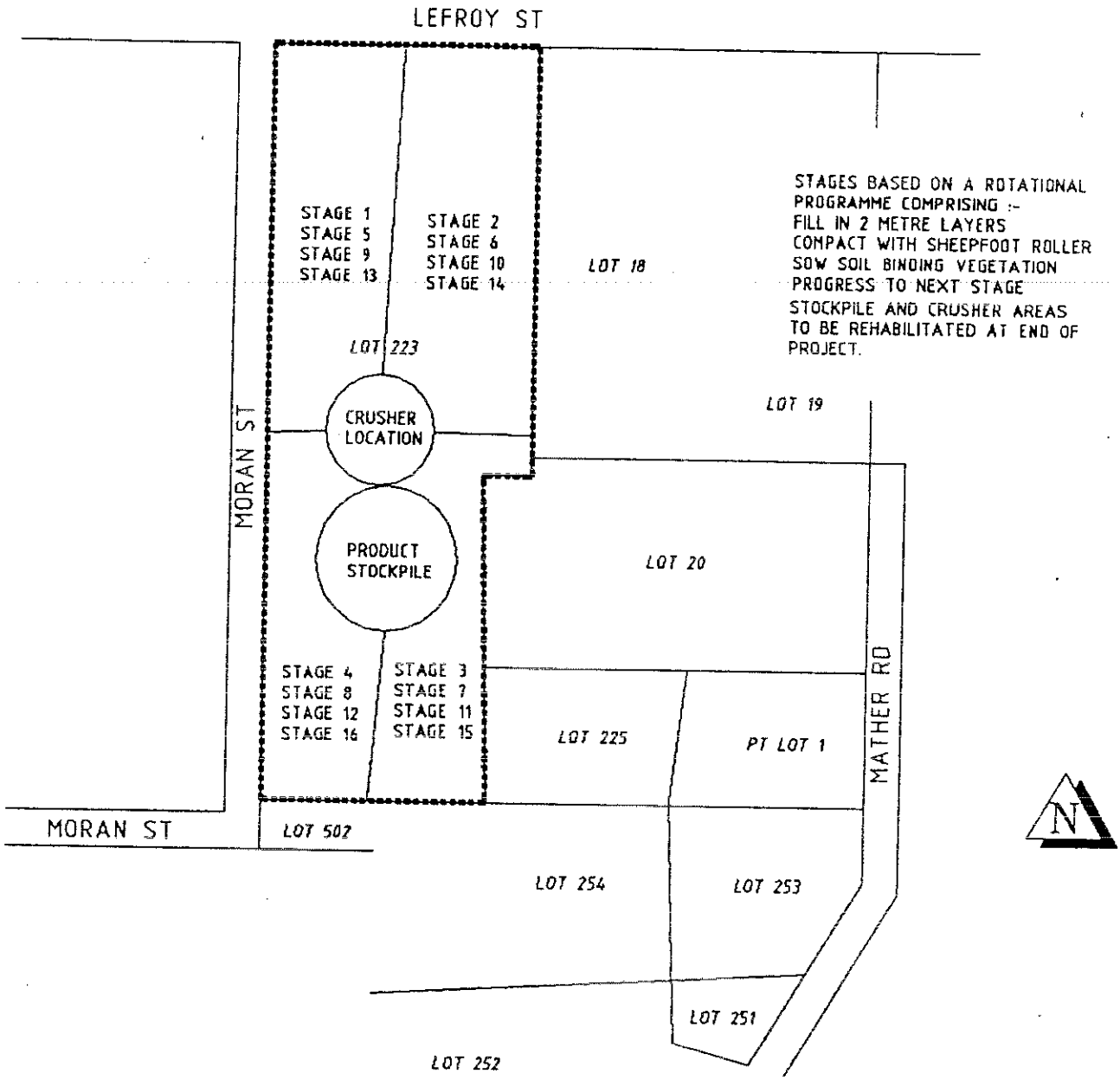
PEAK HOUR TRAFFIC MOVEMENTS

FIG 2-1



PEAK HOUR TRAFFIC MOVEMENTS

FIG 2 - 2



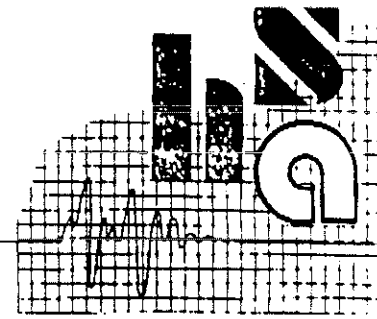
PROPOSED STAGING CONCEPT PLAN
MOLTONI CORPORATION
NOT TO SCALE

FIG 3

APPENDIX A

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street, Como,
Western Australia, 6152.

Telephone: (09) 367 6200
Facsimile: (09) 474 2579



ALLAN HERRING M.I.E. AUST. M.A.A.S
LYNTON STORER M.A.I.C.A., M.A.A.S.

Our ref.0854-91037

3 July 1991

Moltoni Corporation Pty Ltd
Cnr Briggs & Planet Streets
WELSHPOOL WA 6106

Attention: Mr M J Faulkner

Dear Sir

BEACONSFIELD RECYCLING PARK

Further to our report of 3 May 1991 we confirm having measured noise levels of 81 dBA at 7 metres distance from the rear of a loader which we believe is the size of machine you would consider using for your recycling plant. A copy of noise levels measured around this machine is attached for your added information.

With further noise control around the engine compartment, selected engine components and the exhaust systems (priority ranking would have to be determined by more detailed measurements), we would anticipate that reductions of 3 - 5 dBA would be feasible.

Resultant bystander noise levels would therefore lie in the 75-80 dBA range, which is within the levels used for predicting the environmental noise contours which produced satisfactory results at nearest residential properties.

Yours faithfully
for: HERRING STORER ACOUSTICS

. . . . . .
Allan Herring

Att.

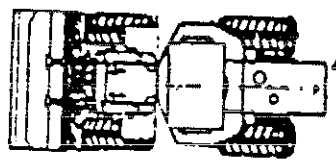
OPERATOR NOISE LEVELS	S.H.I.	IMP.CYC.	CONST.SPEED	I.M.I.	
	dB(A)	LAeq dB(A)	LAeq dB(A)	dB(A) max.	
Left ear	81	81	80	81	
Right ear	81	81	80	81	

Travel - maximum rpm in first gear

COPY

79

68



81

79

NOTE : 1. MEASUREMENTS SHOWN AS dB(A) SLOW UNLESS OTHERWISE NOTED.
2. BYSTANDER LEVELS AT 7 M. DISTANCE & 1.5 M. ABOVE GROUND.
3. OPERATOR MEASUREMENT AT OPERATORS EAR POSITION.
4. BYSTANDER LEVELS AT STATIONARY HIGH IDLE CONDITIONS
5. TESTS GENERALLY AS DEFINED IN AS2012, S.H.I. DENOTES STATIONARY HIGH IDLE, I.M.I. DENOTES STATIONARY IDLE - MAXIMUM IDLE

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street, Como,
Western Australia, 6152.
Telephone: (09) 367 6200 (09) 367 0621
Facsimile: (09) 474 2579

VOLVO
L90 LOADER
Serial No° L90V10195

1/3/91

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street, Como,
Western Australia, 6152.

Telephone: (09) 367 6200
Facsimile: (09) 474 2579

ALLAN HERRING M.I.E. AUST. M.A.A.S
LYNTON STORER M.A.I.E.A., M.A.A.S.

Our ref.0698-91037

COPY

3 May 1991

Moltoni Corporation Pty Ltd
Cnr Brigg & Planet Street
WELSHPOOL WA 6106

Attention: Mr M J Faulkner

Dear Sir,

Re: Beaconsfield Recycling Park

Further to instructions we have undertaken a study of noise emission and propagation to surrounding areas of the proposed Recycling Plant in Lefroy Road Beaconsfield.

This study is a review of the proposed operations due to changes in equipment required on site and different truck access route, to that originally studied - ref: 0499-90001-058.

METHOD

Information of equipment noise levels was obtained by measurement of the proposed equipment presently located at the Welshpool Plant.

Generally measurements were taken at a distance of 7m whilst plant was operating normally. In the case of the 6 wheeler truck, measurements were recorded with the truck driving by at approximately 20 Km/hr.

The maximum level recorded of a series of locations around each unit was used for the determination of the sound power level and hence the determined propagation can be considered conservative i.e. the levels determined would be absolute maximum.

Propagation from the site was computer generated using the E.N.M. Computer Modelling Programme, utilizing the above determined sound power levels, taking into account the local topography and atmospheric conditions.

OPERATION

Plant operations are such that a loader will be permanently on site stockpiling and loading trucks.

The volume of trucks using the site is expected to be up to 40 per day.

.../2

Crushing plant and excavator will be transported to site from the Welshpool operation ranging from once a month perhaps for a one week period to once very 6 months for a one month period.

The proposed route for trucks, in order to avoid residential built up areas as much as possible, is shown on sheet 1.

RESULTS

The results of equipment measured levels are shown as 1/3 octave band sound power levels on the attached data work sheet No.1 along with the determined sound power levels.

A summary of measured levels is as follows:

Excavator	79 dBA @ 7m
Crusher	74 dBA @ 15m
6 Wheeler Truck	78 dBA @ 7m

A summary of determined sound power levels is as follows:

Excavator	107 dBA
Crusher	108 dBA
6 Wheeler Truck	106 dBA

File data was used for a standard new front end loader. A summary of data used is as follows:

Sound Pressure Level	81 dBA @ 7m
Sound Power Level	109 dBA

The results of computer modelling (ENM programme) are shown as noise level contours on the attached plot reference No.2. The conditions of propagation for this plot are using the three noise sources above, ground topography as currently exists but including material stockpile and atmospheric conditions of calm with a temperature of 25°C. Allowance is also made for a 2 metre high solid fence along Moran Street.

The ENM programme was also used to determine truck noise propagation from the proposed road to the nearest residence. This is shown as a single point calculation on sheet 3 again taking into account topograghy, ground type and atmospheric conditions.

DISCUSSION

As per previous reports, the assigned noise level for the area in question in accordance with the Environmental Protection Act 1986 Regulations, would be 50 dBA (Weekdays 0700 hrs - 1900 hrs) providing no annoying characteristics exist in the emitted noise such as tonal components, frequency modulation etc.

.../3

Tonal components are likely to exist, particularly from the loader. Where such components exist, an adjustment of +5 dBA would be made to the measured level.

From the noise contour plot, it can be seen that the maximum noise level at the residential boundary is 45 dBA, with tonal adjustment this would be assessed at 50 dBA. This level is within the stated assigned noise level.

The major noise source is the front end loader, however, this is not a continuous operation. The intermittency of the operation would attract a further adjustment, to any measured level, of -5 dBA to reflect the annoyance potential and hence, the predicted adjusted levels are well within the Regulations.

Noise levels from a truck at the closest location to the residence results in a level of 44 dBA at the residence.

In terms of intermittancy, a conservative estimate of 40 trucks per day (80 passes) and the fact that a truck is audible for 30 secs for each pass result in an exposure level of 40 minutes per day or 5 minutes in an hour. In accordance with the Regulations, intermittancy of 5 minutes in an hour warrants a reduction in a measured noise of up to -10 dBA.

Hence, resultant truck noise at the nearest residence would be assessed as follows;

Instantaneous level	44 dBA
Adjustment for tonal and frequency modulation	+10 dBA
Adjustment for intermittancy	-10 dBA

Therefore resultant adjusted level is 44 dBA which is well within the assigned level of 50 dBA.

SUMMARY

Predicted levels from both fixed and mobile plant, including delivery trucks, results in noise levels to the nearest residence that are within the assigned level in accordance with the Environmental Protection Act 1986 Regulations. This is providing a loader with an average noise level of 80dBA at 7 metres is used and solid fencing is installed along Moran Street. Consequently complaints of excessive noise are unlikely to arise or be justified in accordance with the Regulations.

Yours faithfully
for HERRING STORER ACOUSTICS

. . . . . .
Lynton Storer

Atts.

Suite 34, 11 Preston Street, Como,
Western Australia, 6152.

Telephone: (09) 367 6200
Facsimile: (09) 474 2579

ALLAN HERRING M.I.E. AUST. M.A.A.S.
LYNTON STORER M.A.I.E.A., M.A.A.S.

FACSIMILE TRANSMITTAL

TO: Mouvai Corporation NO:

ATTENTION: J. Faulkner

FROM: Lynton Storer

DATE: 28/8/91 TIME:

SUBJECT: B.R.P

NUMBER OF PAGES INCLUDING COVER PAGE:

If not received in entirety please telephone (09) 367 6200 or facsimile (09) 474 2579

☐ Original in post

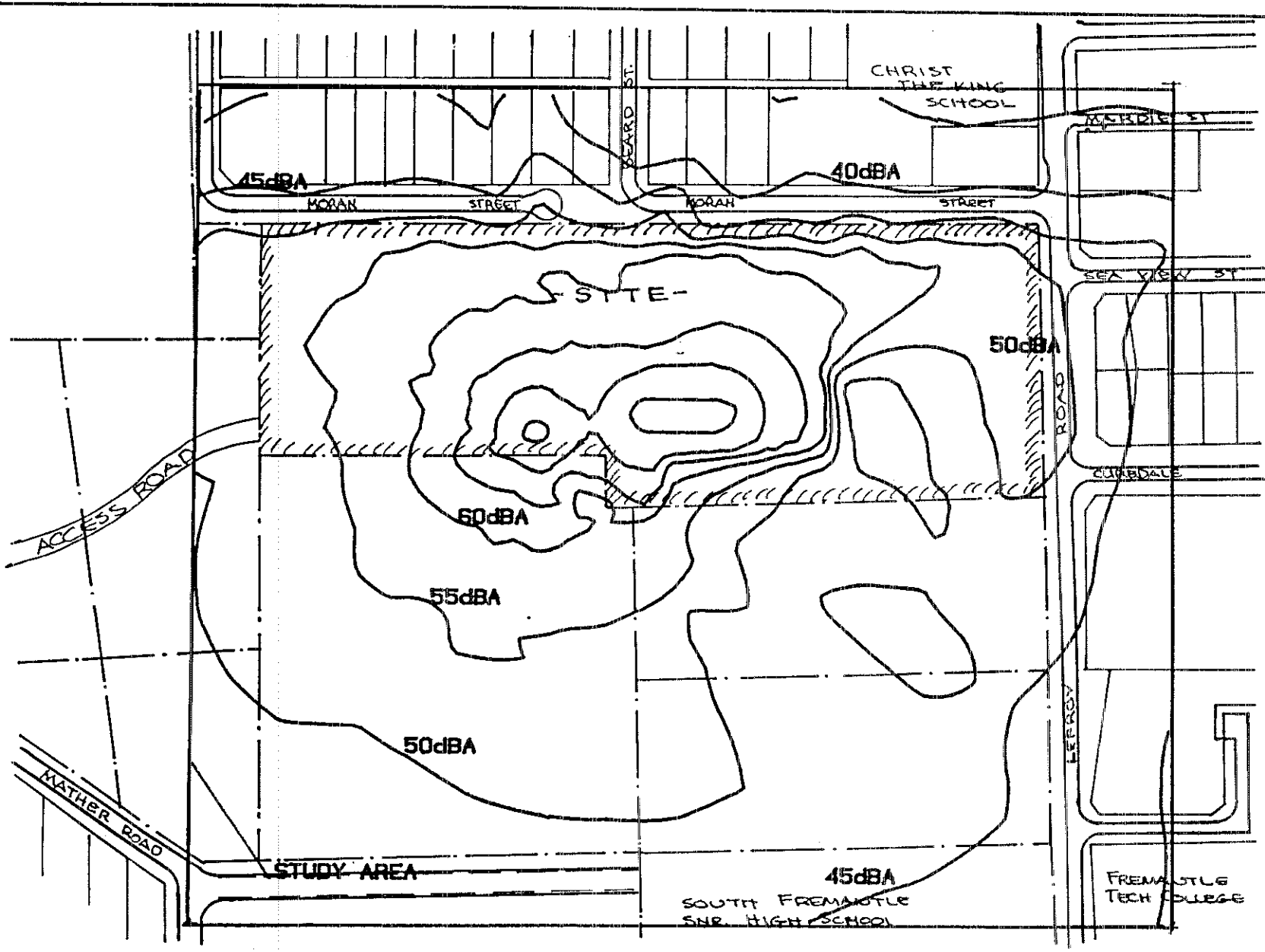
☐ Details as requested

John, herewith is noise contour print out using the quietest possible loader - 79 dB(A) at 7 metres.
You will notice very little difference to the last plot. This is because the CRUSHER is now the dominant source. However the noise due to the loader alone is 2 to 3 dB(A) less than the combined noise levels shown & therefore is unlikely to attract any tonal component penalties & hence it can be said results in levels around 40 dB(A) at the nearest residence - 10 dB(A) below the assigned level.

Hope this is sufficient for you.

Regards Lynton.

P.S. Also copy of last letter.



NOISE LEVEL CONTOURS dB(A) INCORPORATING QUIETEST LOADER.

DATE: AUG 1991	SCALE: N.T.S.	BY: L. STORER	DRG. NO. 91037 / 3

MOLTONI CORPORATION PTY LTD
Proposed Recycling Park
Noise Level Contours

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street Como
Western Australia, 6152
Telephone (09)3676200
Facsimile (09)4748579

TRUCK

037

Lin/Awt

		FREQUENCY Hz									
		31.5	63	125	250	500	1k	2k	4k	8k	16k
EVEL		97.5	107.1	106.0	98.1	95.0	100.9	94.3	89.5	81.0	80.0
		115.5	104.7	106.8	98.9	93.5	99.5	93.4	87.7	78.8	76.7
		106.2	106.5	100.9	95.6	94.6	94.9	90.7	83.8	79.9	71.7
VITY		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CE		54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
		54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
		54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
R		5.1	5.3	5.5	5.9	6.7	8.2	10.3	12.3	14.5	17.4
		5.2	5.3	5.6	6.1	7.1	8.8	11.1	12.8	15.5	18.5
		5.2	5.4	5.7	6.4	7.6	9.5	11.7	13.5	16.5	19.5
SORPTION		.0	.0	.0	.1	.4	.8	1.3	2.6	7.7	26.6
		.0	.0	.0	.2	.5	.9	1.6	3.7	11.7	41.9
		.0	.0	.1	.2	.6	1.1	2.0	5.2	17.6	62.7	
WIND		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
D		-6.0	-6.0	-4.7	7.4	-3.1	1.1	-2.9	-2.2	-1.2	-.8
		-6.0	-6.0	.3	3.4	-2.9	-3.2	-.8	.0	10.7	10.4
		-6.0	-6.0	3.9	-.9	1.4	2.0	-1.2	-2.1	-1.6	-.4
AWT	43.7	43.9	53.4	50.7	30.2	36.6	36.4	31.1	22.3	5.6	-17.7
		61.9	50.9	46.4	34.8	34.3	38.6	27.1	16.9	-13.5	-48.5
		52.5	52.6	36.7	35.4	30.5	27.8	23.7	12.7	-7.0	-64.5
L AWT	43.7	43.9	53.4	50.7	30.2	36.6	36.4	31.1	22.3	5.6	-17.7
		61.9	50.9	46.4	34.8	34.3	38.6	27.1	16.9	-13.5	-48.5
		52.5	52.6	36.7	35.4	30.5	27.8	23.7	12.7	-7.0	-64.5

80.6
71.2
85.1
74.0
83.5
78.7
82.9
77.9
90.5
78.3
8.0
6.9
1.4
.6
.4
.2
4
8

PROGRAM ENM SOURCE RANKING

SINGLE POINT CALCULATION

RCE	TITLE	dB(A)
1	MOLTONI TRUCK	43.7
	TOTAL	43.7

SHEET 3

APPENDIX B

The Manager
MOLTONI CORPORATION PTY. LTD.
Cnr Briggs and Planet Streets
WELSHPOOL WA 6014

Your ref.
Our ref.
Enquiries

L85/90

Dear Sir/Madam

ENVIRONMENTAL PROTECTION ACT LICENCE NUMBER 2821

RECYCLED MATERIALS COMPANY
Lot 9 Plan 6101 Cnr Briggs and Planet Streets
WELSHPOOL 6014

You are advised that your application for a Licence to operate the works prescribed under the Environmental Protection Act 1986 at the abovementioned location has been approved subject to the attached conditions. Enclosed is your Licence, number 2821, together with receipt number 445910, for the prescribed fee.

If you are aggrieved by any aspect of the Conditions of Licence you may lodge an appeal, accompanied by the $50.00 fee, with the Minister for the Environment within 21 days from the date on which this notice is received.

If you have any questions relating to the Conditions of Licence please contact Gavin Scally of the Pollution Control Division on 222 7104.

Yours faithfully

Malcolm Wills
A/DIRECTOR
POLLUTION CONTROL DIVISION

Thursday, 13 June 1991

encs

copy to:

Local Government Authority: Shire of Perth

LIC ISSUE LETTER

Environmental
Protection Authority

1 Mount Street Perth
Western Australia 6000
Telephone (09) 222 7000
Facsimile (09) 322 1598

WESTERN AUSTRALIA

ENVIRONMENTAL PROTECTION AUTHORITY

Environmental Protection Act 1986

LICENCE

LICENCE NUMBER: 2821

FILE NUMBER: L85/90

NAME OF LICENSEE:

MOLTONI CORPORATION PTY. LTD.

ADDRESS FOR CORRESPONDENCE:

Cnr Briggs and Planet Streets
WELSHPOOL 6014

NAME AND LOCATION OF LICENSED PREMISES:

RECYCLED MATERIALS COMPANY
Lot 9 Plan 6101 Cnr Briggs and Planet Streets
WELSHPOOL 6014

CLASSIFICATION(S) OF PRESCRIBED PREMISES:

GRINDING AND MILLING WORKS [Schedule3-1(k)]

COMMENCEMENT DATE OF LICENCE: Thursday, 13 June 1991

EXPIRY DATE OF LICENCE: Friday, 12 June 1992

CONDITIONS OF LICENCE:

As described and attached:
GENERAL CONDITION(S): G1 TO G7
AIR POLLUTION CONTROL CONDITION(S): A1 TO A2
NOISE POLLUTION CONTROL CONDITION(S): N1 TO N2

.....
Officer delegated under Section 20
of the Environmental Protection Act

Date of Issue: Thursday, 13 June 1991

Receipt No: 445910
Receipt Date: 19/7/90
Licence Fee: $250.00

WESTERN AUSTRALIA

ENVIRONMENTAL PROTECTION AUTHORITY

Environmental Protection Act 1986

CONDITIONS OF LICENCE

LICENCE NUMBER: 2821 **FILE NUMBER: L85/90**

GENERAL CONDITIONS

G1 NOMINAL RATED THROUGHPUT

(a) The nominal rated throughput of the premises covered by this Licence is in accordance with the following:

Quantity of Building Rubble Processed: 50,000 tonnes per annum

(b) Any significant increase (greater than 10 per cent) above the nominal rated throughputs listed in part (a) of this condition shall not occur unless the licensee has been granted prior approval in writing from the Director, Pollution Control Division, or, the increase is in accordance with a Works Approval issued under the Environmental Protection Act.

G2 PERSON IN CHARGE TO HAVE ACCESS TO CONDITIONS

Any person in charge of the premises at any time shall be aware of these Conditions of Licence and have reasonable access at all times to these Conditions of Licence or copies thereof.

G3 CERTIFICATION OF DEMOLISHED PREMISES

The licensee shall obtain independent written documentation certifying that any building, from which rubble is to be transported to the licensed premises is free of material containing either asbestos and/or polychlorinated biphenyls (PCB's) (for the purposes of this condition "independent" means not associated with either the Recycled Material Corporation or Mainline Demolition). This documentation shall be provided to the Director, Pollution Control Division for assessment and approval prior to the transshipment of any building rubble to the licensed premises.

G4 ASBESTOS OR PCB'S ON SITE

The licensee shall ensure that every load of material entering the licensed premises is visually screened for asbestos and articles likely to contain PCB's and that none of this material is processed. All such material, if detected, shall be managed in accordance with relevant Department of Occupational Health, Safety and Welfare regulations and disposed of in a manner that satisfies the Department of Health.

G5 BOUNDARY

The licensee shall indicate the boundary of the premises by means of markers within line of sight and indicating each change in direction of the boundary or by fencing to enable measurements to be made for the purposes of condition A2.

CONDITIONS OF LICENCE

LICENCE NUMBER: 2821 **FILE NUMBER: L85/90**

GENERAL CONDITIONS (CONT'D)

G6 APPROVED TRANSPORT ROUTES

(a) Trucks carrying building rubble from sites in the Perth Central Business District shall only gain access to the site via Shepperton and Welshpool Roads and Tomlinson Street. All other traffic shall approach the site via Welshpool Road and Tomlinson Street. The licensee shall take all reasonable and practical measures, including preconditions in contracts with subcontractors that relate to dismissal and/or non-renewal of contracts, to ensure the passage of trucks carrying building rubble to the site via these routes.

(b) All trucks shall employ covers to ensure that no material is spilt during travel between the demolition site and licensed premises.

G7 ACCESS TO SITE

Only vehicles under the control, either directly or via contractual arrangement, of the licensee, shall be allowed to deposit material at the licensed premises.

AIR POLLUTION CONTROL CONDITIONS

A1 DUST GENERATION CONTROL

(a) The licensee shall operate when necessary the water sprays on the coarse ore feed point to the crusher and shall install and operate when necessary water sprays on any other point on the crusher that is causing or is likely to cause dust in order to prevent or minimise the generation of dust such that no dust is visible further than 5 metres from any point of generation.

(b) Routine maintenance and housekeeping practices shall be employed to ensure that there is no accumulation of waste materials in or around the premises which may lead to the generation of airborne dust.

(c) Dust from the stockpiles shall be controlled by the use of the water sprinklers located adjacent to the stockpiles during periods when dust generation appears likely. The sprinklers shall be operated for a minimum of 10 minutes in the hour during those periods.

(d) The licensee shall take all reasonable and practicable measures to prevent or minimise the generation of dust from all materials handling operations, stockpiles, open areas and transport activities.

(e) All trafficked areas shall be paved or sealed and be maintained in a manner which prevents or minimises the generation of airborne dust. Where necessary these areas shall be swept, hosed or vacuumed clean to remove spillages.

WESTERN AUSTRALIA

ENVIRONMENTAL PROTECTION AUTHORITY

Environmental Protection Act 1986

CONDITIONS OF LICENCE

LICENCE NUMBER: 2821 FILE NUMBER: L85/90

AIR POLLUTION CONTROL CONDITIONS (CONT'D)

A2 PREMISES - AIRBORNE DUST LIMIT

The concentration of airborne dust from the (licensed) premises shall not exceed 1000 micrograms per cubic metre of air when measured in accordance with the following:

(i) the concentration of airborne dust to be determined as the difference in the concentration of dust in air between two samples of 15 minutes duration within a 60 minute period;

(ii) the samples shall be taken at locations within 5 metres of the premises' boundary on opposite sides of the premises;

(iii) one sampling location shall be generally located upwind of the other sampling location;

(iv) the air shall be sampled at a rate of not less than 100 litres per minute; and

(v) the samples shall be taken at a height between 1.5 and 2.0 metres above ground level.

NOISE POLLUTION CONTROL CONDITIONS

N1 NOISE LIMIT

(a) The premises shall be managed and operated such that the noise emissions from the premises does not cause or contribute to noise levels in excess of:

(i) 50 dB(A) Slow between 0700 hours and 1900 hours Monday to Saturday;

(ii) 45 dB(A) Slow between 1900 hours and 2200 hours Monday to Saturday;

(iii) 45 dB(A) Slow between 0700 hours and 2200 hours Sundays and Public Holidays; and

(iv) 40 dB(A) Slow between 2200 hours and 0700 hours always;

when measured:

(i) at any point on or adjacent to other premises not occupied by the licensee and used for residential or other noise sensitive purposes; and

(ii) at a height between 1.2 metres and 1.5 metres above ground level and greater than 3.5 metres from any reflecting surface other than the ground.

WESTERN AUSTRALIA

ENVIRONMENTAL PROTECTION AUTHORITY

Environmental Protection Act 1986

CONDITIONS OF LICENCE

LICENCE NUMBER: 2821 **FILE NUMBER: L85/90**

NOISE POLLUTION CONTROL CONDITIONS (CONT'D)

(b) Where the combined level of the noise emissions from the premises and the normal ambient noise exceeds the levels specified in part (a) of this condition, this condition shall be considered to be contravened only when the following criteria are also met at the measurement point:

(i) the noise emissions from the premises are audible to an Inspector; and

(ii) the noise emissions from the premises are identifiable by an Inspector as emanating from the premises.

(c) Noise emissions shall not cause unacceptable annoyance due to tonal or impulsive components. Those characteristics shall be assessed by an Inspector.

(d) Exemption may be granted from parts (a) and (c) of this condition in respect of any premises used for residential purposes by the negotiation of a written agreement with the occupier(s) of that premises. Such agreement to be acceptable to the Director, Pollution Control Division.

(e) For the purposes of this condition an Inspector means a person appointed as an Inspector under the Environmental Protection Act.

N2 NOISE - MAINTENANCE OF PLANT

Plant components likely to influence noise emissions, including mufflers on mobile plant, audible warning devices and public address facilities shall be maintained in a manner so as to minimise the generation of noise to the reasonable requirements of the Director, Pollution Control Division.

.....
OFFICER DELEGATED UNDER SECTION 20
OF THE ENVIRONMENTAL PROTECTION ACT

Date: **Thursday, 13 June 1991**

APPENDIX C

Your Ref.
Our Ref.
Enquiries.
Date.

Department of
Occupational Health,
Safety and Welfare
of Western Australia

ASSESSMENT REPORT

TO DR L GLOSSOP
ACTING MANAGER
OCCUPATIONAL HYGIENE AND NOISE BRANCH

MR R ELKINGTON
CHIEF INSPECTOR
FACTORIES AND SHOPS BRANCH

ATTENTION LEW FLEMING

FROM MARTYN CROSS

DATE 18 MARCH 1991

RESPIRABLE DUST LEVELS/SILICA: RECYCLING CORPORATION
CORNER BRIGGS AND PLANET STREETS, WELSHPOOL

INTRODUCTION

Air monitoring was carried out on 6 March 1991 at the above address.

Assessment of personal exposure by sampling the workers' breathing zone according to Australian Standard 2985 (1987) for respirable dust was performed.

Two workers were monitored:-

The crusher controller situated on the platform above the crusher.

The conveyor worker positioned below and to the side of the crusher.

RESULTS

No respirable silica dust was detected on the personal sampler of the conveyer worker.

The respirable dust detected by personal sampling of the crusher controller was 0.1 mg/m3. The Threshold Limit Value (TLV-TWA) for "respirable dust not otherwise listed" is 5 mg/m3, and therefore this limit was not exceeded.

The alpha-quartz content of concrete has consistently been shown to be between 10% and 20% in assessments carried out by DOHSWA. Thus a maximum of up to 20% of the 0.1 mg/m^3 respirable dust was considered to be silica. That is the level (TLV-TWA) monitored for the crusher controller was considered to be less than or equal to 0.02 mg/m^3, or less than a fifth of the occupational exposure standard which is 0.1 mg/m^3 respirable quartz.

CONCLUSION

Both personal samplers showed the respirable silica (quartz) dust levels to be below the occupational exposure standard. Provided the crushing plant is operated to the standard existing during this monitoring (ie. dust suppression by water sprinklers) it is considered that there will be negligible health risk from silica dust exposure.

Martyn Cross
SCIENTIFIC OFFICER
OCCUPATIONAL HYGIENE AND NOISE BRANCH

mc0013(dj)

APPENDIX D

MAIN ROADS DEPARTMENT

WATERLOO CRESCENT, EAST PERTH, WESTERN AUSTRALIA.
PO Box 6202 EAST PERTH WA 6004 Phone (09) 323 4111 Fax (09) 323 4430 Telex AA 92894

Enquiries Mr Hicks on 323 4231

Our Ref 41-1006-3 & 41-358-2VC

Your Ref

Manager
Maltoni Corporation Pty Ltd
15 Mount Street
PERTH WA 6000

06 JUN 1991

Dear Sir

ACCESS TO LOT 223 LEFROY ROAD - BEACONSFIELD

I refer to the discussions between your Mr J Faulkner and Mr G Hicks from this Department, regarding the leasing of land to enable access to the abovementioned property and advise that this Department has no objections subject to a number of conditions:

1. Mr B Deane the lessee of the land hatchured blue on the attached plan having no objections to surrendering the rear portion of the land leased.

2. A detailed plan being provided showing the area required for the access road which will enable lease maps to be prepared for you and Mr Deane.

3. A formal lease agreement being entered into which will embody the conditions in the attached schedule.

4. A suitable fence to be erected on the boundary of the area being leased.

If you wish to discuss these matters further, please contact the Property Management Officer, Mr G Hicks on 323 4231.

Yours faithfully

D R Warner
DIRECTOR ADMINISTRATION & FINANCE

Per .....

May 31 1991

SCHEDULE - LEASING CONDITIONS

LEASE TERM:	Three years with a six month break clause. Commencement date to be determined.
AREA OF LAND:	Approximate area is 2 800 m^2.
RENTAL:	$2/square metre per annum. Payable per calendar month in advance to our Perth office. Rental will be subject to annual reviews.
OUTGOINGS:	All rates, taxes and charges levied on the property while leased to be paid promptly by lessee.
IMPROVEMENTS:	No new improvements to be erected on the property without prior written consent obtained from lessor.
ASSIGNMENT OR SUBLETTING:	Strictly prohibited. The provisions of Section 80 of the Property Law Act will be expressly excluded.
LAND USE:	Vehicle access to Lot 223 Lefroy Road, Beaconsfield.
STATUTORY REQUIREMENTS:	Lessee to obtain approval from the City of Fremantle to the proposed use and forward a copy of the lessor before commencement of lease.
ISNURANCE:	Lessee to effect and keep in force a Public Liability Insurance Policy in the joint names of the lessor and lessee to a value of not less than $1 000 000 and to forward the lessor evidence of the currency of such policy.
INDEMNITY:	Lessee to indemnify lessor from any claims whatsoever which may arise from the lease.
LEASE PREPARATION:	Lessee to pay all lease preparation and registration charges.
SPECIAL CONDITIONS:	Lease arrangements to be formally approved by the Asset Management Taskforce before the formal lease agreement is prepared.

Appendix 4

Environmental Protection Authority
Environmental noise management procedure

This procedure establishes noise environments considered by the Environmental Protection Authority to be the maxima acceptable in Western Australia for both residential and commercial/industrial premises where these premises are influenced by intrusive noise emissions from other premises.

Compliance with clauses 1, 2 or 7 of this procedure shall be deemed to result in noise emissions that are not unreasonable for the purposes of the Environmental Protection Act 1987.

Noise emissions which do not comply with this procedure shall be deemed to be pollution for the purposes of the Environmental Protection Act 1987.

Procedure

1. Noise emissions from premises shall be controlled such that:

   (a) these emissions do not cause otherwise existing ambient noise levels to exceed:

   - between the hours of 0700 and 1900, Monday to Saturday inclusive 50 dB(A);
   - between the hours of 2200 and 0700 on any day 40 dB(A);
   - at any other time 45 dB(A),

   at any residential premises; and

   (b) these emissions do not cause otherwise existing ambient noise levels to exceed:

   - at any time 60 dB(A)

   at any commercial or industrial premises.

2. Noise emissions from premises shall not include tonal components, impulses or other characteristics capable of causing the noise emissions to be more unreasonable than they would be in their absence.

   The existence and extent of any characteristics that cause a noise emission to be more unreasonable than it would be in their absence shall be determined by an authorised person or inspector.

3. Noise emissions shall be measured outside a residence or industrial/commercial premises wherever practicable and appropriate.

   In some situations, internal noise measurements may be more appropriate. Where this is the case, an acceptable noise environment shall be established on the basis that the building in question must provide adequate sound transmission loss for its purpose.

   These criteria shall be established by an authorised person or inspector.

4. Measurements of noise levels shall be undertaken in accordance with the methods published from time to time by the Chief Executive Officer.

5. Where a written complaint that noise emissions from a premises are not acceptable is received, the Chief Executive Officer or his delegated agent shall investigate the complaint.

Where this investigation shows that the noise emissions from the premises are unreasonable because of their levels or characteristics the following action shall be taken:

The Chief Executive Officer or his delegated agent shall require the occupier of the premises to reduce or modify noise emissions so that the noise is no longer unreasonable.

This requirement shall be placed on the occupier by verbal instruction, letter of request, noise abatement direction or pollution abatement notice.

Where the requirement is not complied with the Chief Executive Officer or his delegated agent shall, subject to Ministerial or Council approval, prosecute the occupier of the premises.

6. Where a noise investigation has been carried out and this investigation shows that the noise emissions from a premises are unreasonable, or constitute pollution, the reasonable costs of the investigation may be recovered from the occupier of the premises.

7. An occupier of premises may be exempted from clauses 1 and 2 of this procedure by negotiation of an agreement with all occupiers of premises subjected to unreasonable noise or noise pollution from his premises.

   Any agreement negotiated under this clause shall be recorded in writing, and signed by all occupiers involved. Such agreements shall not be valid unless they have the written approval of, and are registered by, the Chief Executive Officer.

8. In this document:

   "Chief Executive Officer" means the Chief Executive Officer of the Environmental Protection Authority;

   "Authorised Person" means a person appointed under Section 87 of the Environmental Protection Act;

   "Inspector" means a person appointed under Section 88 of the Environmental Protection Act.