WESPINE INDUSTRIES PTY LTD

PROPOSED
MAJOR STAGED EXPANSION OF
PINE LOG SAWMILL
MOORE ROAD, DARDANUP

CONSULTATIVE ENVIRONMENTAL REVIEW

ALAN TINGAY & ASSOCIATES

OCTOBER 1992

REPORT NO: 92/17

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AN INVITATION TO COMMENT ON THIS CER

The Environmental Protection Authority (EPA) invites people to make a submission on this Consultative Environmental Review (CER).

WESPINE Industries Pty Ltd propose to upgrade their softwood sawmill at Dardanup. In accordance with the Environmental Protection Act 1986, a Consultative Environmental Review (CER) has been prepared which describes these proposals and their likely effects on the environment. The CER is available for public review for 4 weeks from 13 October to 9 November 1992.

Comments from Government Agencies and from the public will assist the EPA to prepare an Assessment Report in which it will make recommendations to Government.

Why write a submission?

A submission is a way to provide information, express your opinion and put forward your suggested course of action - including any alternative approach. It is useful if you indicate any suggestions you have to improve the proposal.

All submissions received by the EPA will be acknowledged. Submissions will be treated confidentially unless it is stated that they can be used publicly, then they may be quoted either in full or in part in each report.

Why not join a group?

If you prefer not to write your own comments, it may be worthwhile joining with a group or other groups interested in making a submission on similar issues. Joint submissions may help to reduce the workload for an individual or group, as well as increase the pool of ideas and information. If you form a small group (up to 10 people) please indicate all the names of the participants. If your group is larger, please indicate how many people your submission represents.

Developing a submission

You may agree or disagree with, or comment on, the general issues discussed in the CER or the specific proposals. It helps if you give reasons for your conclusions, supported by relevant data. You may make an important contribution by suggesting ways to make the proposal environmentally more acceptable.

When making comments on specific proposals in the CER:

- clearly state your point of view;
- indicate the source of your information or argument if this is applicable; and
- suggest recommendations, safeguards or alternatives.

Points to keep in mind

By keeping the following points in mind, you will make it easier for your submission to be analysed:

- attempt to list points so that the issues raised are clear. A summary of your submission is helpful;

- refer each point to the appropriate section, chapter or recommendation in the CER;

- if you discuss different sections of the CER, keep them distinct and separate, so there is no confusion as to which section you are considering;

- attach any factual information you wish to provide and give details of the source. Make sure your information is accurate.

Remember to include:

- your name;
- address; and
- date.

The closing date for submissions is:

9 November, 1992.

Submissions should be addressed to:

The Chairman,
Environmental Protection Authority
8th Floor, Westralia Square
38 Mounts Bay Road
PERTH WA 6000

Attention: Mr G Fulford

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SUMMARY

1. INTRODUCTION

This Consultative Environmental Review (CER) describes a proposal to upgrade the existing pine sawmill at Moore Road Dardanup from the present log intake of 70,000m^3 each year to about 400,000m^3 by the year 2003.

The proposed expansion is covered by the Dardanup Pine Log Sawmill Agreement which is currently before Parliament. The parties to the Agreement are the owners, WESPINE Industries Pty Ltd (WESPINE) of Welshpool, and the Government of Western Australia. WESPINE is jointly owned by Westralian Forest Industries Limited and Bunnings Limited.

Under the Agreement, the State will be assured of a market for 5.5 to 6 million cubic metres of softwood sawlogs grown in State Forest plantations and WESPINE will be guaranteed security of the sawlog resource which is necessary to enable it to make the substantial investment required. The Agreement also covers a range of other issues including the use of Western Australian labour, professional services and materials, the use and maintenance of roads, the provision of services, and the protection and management of the environment.

The Agreement does not exempt WESPINE from a statutory obligation to obtain a separate approval from the Minister for Environment for the proposed expansion of the sawmill and the Agreement will not come into effect until environmental approval is granted.

2. THE PRESENT SAWMILL

The Dardanup Sawmill started operations in 1984. It receives pine sawlogs from the Department of Conservation and Land Management (CALM) which is responsible for the management of State Forest plantations and for the delivery of logs to the mill.

The sawmill comprises a green mill where logs are cut into planks and square timber, a high temperature drying kiln, and a dry mill where the seasoned timber is converted into building products.

The mill currently receives about 70,000m^3 of pine logs each year which are unloaded and stacked in the yard adjacent to the green mill. Logs are then transferred by front-end loader to a debarking machine and are then cut into various dimensions and grades of timber in the green mill. The timber is then either air-dried or dried in the kiln and the dried timber is trimmed, dressed and moulded to specification in the dry mill.

The milling operations require one shift per day in the green mill, one and a half shifts in the dry mill and continuous operation of the dry kiln.

About 40,000m^3 of residues are currently produced each year. These are transported to the nearby particle board plant for processing into further products.

3. THE PROPOSED EXPANSION

The proposed expansion of the sawmill will take place in stages with the addition of new equipment and a gradual conversion to continuous operations. Ultimately the mill will have 4 high temperature kilns, 3 re-conditioners, and substantially upgraded green mill and dry mill equipment.

4. ENVIRONMENTAL IMPLICATIONS

4.1 Noise

The expansion of the sawmill will enable a significant reduction in the existing noise levels as a result of the installation of new equipment and other specific noise control measures. These measures involve a considerable investment and would not be possible without the expansion.

At present the noise levels emanating from the sawmill under certain atmospheric conditions may reach the maximum level permitted by current EPA policy at the nearby settlement of Padbury Fields. With the specific noise control measures identified in this CER, the expanded sawmill will generate maximum noise levels of 38dB(A) at this location.

Further improvement in the existing noise environment will be achieved through the reduction of noise levels emanating from the particle board plant which is operated by WESFI, one of the partners in the proposed WESPINE sawmill expansion. A letter from the owners of the particle board plant is included in this CER as Appendix 5.

4.2 Relocation of the Sawmill

In response to a request from the Dardanup Shire Council, WESPINE has investigated the feasibility of relocating the existing sawmill to Lot 354 Moore Road, Dardanup. The request was based on concerns that the expanded sawmill may increase the present noise levels. However, the expansion will actually lead to a reduction in noise levels as a result of new equipment and noise control measures.

The cost of sawmill relocation has been estimated at between $14.5 and $17.4 million. Relocation is not an economically viable option given these costs.

4.3 Traffic Levels

A specific study was commissioned by WESPINE to provide estimates of the increase in traffic on regional and local roads as a result of the sawmill expansion. This study

estimated that the number of trucks on Moore Road will increase by 28% each day by the time the expansion is completed in 2003. Staff vehicles will increase by 30%.

WESPINE will initiate discussions with the Main Roads Department and the Shire of Dardanup with the objective of implementing traffic management strategies on Moore Road to ensure that safe driving conditions exist. These will include a reduction of the speed limit to 80 km/h, installation of kerbing and stop signs at all access points and side roads, and the improvement of sight distances at all exits from the industrial plants.

With respect to regional roads, the study predicts that the expansion will ultimately result in an increase of 8% in the number of trucks travelling along Picton-Boyanup Road each day and 22% in the number of truck movements along Martin-Pelusey Road each day. Both of these roads have the capacity to handle these increases.

4.4 Waste By-Products

At full production level the expanded sawmill will generate about 220,000m^3 of waste. The possibility of transferring this waste to the particle board plant via an underground pipeline rather than by trucks as occurs at present will be investigated as part of the expansion. The installation of a pipeline would provide even further reduction in noise levels as a consequence of the expansion and would reduce the volume of trucks on Moore Road.

4.5 Social Considerations

The land surrounding the sawmill currently is almost entirely zoned General Farming. It is proposed that this zoning be maintained or amended to Light Industry to provide a buffer zone separating the mill and other adjacent industries from the nearby Small Holding areas of Padbury Fields and Copplestone.

The proponent considers that the positive impacts of the upgrade of the sawmill include a reduction in noise levels, improved traffic management, and no change to currently permitted land uses in the area.

5. CONCLUSIONS

As a result of the improvement in noise levels emanating from the sawmill, traffic management on Moore Road, and non-interference with the lifestyle of the nearby communities, it is considered that the proposed expansion should be assessed as environmentally acceptable.

1. INTRODUCTION

1.1 Background

This Consultative Environmental Review (CER) describes a proposal to expand the existing pine sawmill at Moore Road, Dardanup. The location, which is south-east of Bunbury, is shown in Figure 1. The expansion is expected to occur in stages during the period 1992-2003. Production will increase from the present log intake of 70,000m^3 eventually to 400,000m^3 and possibly marginally higher depending on the availability of pine logs from private plantations. The timing of each stage of the upgrade will be dependent on the market outlook for sawn pine timber at the time.

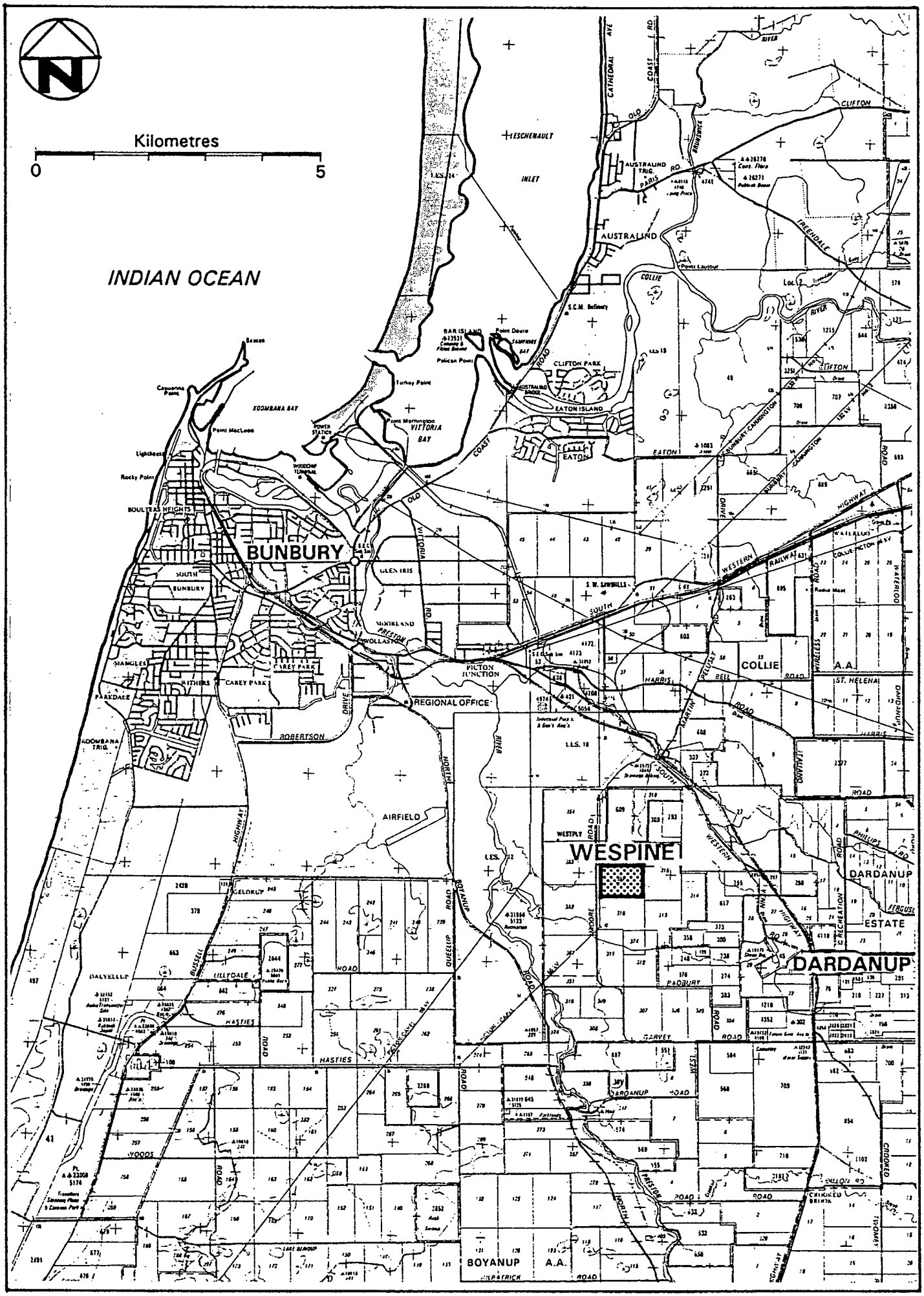
Western Australia derives considerable benefits from softwood production in terms of products, revenue and employment. These benefits apply particularly in the local region of the Dardanup mill. The long term viability of the mill is of considerable importance in terms of revenue to the State, particularly as it provides value-added products for export overseas.

The expansion will provide for the future of softwood production in Western Australia through economies of scale and associated competitive production costs compared to substitutes and imports from interstate and overseas. The expansion will be covered by an Agreement between the State Government of Western Australia and the sawmill operators WESPINE Industries Pty Ltd (WESPINE). This Agreement covers arrangements between the State and WESPINE and provides for resource security and other matters which are considered necessary for the project to proceed.

The Agreement will be ratified by an Agreement Act which was under consideration by Parliament at the time of writing. Further information on the Agreement is provided in Section 1.5.

The Agreement does not, however, exempt WESPINE from the need to gain approval for the proposed expansion from the Minister for Environment under the provisions of the Environmental Protection Act, 1986. Therefore, as the first stage of this approval process, WESPINE referred the proposal to the Environmental Protection Authority (EPA) via the Department of State Development. After considering the referral, the EPA decided that it should assess the environmental implications of the proposal and should also provide an opportunity for public comment on it. Accordingly, WESPINE was required to prepare the present CER for the purposes of public review and assessment by the EPA. This form of environmental impact report is considered to be appropriate for proposals which are primarily of local interest. The environmental assessment process is described in more detail in Section 1.2.

The CER has been prepared in accordance with Guidelines issued by the EPA which are included in Appendix 1. It aims to provide a comprehensive description of the proposal, an analysis of environmental issues, and an explanation of management strategies which are designed to ensure satisfactory operation of the mill in the local and regional environmental context. A list of commitments by WESPINE is also provided. It is expected that these commitments will become statutory conditions



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REGIONAL LOCATION MAP

FIGURE 1

imposed by the Minister for the Environment which must be complied with by WESPINE for its operations.

1.2 The Environmental Assessment Process

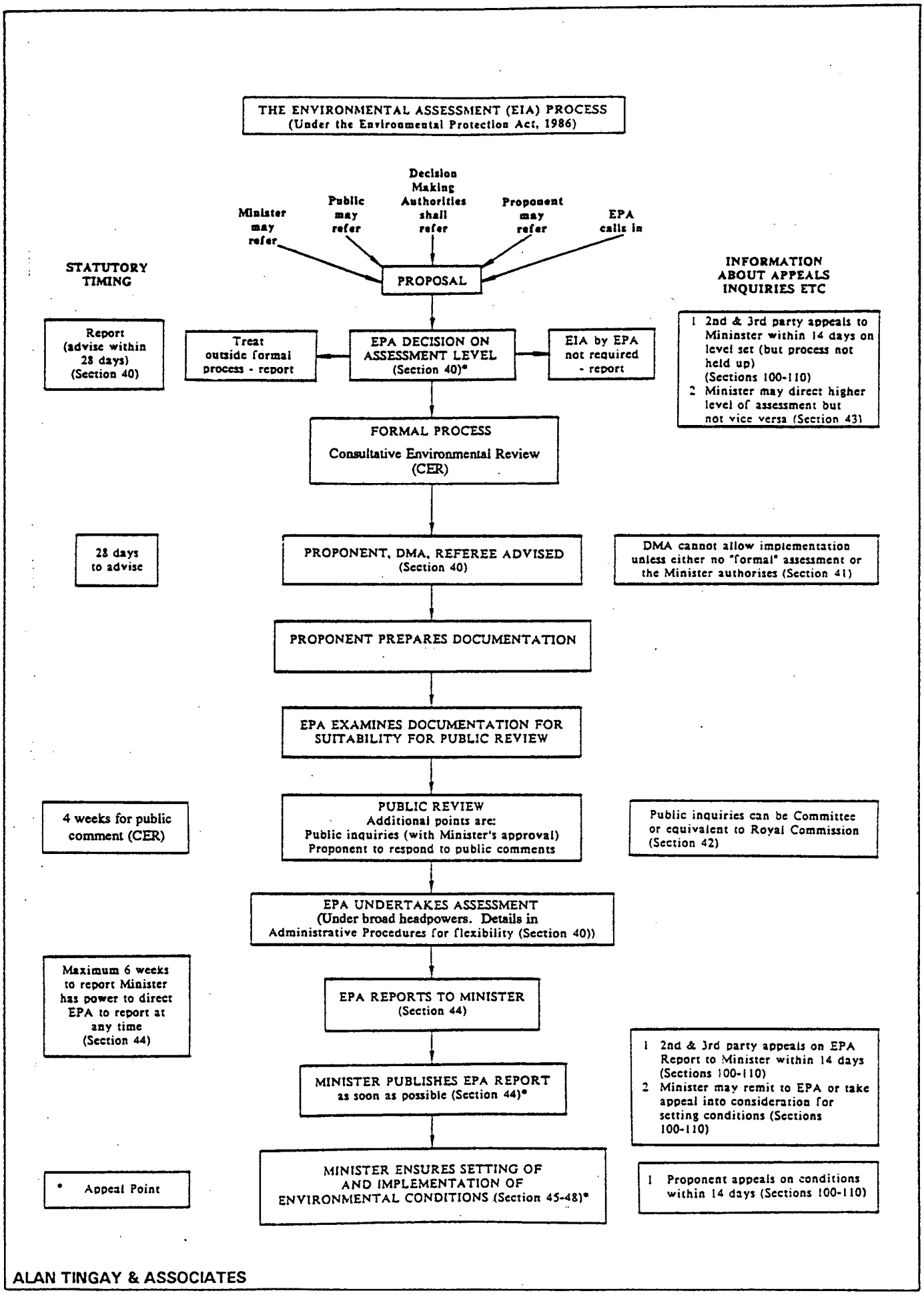
The Western Australian Environmental Impact Assessment Process is outlined in the Guide to the Environmental Protection Act (Environmental Protection Authority, 1987) and is illustrated in Figure 2. Under this Act, the proponent is required to refer the proposal to the EPA. The referral includes a summary of the proposal and a brief review of its environmental implications. The EPA then decides whether the proposal should be assessed and, if so, whether the assessment should be informal (i.e. without public comment) or formal. This decision by the EPA is advertised and there are provisions for members of the public and others to appeal against the proposed level of assessment and to request a higher level.

In the case of a formal assessment the EPA requires a detailed document, such as a CER, to be prepared and provides the proponent with a set of Guidelines for the preparation of that document. The Guidelines for the present CER are provided in Appendix 1.

After the CER has been prepared, it is reviewed by the EPA to ensure that it provides sufficient detail and a comprehensive coverage of issues. When this has been established, the CER is released for a public review period of 4 weeks. At the end of the public review period the EPA prepares a comprehensive list of issues raised in the submissions from the public, Government Agencies, and others. This list is then supplied to the proponent. The proponent then prepares answers to each of the issues raised and provides these as a further report to the EPA. The EPA then prepares an assessment taking into account the CER, the public comments, and the proponents responses to those comments.

The results of the assessment are published in the form of an Assessment Report which includes recommendations made to the Minister for Environment. Interested parties can appeal to the Minister against any of the recommendations in the EPA Assessment Report. The Minister must determine any appeals before deciding whether the proposal is acceptable and what conditions will be imposed upon it.

The environmental assessment process is specifically designed to enable members of the public to obtain details of the proposal and to formally comment on any matters of interest to them. These inputs are required within the specified public review period (4 weeks in the case of a CER) and are considered together with technical assessments and inputs from government departments. The public is encouraged to provide written comments to the EPA as part of the environmental review process. Details of the public review period and advice on how to make a submission are provided at the start of this CER and in the enclosed pamphlet published by the Social Impact Unit.



THE CONSULTATIVE ENVIRONMENTAL REVIEW (CER) PROCESS

FIGURE 2

1.3 The Proponent

The proponent is WESPINE Industries Pty Ltd, ACN 052 954 337, 1-27 Somersby Road, Welshpool, WA, 6106. The company is jointly owned by Westralian Forest Industries Limited and Bunnings Limited, both of which are West Australian based companies with long term major interests in timber products. Both companies are listed on the Western Australian Stock Exchange.

1.4 Role of the Department of Conservation & Land Management (CALM)

In this proposal WESPINE is responsible for the expansion of the sawmill itself, for trucks carrying products and waste from the sawmill, for the increase in workforce and motor vehicle movements to and from the mill, and similar matters. However, it does not control the forestry operations which are involved in the development of pine plantations, logging operations and the transport of logs to the sawmill site. These matters are and will continue to be the responsibility of the Department of Conservation & Land Management (CALM).

CALM will select which plantations the logs are sourced from each year and the size, routes, and timing of truck deliveries to the Dardanup mill in accordance with its management priorities for softwood production.

This separation of responsibilities means that while WESPINE can provide details of log supply in this CER, it cannot make commitments about how such matters will be managed in the future. Similarly the Minister for Environment could not impose conditions on WESPINE with respect to log supply as WESPINE is not the responsible agent for such supply. In order to overcome these difficulties, WESPINE has consulted with CALM and CALM has agreed to specific commitments dealing with forest management to be included in this CER (see Section 5).

1.5 The Dardanup Pine Log Sawmill Agreement

A formal contract in the form of an Agreement between WESPINE and the Government of Western Australia has been prepared so that both parties to the Agreement can confidently plan for the future. At the time of writing, the Dardanup Pine Log Sawmill Agreement was under consideration by Parliament. Under this Agreement, the State will be assured of a market for 5.5 to 6.0 million m^3 of softwood sawlogs grown in its plantations and WESPINE will be guaranteed security of the sawlog resource to enable it to make the substantial investment required to upgrade its present sawmilling facilities to a world class installation.

The State Agreement also covers a range of other issues that are important to both the State Government and the proponent. The full range of issues addressed in the Agreement are as follows:

- use of local labour, professional services and materials

- supply of timber
- use and maintenance of roads
- provision of services
- zonings of surrounding land
- protection and management of the environment.

As part of the Agreement, WESPINE has agreed to use labour from within W.A. and especially from the South-West region unless this would be impracticable. In addition professional services, the supply of materials, and scheduled works are to be performed by West Australians wherever possible.

For its part, the State has agreed to supply WESPINE with the necessary volume of sawlogs required for the economic operation of the sawmill and WESPINE has contracted to accept this timber. The management of pine plantations and the delivery of sawlogs on trucks to the mill will continue to be the responsibility of the Department of Conservation and Land Management (CALM) as at present.

The Agreement also considers the provision of power and water to the sawmill, but does not provide WESPINE with any special conditions, rates or exemptions. It also addresses the issue of surrounding land use which is considered in detail in Section 3.9 of this CER.

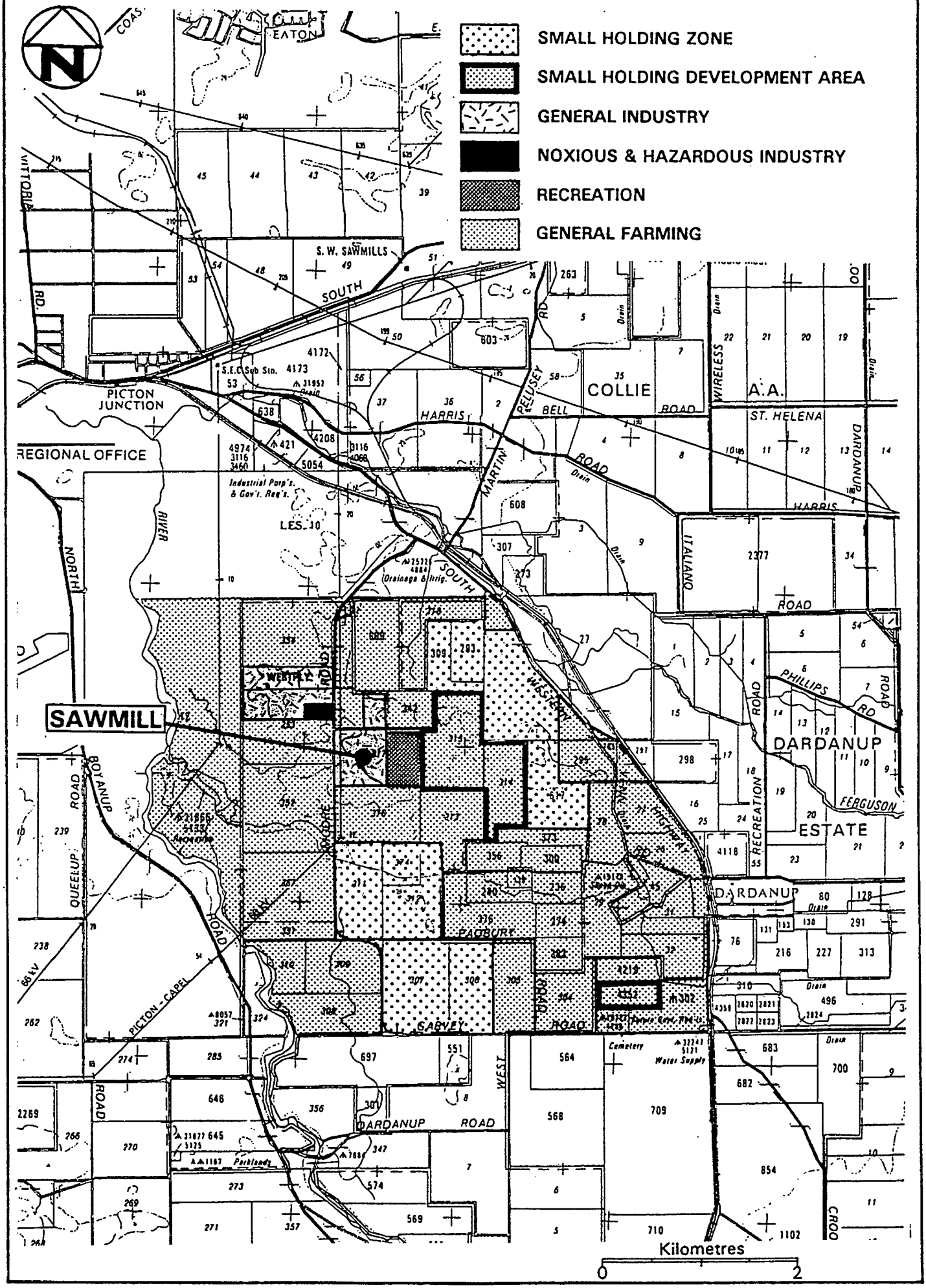
The Agreement does not exempt WESPINE from a statutory obligation to obtain a separate approval from the Minister for Environment for the proposed expansion of the sawmill and the Agreement will not come into effect unless environmental approval is granted.

1.6 Site Details and Ownership

The proposed sawmill upgrade described in this CER will be entirely within existing land holdings owned by the proponent. The subject land is Location 317, Lot 5 and Lot 6, Moore Road Dardanup which has an area of 49.776ha.

1.7 Land Zoning

The Shire of Dardanup rezoned Location 317 partially to General Industry and partially to Recreation in November 1979. The area zoned for recreation is to be used as a visual buffer and is currently planted with pine trees. An area to the south of the sawmill is planted with a commercial crop of pine trees but is zoned General Industry and may be used in the future for sawmill operations (Figure 3).



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SHIRE OF DARDANUP ZONING PLAN

FIGURE 3

The site is defined as part of the Preston Industrial Park in the 1992 Report of the Advisory Committee on Industrial Sites in the South-West. The Preston Industrial Park is identified as being suitable for appropriate industrial expansion.

1.8 Community Consultation

The proponent is aware that the proposed upgrade of the sawmill is of interest to the local community as it is a major employer in the area and because its activities have the potential to affect nearby residents. As a result the proponent has discussed the proposal with nearby residents, councillors and officers of the Dardanup Shire Council and others. The process has enabled information to be presented about the proposal and has allowed the identification of community concerns. The proponents have endeavoured to provide answers to public concerns in this CER.

Representatives from WESPINE have attended meetings with the Dardanup Shire Council or its members on a number of occasions prior to the production of this CER. These meetings included an open Council meeting on 19 June 1992 at which representatives from WESPINE and the Department of State Development attended at the invitation of Council. At this meeting, Council requested that the proponent consider relocation of the mill to a site north of the particle board plant. In response WESPINE commissioned a financial analysis of the relocation of the mill. The alternative site is considered in Section 3.2.6 and the financial analysis is presented in Appendix 2. Officers of the EPA and the Social Impact Unit (SIU) also have attended meetings of Council and local residents to help them understand the CER process.

The concerns and opinions of residents with regard to the upgrade of the sawmill have been sought during meetings with interested people prior to the production of the CER. These have included a number of meetings with the Padbury Copplestone Residents Group, a group that was brought into existence to specifically consider the issues associated with the sawmill upgrade. In addition to these meetings, executives of WESPINE and WESFI have attempted to contact each household near to the sawmill within the subdivisions of Padbury Fields and Copplestone by personally visiting them. During these visits residents were invited to discuss their concerns relating to the sawmill and its upgrade and were made aware of the CER for the proposal.

While the household visits were made in order to obtain the views of the nearby residents they also provided useful information with regard to potential environmental impacts of the proposal. Records were made of the concerns of each person during the visits and a summary of these is presented in Section 3.1.1 of this CER.

The proponent has responded to the concerns raised regarding the sawmill expansion by commissioning specialist studies on potential noise and traffic impacts posed by the proposal. These studies also describe methods by which potential impacts can be prevented or reduced to acceptable levels. The studies are summarised in the CER.

As a result of the public liaison program the proponent has recognised the advantages of talking to residents regarding the operations of the sawmill. Consequently the proponent proposes to maintain this dialogue on an ongoing basis.

2. THE PRESENT SAWMILL AND PROPOSED UPGRADE

2.1 The Present Sawmill

2.1.1 Sawmill

The pine sawmill is one of three industries along Moore Road Dardanup that are involved in the processing of softwoods into finished building products. The other two industries are a particle board manufacturing plant and an adhesive manufacturing plant. The location of these industries, all of which are jointly or wholly owned by WESFI Pty Ltd, one of the joint owners of WESPINE Industries Pty Ltd, are shown in Figure 4.

The Dardanup mill site was rezoned in 1979 and the mill started operation in 1984. The rezoning of the sawmill site was part of the overall rezoning of land in the area during which the Padbury Fields and Copplestone subdivisions also were created.

The Dardanup sawmill is a modern milling complex which consists of a green mill where logs are cut into planks and square timber, a high temperature drying kiln and de-humidifier where the timber is dried (seasoned), and a dry mill where the seasoned timber is converted into building products. The current layout of the site is shown in Figure 5. The site is cleared entirely of native vegetation and much of the site is bitumenised. The southern portion of the site is planted with a commercial pine plantation pending future sawmill expansion.

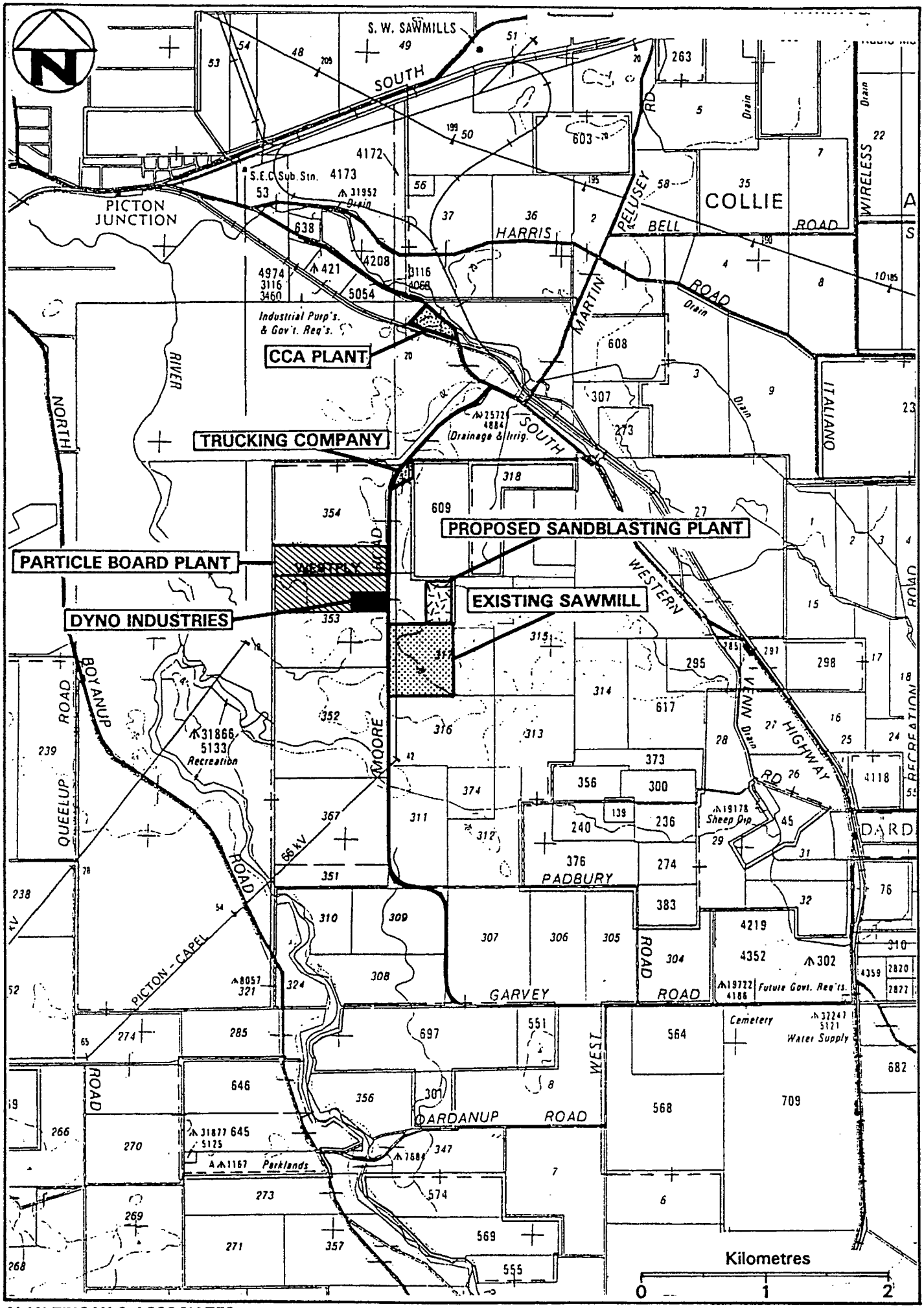
The mill currently receives about 70,000m^3 per annum of pine logs from plantations throughout the south-west of Western Australia. It operates one shift in the green mill, one and a half shifts in the dry mill and continuously 7 days/week in the drying kiln.

From its inception the green mill was intended to operate two shifts processing 120-140,000m^3 per annum of a mixture of logs supplied by CALM from State plantations and logs from private plantations, as increased log supplies became available from a still maturing forest resource. After discussion with CALM the two-shift operation was planned to begin in 1991-92 to coincide with increased log availability. The expanded operation would have involved the building of one extra drying kiln. The recession put this planning back by one year.

The current log intake is carted to the mill by trucking contractors who have been engaged by and are the responsibility of CALM. Consequently logging and cartage contractors maintain their trucks in their own yards and only the maintenance of log handling vehicles is carried out on the sawmill site.

Once delivered the logs are unloaded and stacked in yards adjacent to the green mill prior to processing. Stacks of logs are kept wet to minimise dust problems and to prevent fungal staining of the wood.

Logs are transferred by front end loader to the debarking machine and are then cut into various dimensions and grades of timber by band and circular saws in the green mill.



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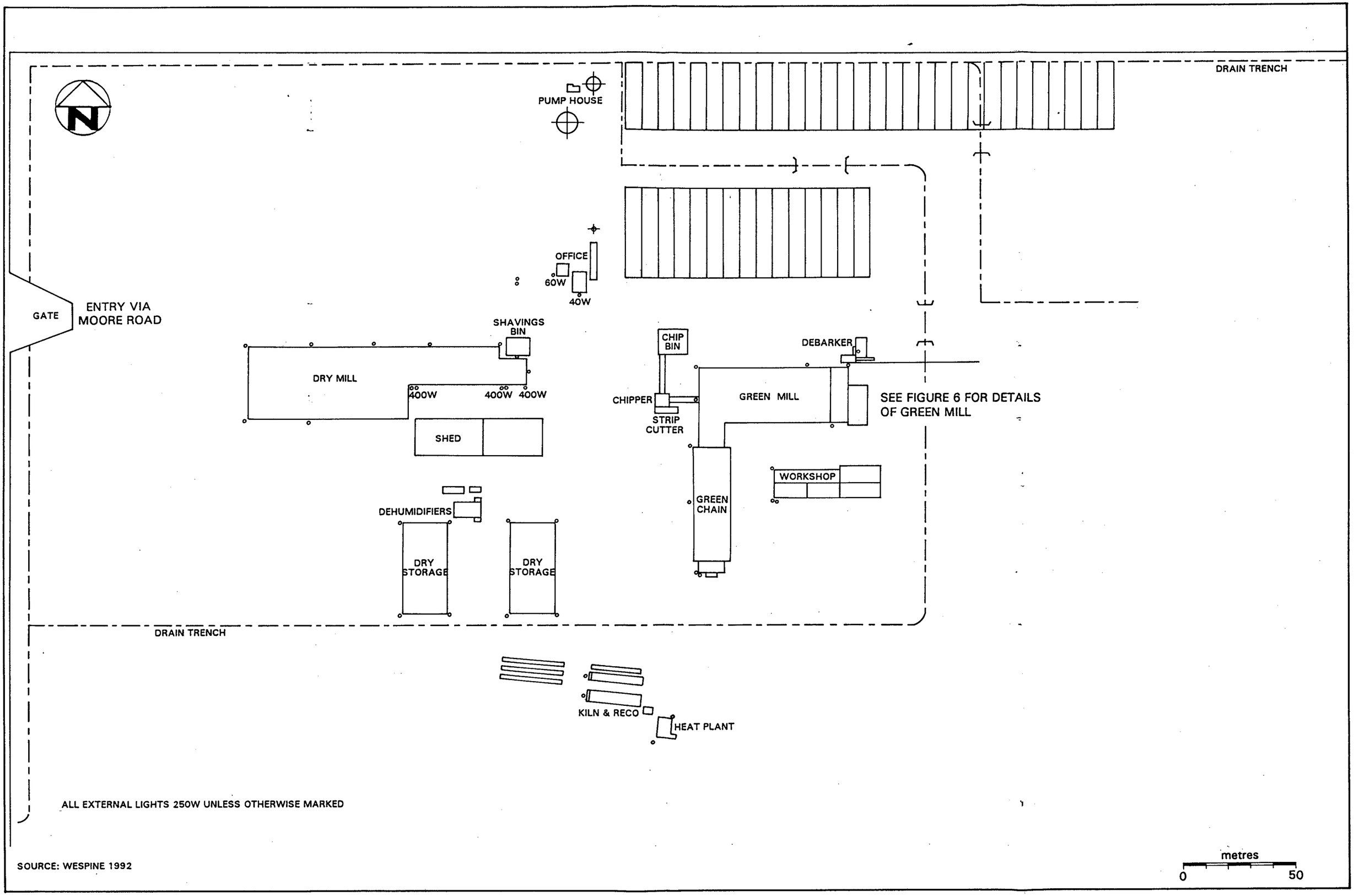
INDUSTRIES ON MOORE ROAD

FIGURE 4



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WESPINE - EXISTING MILL LAYOUT
FIGURE 5

The components of the existing green mill are shown in Figure 6. The timber is end trimmed by a series of small saws and then sorted, graded and stacked manually in open sheds adjacent to the mill after which it is transported by forklift to other areas of the plant for seasoning. The passage of raw and finished products around the site is shown in Figure 7.

Graded timber is either air dried by allowing it to stand in stacks or dried in the kiln or dehumidifier. The kiln has a series of fans to introduce and extract air. The kiln and dehumidifiers speed up the natural drying process of the timber so that it does not need to be kept on site for long periods. The requirements for drying the timber dictate that the kiln operate at temperatures above the boiling point of water.

Dried timber is trimmed, dressed and moulded to specification by either a high speed moulder or planer in the dry mill. After trimming and finishing the processed timber is batched and loaded onto trucks bound for Perth.

The majority of the sawmill's timber output is machined and graded for use in residential and furniture construction. However, a small proportion is treated with copper, chromium and arsenic to make it resistant to termite and fungal attack so that it can be used in exterior construction. The CCA process is carried out at a separate plant which is not owned by WESPINE or its shareholders. The CCA plant is located about 2km north of the sawmill on the South-Western Highway as shown in Figure 4. The timber is left standing for a period at this location to ensure that no residual preservatives are transported with the timber back to the sawmill.

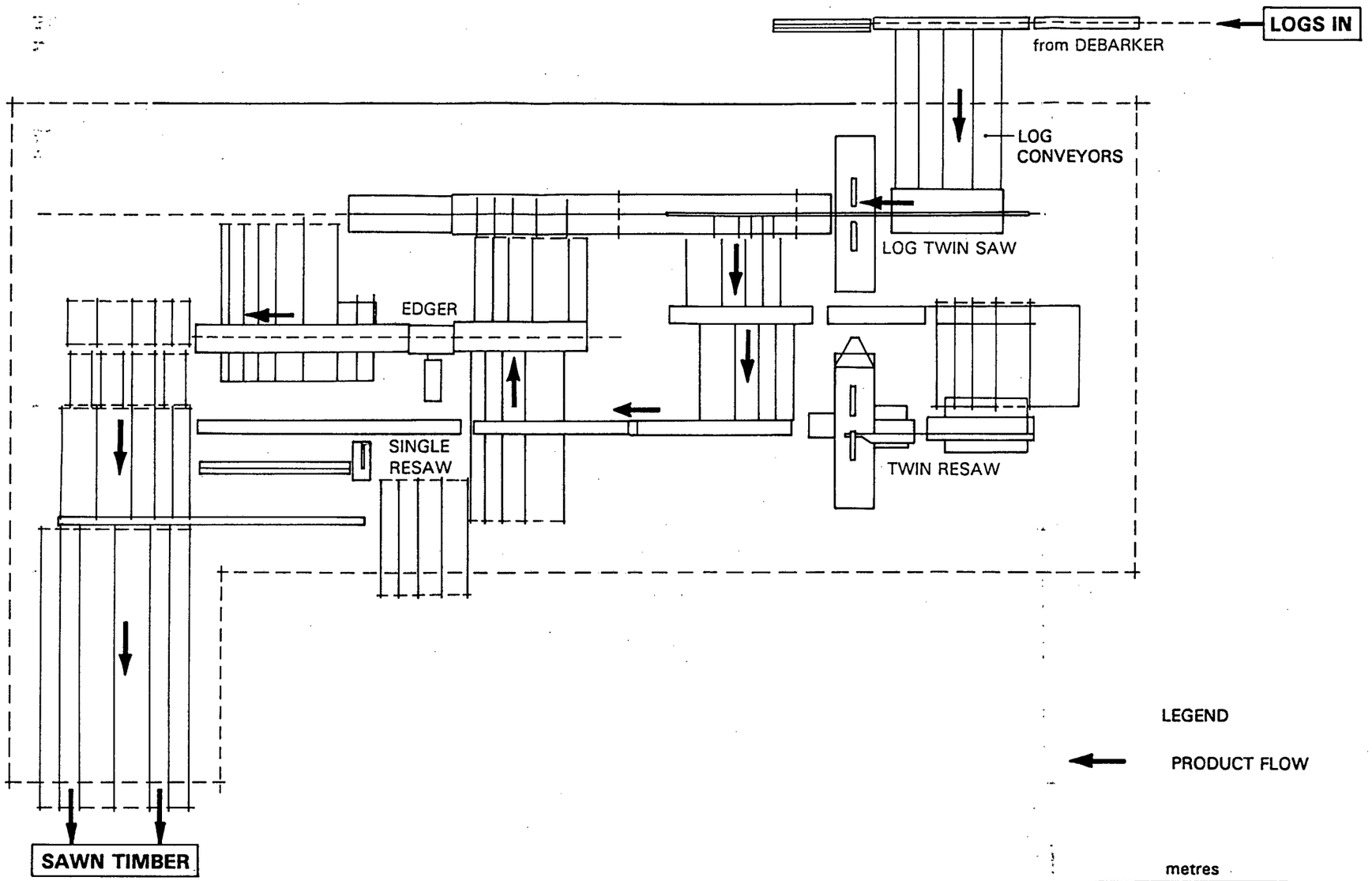
Currently about 40,000m^3 of residues are produced each year as a result of the sawmill's operation. This represents approximately 55% of the log volume received. In some mills this material would be burnt on site, however, at the Dardanup mill these residues become raw feed for the nearby particle board plant. The integration of the sawmill and the particle board plant means that the softwood resource is fully utilised.

In the past a quantity of scrap material was burnt on site at the beginning of winter. However, the burning of scrap on site has now been discontinued apart from small tidying up operations.

Presently the green mill operates from 6am to 3pm and the dry mill from 6am to 2.45pm and 3.45pm to 2.30am five days per week with an early finish on Friday. The dry kiln operates 24 hours per day, 7 days per week.

2.1.2 Adjacent Industries

The related particle board manufacturing plant and adhesive manufacturing plant are located on Moore Road. Together with the sawmill these represent an integrated softwood processing industry designed to ensure maximum utilisation of raw products and minimisation of waste. The particle board plant is wholly owned by WESFI Pty Ltd while the adhesive plant is jointly owned by WESFI Pty Ltd and Dyno Industries of Norway.



SOURCE: WESPINE 1992

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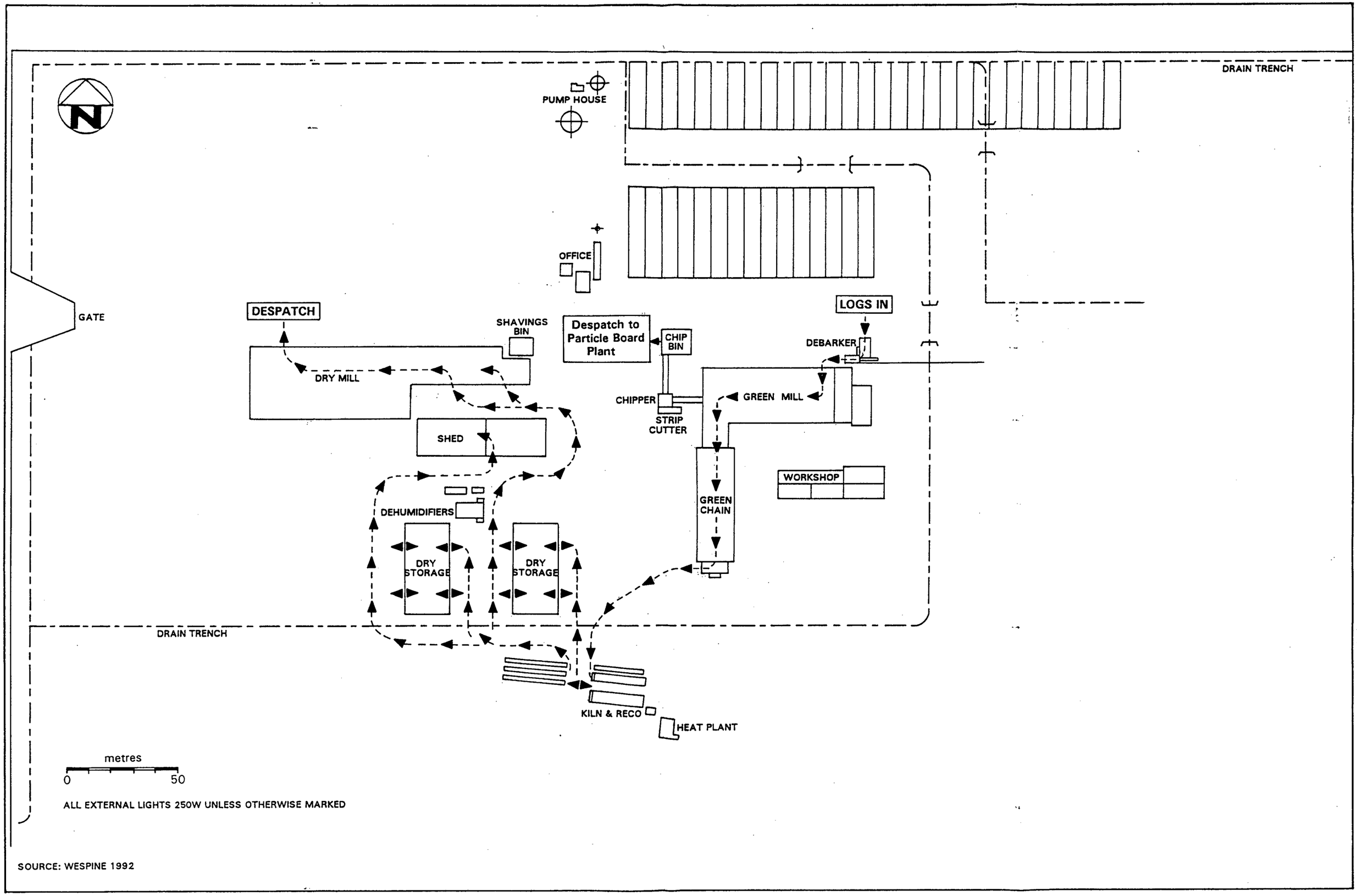
WESPINE - EXISTING GREEN MILL

FIGURE 6



SOURCE: WESPINE 1992

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WESPINE - PRODUCT FLOW THROUGH EXISTING MILL
FIGURE 7

Currently the particle board plant receives 40,000m^3 per annum of wood residues from the sawmill. Offcuts and residues from the milling process are chipped and then trucked to a temporary storage facility within the particle board plant. The particle board plant also directly receives pine thinnings, mostly from government owned plantations. These are chipped at the particle board plant and fed directly into the manufacturing process. The particle board plant also at times has received small quantities of wood residues from other sawmills in the region.

The adhesive manufacturing plant produces adhesives and resins used in the manufacture of particle board, medium density fibreboard, plywood and other value added products. The majority of its output is piped directly to the particle board plant. It also produces adhesives for other uses and these are trucked to Perth together with resins for fibreboard and plywood manufacture.

Each of the above industries operate 24 hours a day, seven days a week and receives raw materials by truck and despatches trucks with finished product.

A trucking operation is also located adjacent to the sawmill and a sand blasting operation will commence in the near future. These operations are completely independent of WESPINE and its shareholders.

2.1.3 Services

Gas

Natural gas is piped to the sawmill for use in the high temperature kiln. Currently 60,000 gigajoules of gas per annum is consumed. The pipeline will be able to accommodate any foreseeable increase in gas consumption.

Power

Electricity is supplied to the site and this supply will be sufficient for any increase in capacity thus no upgrading will be required.

Groundwater

A groundwater extraction bore currently pumps 260,000kL per annum of water from the Leederville Formation for use around the site to prevent fungal decay in the log stock and to keep dust levels down. This water is fresh but has elevated levels of iron. The bore has a pumping capacity approximately equal to the current requirements and therefore any increase in demand for borewater will require the installation of an additional production bore. The bore is currently licensed by the Water Authority of Western Australia (WAWA).

As the water is only used for log wetting and dust suppression and mostly drains from the site, the feasibility of recycling has been considered in the past. However, to date recycling has proved to be impractical.

2.1.4 Surface Water Drainage

Water is conducted off the site by a series of open drains which connect into a regional network which discharges into the Ferguson River. The drains transport away from the site water that has been used to wet down logs and which has fallen on the site as rainfall. The drains also intercept shallow groundwater preventing flooding problems during periods of high rainfall.

The Water Authority of Western Australia (WAWA) has periodically monitored the quality of water draining the site. The most recent official results of monitoring are presented in Table 1. The operation of the mill has a limited potential to cause contamination of drainage waters by phenols, which are organic chemical compounds released by the decay of wood. Monitoring has not detected a pollution problem with regard to phenols.

Some wood treated with copper, chromium and arsenic is stored on the site. The timber is treated at the independent CCA plant on the South-Western Highway and is transported to the sawmill after treatment. Although no chemical treatment of timber occurs at the sawmill, WAWA have included copper, chromium and arsenic in the monitoring program as a precaution. The monitoring has not detected levels of these chemicals above the EPA Water Quality Criteria. The test used for chromium was not sensitive enough to determine if levels were above EPA criteria.

2.1.5 Existing Buffer Zone

The sawmill site currently contains a 300m buffer of plantation pines to the east which provides a visual separation between the sawmill and the Copplestone Estate. The location is shown in Figure 8. The visual buffer to the east is a condition of the industrial zoning of the site as required by the Shire of Dardanup in 1979. The commercial pine plantation to the south (also shown in Figure 8) is an interim land use pending expansion of the sawmill.

2.1.6 Adjacent Land Zonings and Land Use

The current land zonings around the sawmill site are shown in Figure 3. To the south and east, the sawmill site is bounded by properties which are zoned General Farming (Lots 313 to 316 inclusive on Figure 9). These properties appear to be used mainly for grazing purposes.

To the south of Lot 316 is the Small Holding subdivision of Padbury Fields which was created in 1979 and now contains 50 lots including 34 with houses. The nearest house in this subdivision is about 830m from the present sawmill.

To the east and north of Lot 314 is another Small Holdings subdivision, Copplestone, which was also created in 1979 and which now contains about 38 lots including 13 with houses. Specific population and other social data are not available for the residents of Padbury Fields or Copplestone from either the Australian Bureau of Statistics or the Shire of Dardanup. This is because these areas have only recently been settled and thus

TABLE 1

Water Quality Parameters Of Drain Waters 15/4/88

Parameter	Drain	EPA Water Quality Criteria. Schedule 2 Bulletin 103
pH	6.8	6.5-8.5
Oil and grease	<5mg/L	-
Biochemical oxygen demand	<5mg/L	-
Suspended soils	10mg/L	80mg/L
Phenolic compounds	<100ug/L	300ug/L
Copper	40ug/L	40ug/L (single reading)
Chromium	<50ug/L	7ug/L (single reading)
Arsenic	<20ug/L	500ug/L (single reading

- indicates that criteria are not available for this parameter.

BUSHER ROAD

MOORE ROAD

PUMP HOUSE

DRAIN TRENCH

LOG STORAGE BAYS

OFFICE

CHIP BIN

DEBARKER

DRY MILL

CHIPPER

GREEN MILL

STRIP CUTTER

SHED

GREEN CHAIN

WORKSHOP

DEHUMIDIFIERS

DRY STORAGE

DRAIN TRENCH

KILN & RECO

HEAT PLANT

BUFFER ZONE

COMMERCIAL PINE PLANTATION

metres

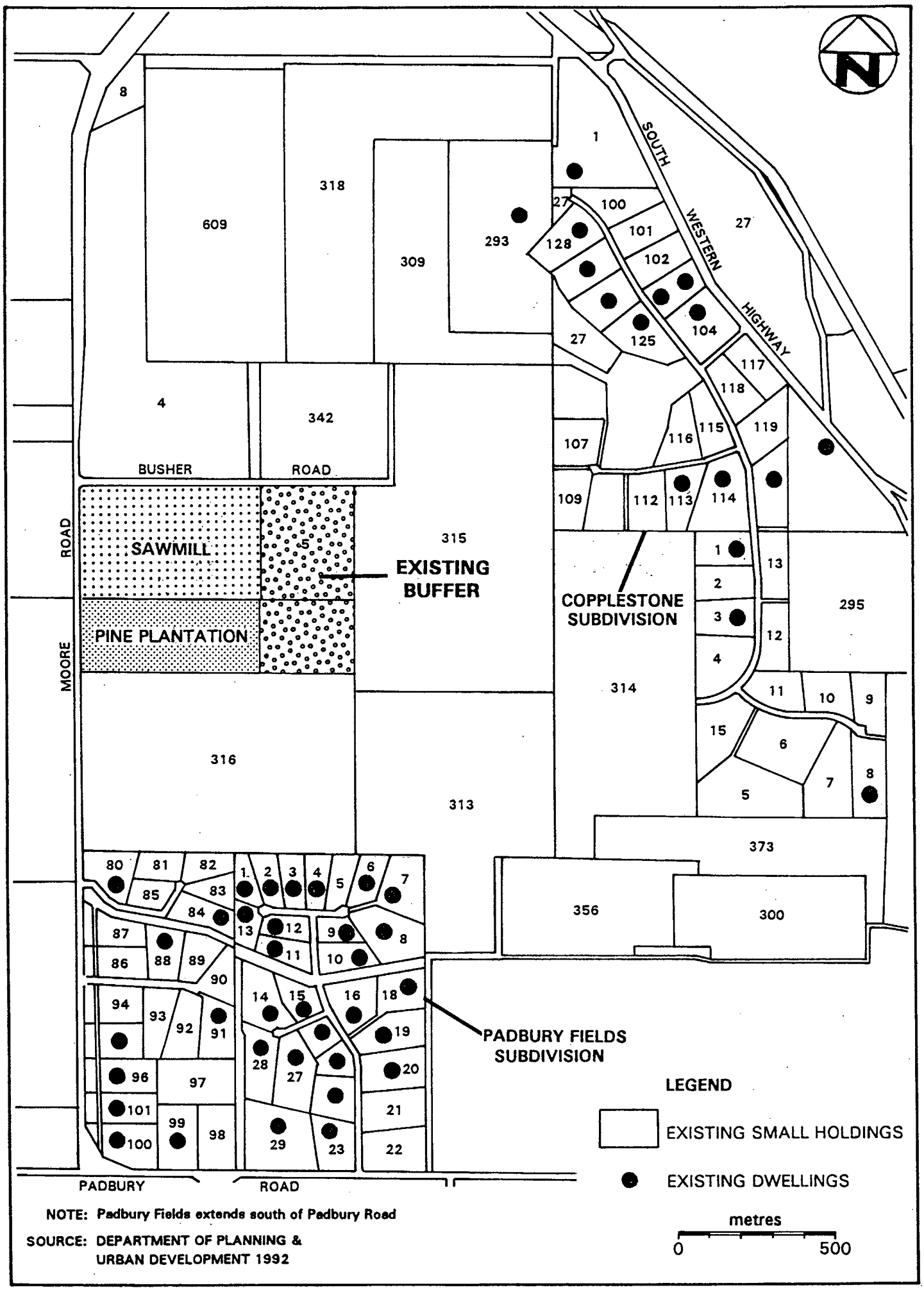
0 100

SOURCE: WESPINE 1992

ALAN TINGAY & ASSOCIATES

WESPINE - EXISTING MILL & BUFFER ZONE

FIGURE 8



ALAN TINGAY & ASSOCIATES

WESPINE - ADJACENT SMALL HOLDINGS SUBDIVISIONS

FIGURE 9

have only been included in the most recent (1991) national census. The results from this census are currently unavailable and therefore only general information can be given as below.

The locations of the lots and residences in Padbury Fields and Copplestone are shown in Figure 9. The size of these lots is generally between 2 and 3ha. Permitted uses in these Small Holdings are single dwellings and horse stables and various other activities which may be specifically approved by Council (Shire of Dardanup). These activities include home occupations, forestry, bee-keeping, plant nurseries, dog kennels, and art and craft studios.

The subdivisions provide a semi-rural type lifestyle in relatively close proximity to Dardanup and Bunbury and the employment generating industries along Moore Road. The residents work in and around Bunbury and Dardanup in a variety of vocations or have retired from the workforce. About 13 residents are employed at the sawmill, particle board plant, resin plant or are contractors which serve these industries.

Lots 293 and 309 to the north-east of the sawmill also are zoned for Small Holdings but have not been subdivided. There is one residence on Lot 309.

There is a sandpit in Lot 342 adjacent to the sawmill on Busher Road. The owner of this sandpit lives in a house on site.

In addition, Lots 314 and 315 are identified in the Shire of Dardanup Town Planning Scheme No. 3 as having the potential for Small Holding zoning (Small Holding Development Area on Figure 3). These lots are currently zoned General Farming. However, in February 1992 Council deferred consideration of further applications to rezone land adjacent to the mill in response to an objection received from WESFI. The basis of WESFI's objection was that development of nearby land for small holdings would result in residences being adjacent to general industry which WESFI considers to be inappropriate planning.

2.2 The Proposed Staged Expansion

2.2.1 General Information

The proposed sawmill upgrade will be contained on the existing sawmill site at Location 317 Moore Road, Dardanup. The upgrade will involve the replacement and duplication of existing sawmill equipment in order to make the mill more efficient. The upgrade will involve the full utilisation of the existing and proposed equipment in contrast to the existing situation in which the sawmill is operating at less than full capacity. This will involve an increase in activity at the mill from one shift for the green mill and one and a half shifts for the dry mill to two shifts, 5 days per week for both. The kiln will continue to operate 24hrs/day 7 days/week.

2.2.2 Upgrading of Plant

WESPINE has been formed as a joint venture between WESFI Limited and Bunnings Limited specifically to expand the softwood sawmill at Dardanup. The new company proposes to expand the existing sawmill in a series of stages on a timetable that will be dependent of the market for sawn pine timber. The current intake capacity of the green mill is 120,000m^3 per annum, however, due to the depressed state of housing construction in Western Australia and the lack of kiln capacity, the sawmill's intake capacity has remained at 70,000m^3 of logs. The proposed stages of upgrade are as follows:

- Current, 1992 - 70,000m^3
- Stage 1, 1993 - 150,000m^3
- Stage 2, 1995 - 200,000m^3
- Stage 3, 1997 - 250,000m^3
- Stage 4, 1999 - 300,000m^3
- Stage 5, 2001 - 350,000m^3
- Stage 6, 2003 - 400,000m^3

The proposed upgrade of the mill will be driven mainly by the increased availability of softwoods in the state as plantations of *Pinus radiata* and *Pinus pinaster* fully mature over the next twenty years. It is anticipated that as economic conditions improve in WA so will the market for the building products produced by the mill.

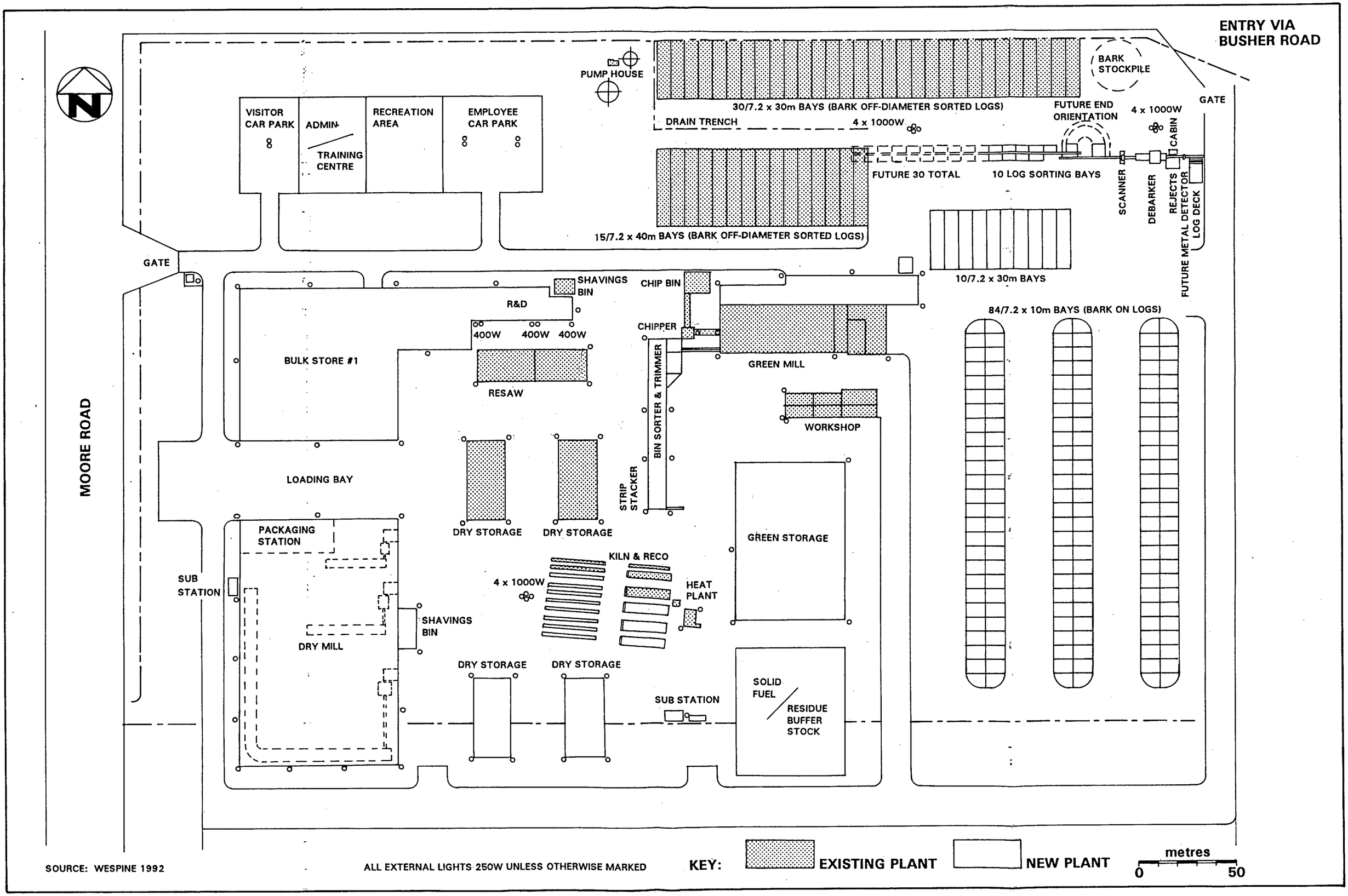
The expansion of mill capacity will involve the gradual replacement and duplication of existing plant elements. The new sawmill machinery will be more technically advanced than that currently on the site and thus it will be more efficient and have greater capacity. The new equipment also will generate less noise than at present.

Part of the proposed new equipment will be a pipeline to transport wood residues from the sawmill to the particle board plant. A study will be performed to establish the log intake volume at which such a pipeline would be economical. It is estimated that an intake volume of at least 200,000m^3 would be required but current indications are that the pipeline would definitely be economically viable at 400,000m^3 input.

The proposed final layout of the whole sawmill is presented in Figure 10 and details of the new green mill layout are shown in Figure 11.

A new access for log trucks to the sawmill will be provided from Busher Road as part of the expansion (Figure 9).

Subject to market demand, the expansion of the sawmill will occur over a ten year period with each stage involving a lift in plant capacity designed to match the increasing quantities of pine sawlogs that become available from plantation forests throughout the southwest. It is expected that the majority of the timber produced by the sawmill will be used for the construction of dwellings and for furniture, however, a significant proportion will be exported to overseas markets.



ALAN TINGAY & ASSOCIATES

WESPINE - PROPOSED MILL LAYOUT
FIGURE 10

LOGS IN

SAWN TIMBER

CURVE ROTARY GANG

CURVE CANTER

TWIN BANDSAW

QUADREDUCER

LOG & TIMBER CONVEYORS

2 SAW EDGER OPTIMISER

SAW SHOP EXTENSION

EDGER OPTIMISER

TWIN RESAW

metres

0 10

SAWN TIMBER

SOURCE: WESPINE 1992

ALAN TINGAY & ASSOCIATES

WESPINE - PROPOSED GREEN MILL

FIGURE 11

The upgrade will occur in stages as follows:

First Stage

The first stage in the upgrade, to be completed in 1993 will result in an increase in capacity of 80,000m^3 to take total capacity up to 150,000m^3 per annum. Stage 1 will involve the installation of:

- a new debarker, log scanner and sorter line to allow faster debarking, more efficient sorting of logs, and the calculation of input volume of timber.
- a new high temperature kiln which will double the capacity of the mill to dry the green sawn timber.
- a new moulder with conveyors to allow the upgrading of the surface finish on furniture grade timber.

With the above upgrade it is expected that the green mill and dry mill will operate on a two shift basis five days a week. These shifts will be from 6.00am to 3.00pm and 3.45pm to 2.30am five days per week.

Second Stage

The second stage will increase annual log input by 50,000m^3 taking receivals up to 200,000m^3 per annum. This stage will be completed in 1994-1995 and will involve the following:

- the replacement of some of the existing green mill equipment with a quad reducer bandsaw and optimising edger to give greater log cutting capacity;
- the installation of a rotary gangsaw;
- the installation of a bin sorter with an optimising trimmer to improve the handling of timber.
- the installation of a new high temperature kiln and reconditioner for timber drying to meet the increased capacity of the green mill.
- the upgrading of the dry mill with a new moulder and more efficient timber handling equipment to handle the increased level of dry wood production.

Third Stage

The third stage will increase annual log input capacity by 50,000m^3 taking it up to 250,000m^3 per annum. It is anticipated that this will be completed in 1996-1997. The third stage will involve upgrades to the debarker/sorting line and modernising of the original high temperature kiln. No new equipment of any significance will be added during this stage of the upgrading.

Fourth Stage

This upgrade will result in an increase in annual log input of 50,000m^3 taking annual receivals up to 300,000m^3 and will be completed in 1998-1999. The fourth stage will involve:

- the installation in the green mill of a curve canter gangsaw and a two saw edger optimiser;
- an increase in log handling plant capacity;
- modifications to the high temperature kilns,
- the installation of a new moulder in the dry mill.
- the establishment of a remanufacturing section;

Fifth Stage

The fifth stage in the upgrade will increase annual log input capacity by 50,000m^3 taking it up to 350,000m^3 per annum. The fifth stage will be completed in 2000-2001 and will involve:

- the installation of a fourth high temperature kiln;
- the installation of a third reconditioner;
- the purchase of additional mobile plant;
- the extension of the despatch area.

Sixth Stage

This stage will increase annual log input capacity by 50,000m^3 taking it up to 400,000m^3 and will be completed in 2002-2003. The sixth stage will involve refinement of existing mill operations with minor additions of newly developed equipment where appropriate.

Further Upgrades

The plan set out covers a period of 10 years. This involves as accurate a forecast as is possible today with regard to available technology in the future.

It is stressed that the treatment of wood with preservative chemicals is not envisaged on the site at present. If it is proposed the proposal will be referred to the EPA for assessment.

It is possible that further upgrades to the sawmill could occur after the proposed program is completed, notionally in the year 2003. A possible site layout for such long term expansion is presented in Figure 12.

2.2.3 Supply of Logs

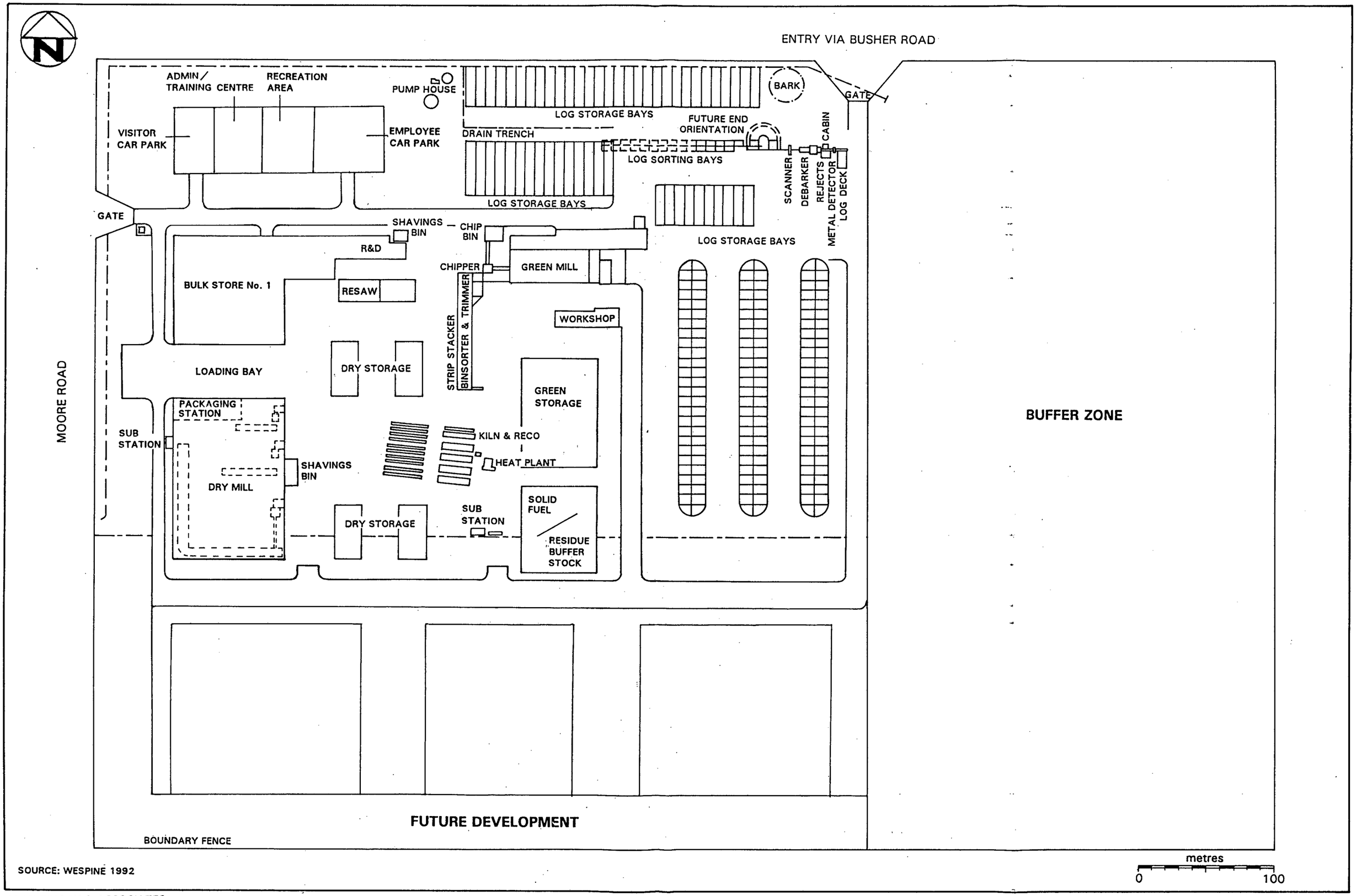
According to information received from CALM, the pine logs supplied to the Dardanup mill in the period 1992 to 2011 will come from most, if not all, of the major areas of pine plantations in the south-west of Western Australia. The locations of the plantations and the routes along which log trucks will travel is described in Section 3.3.3. The volume of logs sourced from northern plantations is expected to be as follows:

- 1991 - 1996 167,000m^3
- 1997 - 2001 243,000m^3
- 2002 - 2011 720,000m^3

The volume of logs sourced from southern plantations will be in the order of:

- 1991 - 1996 855,000m^3
- 1997 - 2001 1,109,000m^3
- 2002 - 2011 3,581,000m^3

The volume of sawlogs available for supply to the sawmill has been calculated by CALM from estimated yields from the State's pine plantations as they mature over time. CALM has informed WESPINE that the forecast requirements of the mill can be readily supplied from these and private plantations.



SOURCE: WESPINE 1992

ALAN TINGAY & ASSOCIATES

WESPINE - NOTIONAL UPGRADE OF MILL

FIGURE 12

3. ENVIRONMENTAL IMPLICATIONS OF THE PROPOSED SAWMILL EXPANSION

3.1 Main Issues

3.1.1 Local Residents Concerns

WESPINE has carried out a number of meetings with local residents in order to describe the proposed expansion of the sawmill and to identify any concerns that the residents may have about the proposal. The company's initiatives with respect to community consultation are summarised in Section 1.8. An important point raised at these meetings was that the local residents supported the upgrade generally because of the business and employment opportunities it would create. However residents wanted the upgrade to occur in a manner that did not unacceptably affect them.

WESPINE carried out a survey of the residents of Copplestone and Padbury Fields small holdings subdivisions in June 1992 as part of its public consultation initiatives. This survey was not a structured survey, but was designed to identify the concerns that residents had about the sawmill so that they could be addressed in this CER.

Fifty residents were asked what issues they felt would affect them if the proposed expansion of the WESPINE mill occurred. They were also asked what impact the mill had on them at present.

The following issues were raised by residents as cause for present and future concerns with regard to the sawmill and its upgrade. The issues are presented in order with most frequently raised issues being at the top of the list.

- Noise
- Increased traffic and number of trucks
- Relocation possibilities of the Mill
- Buffer zone
- Property values
- Smoke and dust.

An additional point raised that is relevant to the proposal was current levels of communication between residents and the proponent.

Noise

Most people (28) were concerned that expansion of the plant would increase the noise output of the mill. However, most residents (32) found the present level of noise to be acceptable. Noise was considered by most of these people to be negligible except when weather conditions carried or appeared to amplify noise (eg. still summer nights, in still cloudy weather or when the wind blows in certain directions). Some residents (8) in certain areas found the noise disturbing at night in certain parts of the houses (eg. those facing north). Questions were raised regarding the future hours of operation of the

plant and what impact this would have on the levels of noise. Traffic generated noise was a concern of some residents (3).

Noises heard include:

- Amplified telephone tones
- Voices
- External bells
- Falling logs
- Reversing signals on vehicles
- Vehicle radios
- Droning noise
- High pitched sounds
- Machinery such as the chipper, chain-saws, driers etc.

Relocation possibilities of the Mill

Although some residents (3) thought that relocation of the plant would be a good idea, and others agreed that the feasibility of the idea should be further investigated (3), most residents who raised this issue thought that relocation was not necessary (16). The majority of residents (28) did not comment on the mill relocation.

Increased traffic and number of trucks

Many residents (21) were concerned that the proposed expansion of the WESPINE plant would increase traffic in the area, especially the incidence of heavy pine hauling trucks. These people felt that Moore Road was unsuitable for use by heavy vehicles and that it should be upgraded or an alternative road should be built. Alternative modes of transport were also suggested, such as use of rail, or conveyor belts (on the site). Of the residents contacted 29 did not raise traffic as an issue.

Residents were concerned by the activities of the trucks as they drive out of the plant and claim that they do not stop to look before pulling out onto the road, causing potential situations for accidents.

Property values

Some residents (2) expressed concern that their properties would be devalued by the presence of the proposed WESPINE expansions and the extension of the buffer zone. This was especially so if other issues such as noise and traffic levels were not satisfactorily addressed.

Buffer zone

The greatest concern with the proposed buffer zone is that residential blocks within the zone will be devalued. An interest was expressed in what the buffer zone would be used for and in what form it would be retained (vegetated open space or non-residential development).

Smoke and dust

Reference was made to smoke and dust that was sometimes generated from industry. Some of the residents (2) had observed films of dust on parts of their property and they found this annoying. An interest was expressed in the chemical composition of the dust and smoke.

Communication between WESPINE, governing bodies and local residents

Several (5) of the people stressed that communication between WESPINE, local governing bodies and the residents of the area needed to be clearly established so that everyone could remain informed of issues surrounding the proposal. Public relations for WESPINE were previously seen to be poor, and people expressed appreciation that the survey had been initiated by the proponent.

3.1.2 EPA Guidelines

The EPA also has informed WESPINE that the most important environmental issues relating to the proposed expansion of the sawmill are:

- noise emissions,
- fugitive dust emissions,
- solid waste discharges and management practices,
- groundwater usage and contamination,
- transportation of raw materials from finished products,
- adequacy of supply of raw material,
- smoke emissions, and
- odours.

These issues are identified in the Guidelines issued for the CER which are given in Appendix 1.

All of the above issues both for the general public and for the EPA are discussed in the following sections.

3.2 Noise

3.2.1 Introduction

In order to determine the implications of the proposed sawmill expansion in terms of noise levels in surrounding areas, it is necessary to consider:

- the existing (or ambient) noise levels arising from the sawmill, other industries, and all other sources such as road traffic, etc.,

- the existing noise levels deriving specifically from the sawmill itself,

- the nature of the expanded sawmill in terms of noise outputs from new machinery and plant (given noise attenuation measures and the housing of plant within buildings, etc.).

- the current EPA policy for the assessment of intrusive noise. This policy states that the following maximum noise levels are acceptable at different times of the day and night at locations such as Padbury Fields and Copplestone:

Monday to Friday	0700-1900hrs	50dB(A)
Monday to Friday	1900-2200hrs	45dB(A)
Weekends and Public Holidays	0700-2200hrs	45dB(A)
Always	2200-0700hrs	40dB(A)

These levels are conditional in that no annoying characteristics such as tonal components, frequency modulations or impulsive noise exist within the overall noise levels.

Specialist equipment and skills are required to determine existing and predicted future noise levels. Therefore a specific noise assessment for the proposal was commissioned by WESPINE from Herring Storer Acoustics. The report of these specialist consultants is provided in Appendix 3 and the results are summarised in Sections 3.2.2 to 3.2.4 below.

3.2.2 Existing Noise Levels

In order to assess existing noise levels, specific measurements were taken over several days around the sawmill and at a number of locations within Padbury Fields and Copplestone including some of the nearest residences to the mill.

The monitored noise levels were quite erratic primarily due to inclement weather and the activities of local residents but also due to the relatively loud calls from birds, frogs, crickets, and chickens.

Some spot level measurements recorded at the locations shown in Figure 1 of Appendix 3 indicate the following noise levels under relatively calm conditions:

-	Location 1	Background	36dB(A)
		Banging	40dB(A)
		Reverse Beeper	40dB(A)
		Birds, etc.	50+dB(A)
-	Location 2	Background	34dB(A)
		Reverse Beeper	40dB(A)
		Chipper	39dB(A)
		Bang	41dB(A)
		Traffic	45dB(A)

o	Location 4	Loader Engine Noise	40dB(A)
		Reverse Beeper	40dB(A)
		Birds, Frogs	50+dB(A)

What could be considered as maximum noise levels due to the sawmill were recorded in the Padbury Fields area during the day on 9 July 1992. This was also reported by residents as a very noisy period. At this time only the sawmill was operating and a light east to north-east breeze prevailed and levels of 50dB(A) were recorded. This level, however, still complies with the current policy of the EPA for the assessment of intrusive noise (see Section 3.2.1 above).

3.2.3 Noise Levels from the Existing Sawmill

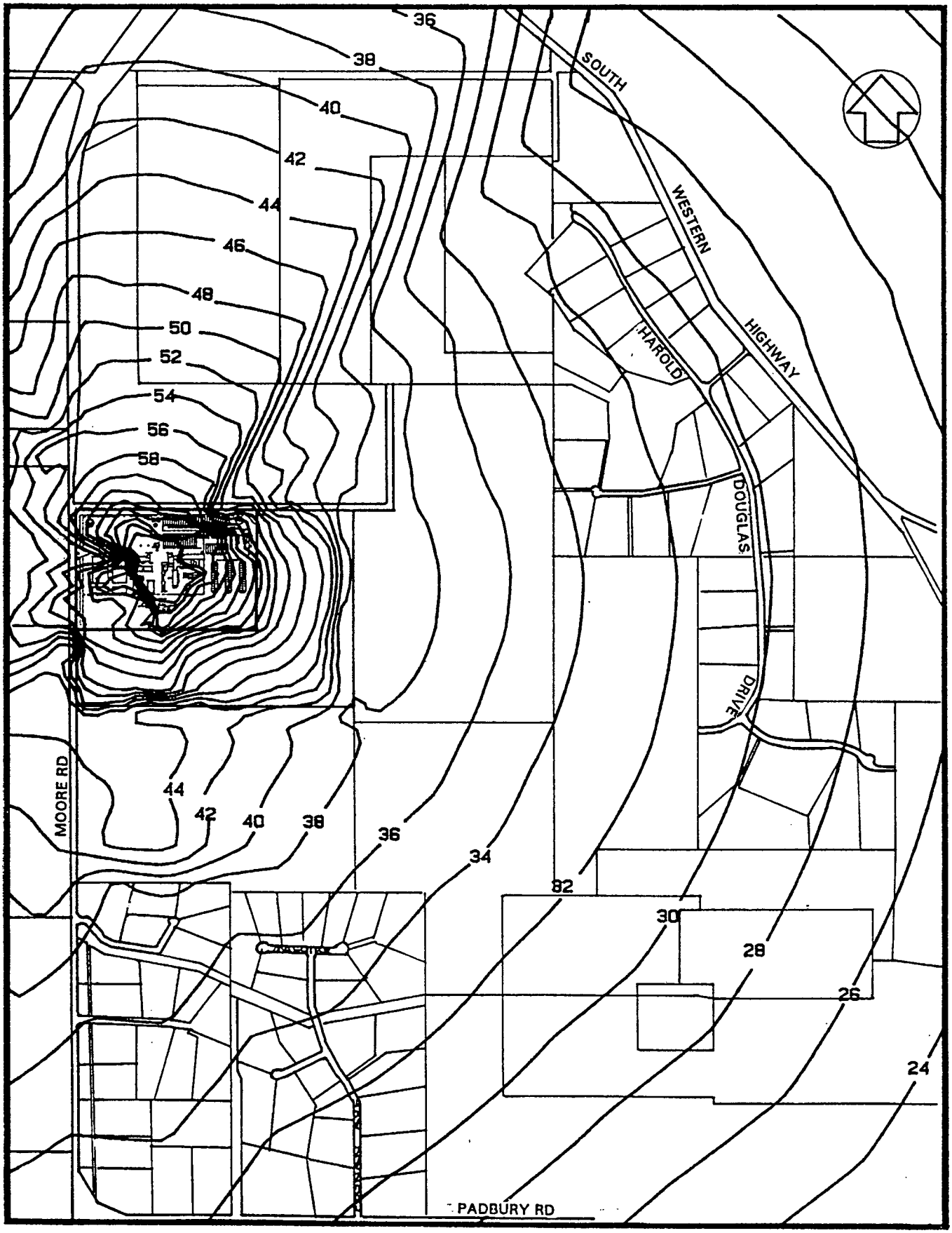
The 50dB(A) produced by the sawmill was a major component of the total level of noise recorded which included noise from general sources such as wind and birds. This is explained fully in Appendix 3. In order to determine the noise levels emanating from the existing sawmill, sound levels and spectral make-up were recorded for all of the major items of equipment and machinery and the total sound power output was calculated. This information together with details of the topography around the sawmill, then was entered into a computer program (Environmental Noise Model) which predicts noise levels around the sawmill taking into account variation in topography and weather conditions.

The main output from the computer model is a map of the sawmill and its environs showing the predicted noise levels as contours. These predicted noise levels are then checked against the actual total noise levels which were recorded at various locations in the vicinity of the mill (see Section 3.2.2 above). These actual noise levels incorporate all of the noise sources in the local environment whereas the computer model only shows the noise emanating from the sawmill. Therefore the computer model should show lower noise levels than those actually recorded in the field.

The computer model predictions had a high correlation with the actual noise levels recorded in the field. The noise level contours under calm weather conditions are shown in Figure 13 and when there is a light northerly wind (worst case condition for Padbury Fields) in Figure 14.

At the nearest residences to the sawmill in the Padbury Fields area, the computer predictions for noise levels range from 38 to 52dB(A) for calm and light wind conditions respectively.

The monitored levels and the computer modelling show that noise emissions from the existing sawmill generally comply with the EPA policy for daytime levels (as given in Section 3.2.1 above) although at times tonal noise is evident from the chipper and from reversing beepers on some of the log moving equipment. Under maximum propagation conditions (i.e. with light northerly winds) when the levels may be up to 52dB(A) at the nearest residences, the tonal component may cause this level to be considered excessive.



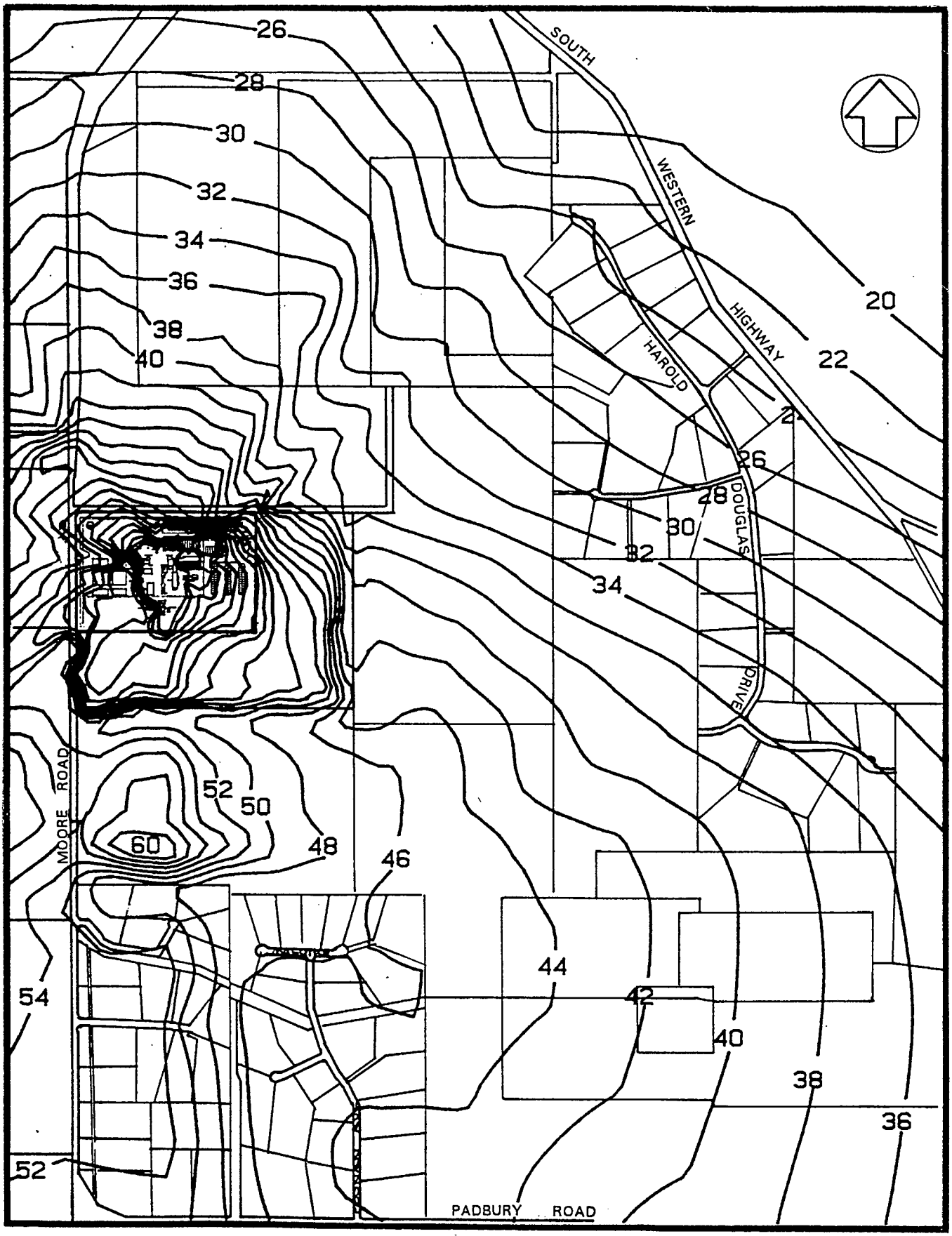
NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PERCENTILE LEVELS

SOURCE: HERRING STORER ACOUSTICS

ALAN TINGAY & ASSOCIATES

NOISE CONTOURS FOR EXISTING PLANT - CALM CONDITIONS

FIGURE 13



NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PERCENTILE LEVELS

SOURCE: HERRING STORER ACOUSTICS

ALAN TINGAY & ASSOCIATES

NOISE CONTOURS FOR EXISTING PLANT - WIND, NORTHERLY AT 3m/S

FIGURE 14

3.2.4 Predicted Noise Levels from the Expanded Sawmill

In order to predict the noise levels from the expanded sawmill, sound power levels for the new items of equipment were obtained from potential suppliers and other sources. These, together with an allowance for enclosure within buildings and other specified noise attenuation measures where relevant, became the input data for the environmental noise model.

At the time when the expanded sawmill moves to operations on afternoon shift, there will be a requirement that the noise levels at the nearest residences in Padbury Fields are no more than 40dB(A). The existing sawmill on afternoon shift could not comply with this requirement, so there will be a need to reduce the noise emissions from the existing levels as part of the sawmill expansion.

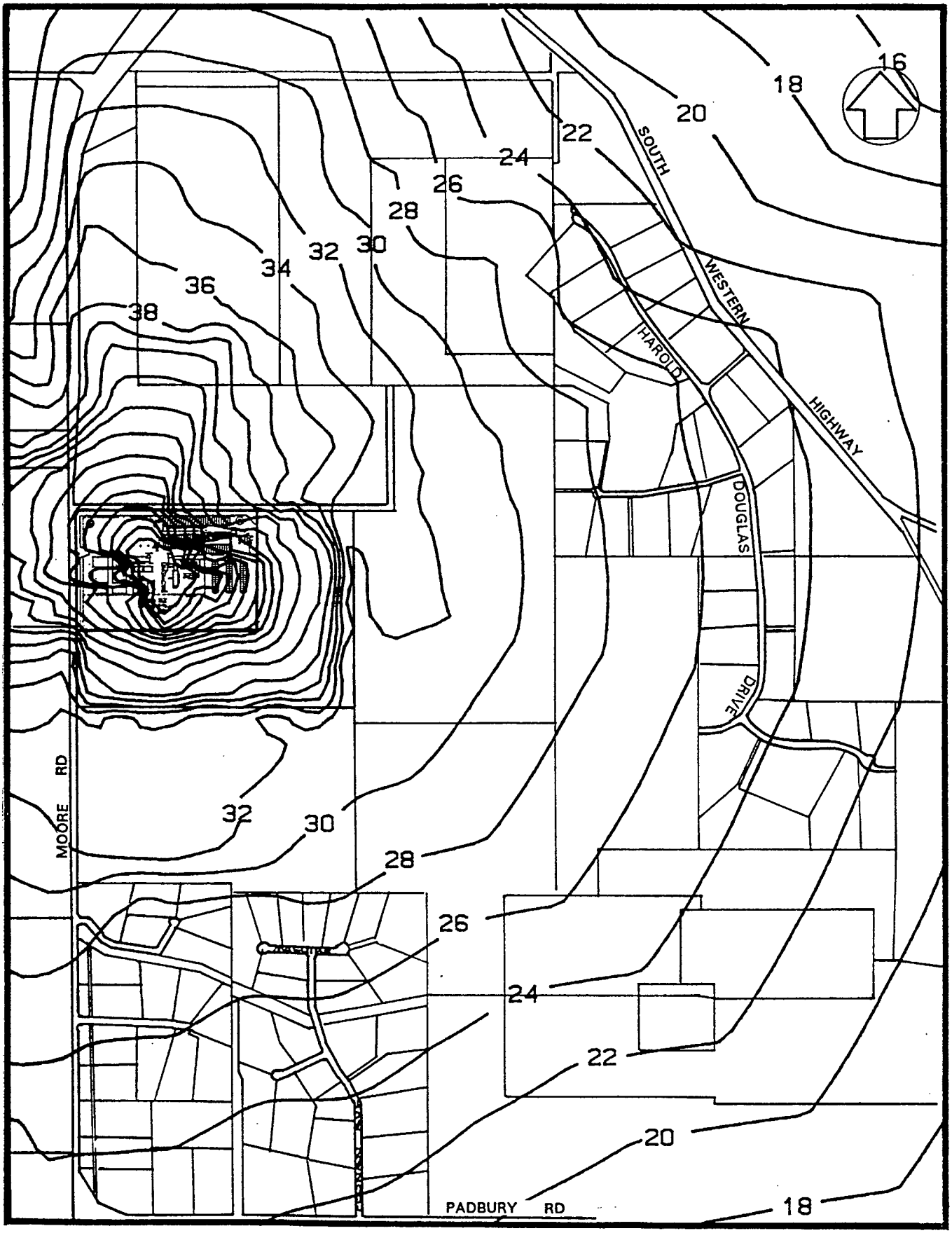
A computer ranking of noise sources at the sawmill indicated that the chipper, green chain, green mill and loaders are the major sources of noise. Therefore the first steps that will be taken to reduce noise emissions will be as follows:

- Chipper - enclosure incorporating internal acoustic absorption lining.
- Green chain - placement of purpose-built screens around wood stacking operations.
- Green mill - enclosure and screening of southern openings.
- Loaders - reduction in the noise level of reversing beepers and some engine bay noise control.

It is predicted that the above controls will reduce the noise emissions to a maximum of 45dB(A). In order to further reduce the noise emissions, an automatic conveyor stacking system will be introduced to replace the present green chain operations prior to the introduction of the afternoon work. It may also be necessary to control the noise emanating from the existing kiln by replacement of the electric motors of the main circulation fans with motors having lower sound output levels.

The above measures will reduce the noise levels at the nearest residences in Padbury Fields to well below the maximum night time criteria of 40dB(A) and will significantly improve noise levels compared to those which exist at present. The computer prediction of noise levels around the expanded sawmill given the above modifications under normal conditions and when there is a light northerly wind are shown in Figures 15 and 16 respectively. Under calm conditions the maximum noise level is 30dB(A) and with a northerly wind it is 38dB(A).

In order to ensure that the above levels are achieved at Padbury Fields, all new outside equipment for the sawmill expansion will have sound output levels that will allow ongoing conformance to EPA Regulations.



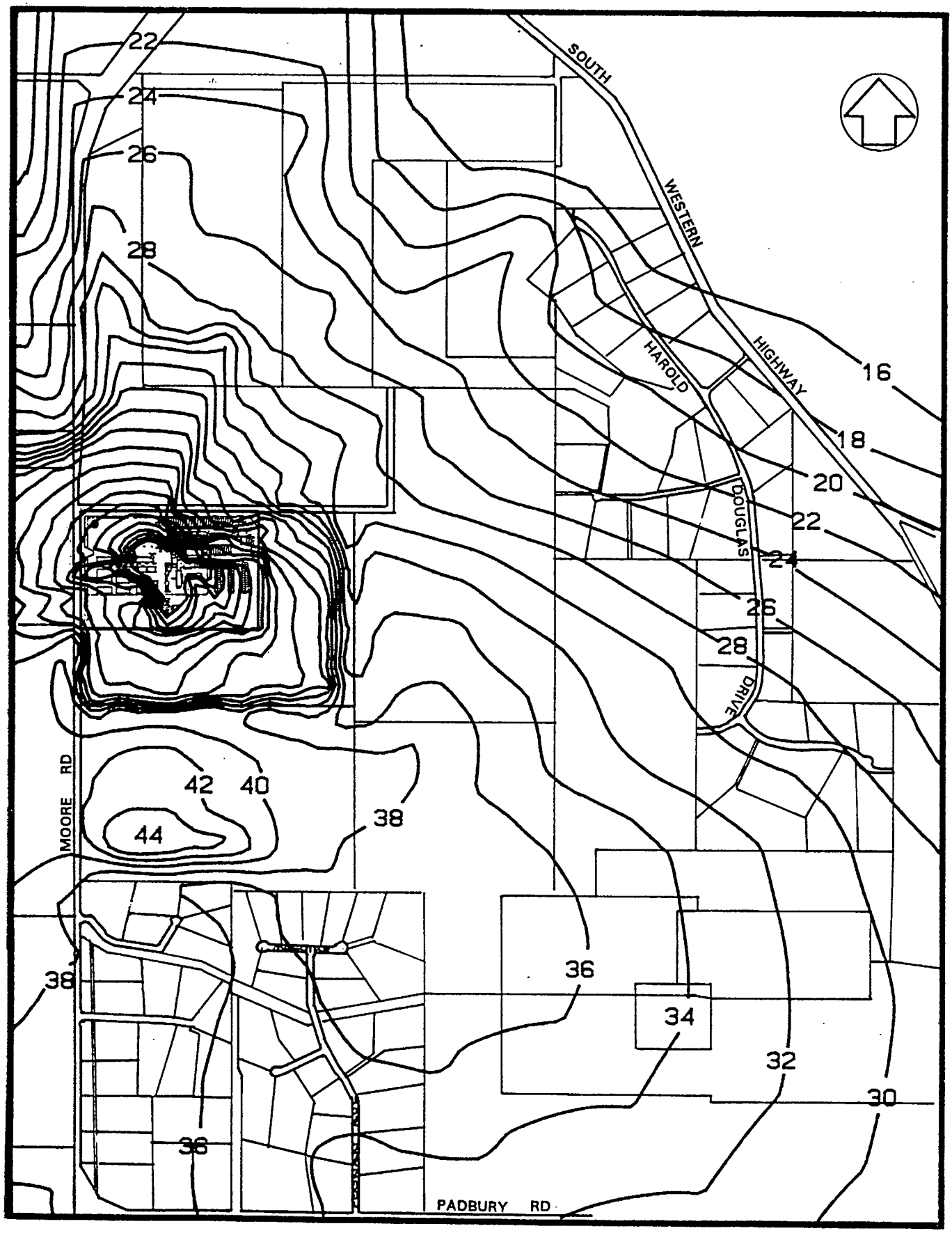
NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PERCENTILE LEVELS

SOURCE: HERRING STORER ACOUSTICS

ALAN TINGAY & ASSOCIATES

NOISE CONTOURS FOR EXPANDED PLANT - CALM CONDITIONS

FIGURE 15



NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PERCENTILE LEVELS

SOURCE: HERRING STORER ACOUSTICS

ALAN TINGAY & ASSOCIATES

NOISE CONTOURS FOR EXPANDED PLANT - WIND, NORTHERLY AT 3m/S

FIGURE 16

At the other nearby Small Holdings area of Copplestone, the predicted noise levels from the expanded sawmill will be less than those at Padbury Fields due to the greater distance from the mill and the fact that noise levels are lower to the east and north-east.

3.2.5 Predicted Accumulative Noise Levels

When noise levels from the expanded sawmill are up to 38dB(A) at the nearest residence in Padbury Fields due to down wind propagation, the actual noise level may be higher because of an additive effect with the noise from other sources including other industries in the area. It is predicted that the actual noise level will still be considered acceptable for daytime operations and that in fact, there would still be a net reduction compared to the existing noise levels. However, the combined noise levels at night may cause some disturbance.

In order to reduce the possibility of this, WESFI, which is one of the partners in the WESPINE sawmill proposal, intends to reduce the noise emissions from the particle board plant which it owns.

3.2.6 Relocation of the Sawmill to Lot 354

WESPINE was asked to examine the viability of relocating the sawmill to Lot 354, Moore Road Dardanup by members of the group representing Copplestone and Padbury Fields residents and by the Dardanup Shire Council. Lot 354 is north of the existing sawmill site along Moore Road and adjacent to the particle board plant (Figure 17).

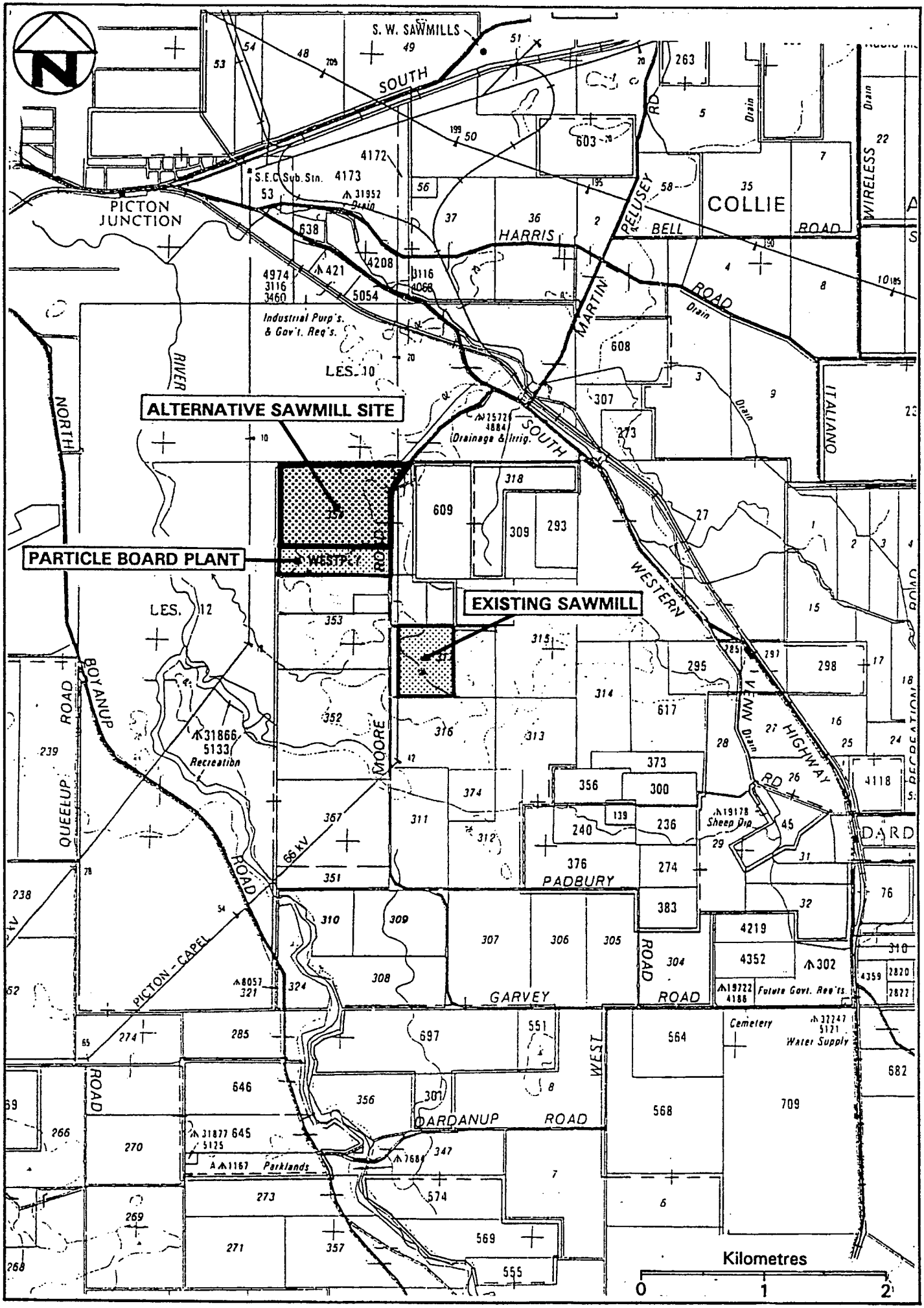
The basis of this request was the belief that the proposed upgrade would result in residents experiencing increased levels of noise and increased hazards associated with greater numbers of truck movements. Council and residents considered that the only method of preventing these impacts may be to relocate the mill further away from residents.

In fact, the expansion will result in a reduction in the noise levels compared with the existing situation because of improved plant, equipment, buildings and operations (see Section 3.2.4 above).

In addition, some individuals who own property zoned General Farming adjacent to the sawmill wish to rezone and subdivide it. Rezoning of this land has not occurred to date because of its proximity to the sawmill. Relocation of the sawmill would remove one obstacle for this rezoning although the siting of the particle board plant would prevent any rezoning which allowed residential development.

WESPINE agreed to evaluate the relocation option and did so by commissioning independent studies from Wood & Grieve Consulting Engineers and KPMG Peat Marwick Chartered Accountants on the cost of relocating the mill. These studies are presented in full in Appendix 2.

Residents and councillors requested that the benefits associated with relocation be considered especially with regard to the saving of wood residue transport costs.



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LOCATION OF COUNCIL'S SUGGESTED ALTERNATIVE SAWMILL SITE

FIGURE 17

Currently sawmill residue is trucked to the particle board plant. The alternative location is immediately adjacent to the particle board plant and it was considered that if the residue could be piped to the plant there would be a significant saving in transport costs.

The proponent believes that the piping of residues has merit and thus has decided to consider construction of a pipeline irrespective of the location of the sawmill. A pipeline would have the added benefit of reducing the number of trucks on Moore Road. It is the opinion of WESPINE that such a pipeline would only be feasible when log receival capacity reached at least 200,000m^3 no matter which of the sites the sawmill operated from.

The cost benefit between Lot 354 and the current site in relation to a pipeline is the cost saving related to the difference in the length of the pipeline and its associated maintenance. The difference in pipe length is marginal since any pipeline from Lot 354 would have to circumnavigate the particle board plant as the input point for wood chips and residues is on the opposite side to Lot 354. Wood & Grieve considered the pipeline in their appraisal together with the subdivision and sale of Lot 317, and the removal of the need for noise shielding structures to protect residents associated with the existing site.

Members of the public have suggested that relocation of the sawmill could be staged given that the sawmill plant is to be replaced gradually over a ten year period. Wood & Grieve examined this option and concluded that the interdependence of the various processes indicated that staged relocation would result in increased costs.

Relocation of the mill also would require the relocation, at WESPINE's expense, of a major natural gas pipeline that passes through Lot 354. This pipeline is under the control of the State Energy Commission of Western Australia (SECWA). In correspondence SECWA has stated that relocation of the pipeline is not an option given the cost of relocation. This letter is included in Appendix 2. Wood & Grieve believe that it would not be feasible to relocate the mill to Lot 354 without relocating the SECWA gas pipeline.

The Wood & Grieve report estimates the actual expenditure associated with the relocation whilst the KPMG Peat Marwick report estimates the consequential costs and the value of the fixed assets that would be scrapped as a result of the relocation. Separate estimates have been prepared on the basis of a mill shutdown period of either two weeks or eight weeks during the relocation process. The longer shutdown period would allow relocation of some existing sawmill equipment but would cause increased costs associated with lost profits.

Contingency factors have been included in the estimates and these are further discussed in Appendix 2. The costs of relocation are estimated as follows:

	2 Week Shutdown	8 Week Shutdown
Relocation Costs	$11.652 million	$10.023 million
Consequential Costs	$ 1.271 million	$ 1.864 million
Fixed Assets Scrapped	$ 4.500 million	$ 2.700 million
TOTAL	$17.423 million	$14.587 million

Initially WESPINE staff, on the basis of their experience, estimated the cost of relocation to be approximately $10 million. WESPINE representatives stated publicly that if this were the case then relocation would not be an economically viable option as the economics of the project would not allow for the costs of relocation. In fact, the engineering and financial assessments show that the costs would be considerably more than $10 million.

3.3 Traffic levels

3.3.1 Introduction

In order to examine the effect of the sawmill expansion in terms of regional and local traffic, it is necessary to assemble data on current and predicted road uses independent of the sawmill operations together with information on the traffice due to the present and expanded sawmill. A specific study was commissioned by WESPINE from Cossill & Webley Consulting Engineers, for this purpose. This specialist report has not been included in the CER, reference copies, however, have been lodged in libraries in the Perth and Bunbury regions and at the Shire of Dardanup. The results of the study are discussed below.

3.3.2 Existing Traffic

Moore Road

The main access to the sawmill site is Moore Road which is a 6 to 7m wide sealed carriageway in good condition. Moore Road was first upgraded in 1974 and the upgrading was extended in 1984 with WESFI contributing 50% of the funds for each stage of the upgrading. Moore Road serves as a link through from Garvey Road to the Picton-Boyanup Road and consequently many local people use it to travel to and from Bunbury. The section of Moore Road south of the Picton-Boyanup Road is unzoned and subject to a speed limit of 110kph.

Moore Road currently carries about 1000 vehicles per day of which about 200 are trucks. This volume is composed of three main sub-groups as follows:

- residents of Padbury Fields and other rural properties,
- trucks and service vehicles generated by industrial operations, and
- staff from industries along Moore Road.

A breakdown of the current volume of traffic is presented in Table 2 and a breakdown of traffic contributed by the sawmill, particle board plant, and resin plant is presented in Table 3. The sawmill contributes 70 of the 200 truck movements per day and 160 of the 468 staff car movements per day.

The trucks carrying the raw materials and finished product to and from the sawmill, particle board plant and resin plant include:

- rigid truck with trailer (maximum pay-load 40 tonnes)
- B-double road trains (maximum pay-load 40 tonnes)
- semi trailers with trailer (maximum pay-load 38 tonnes)
- semi trailers (maximum pay-load 25 tonnes)
- semi trailer tankers (maximum pay-load 25-36 tonnes).

Regional Traffic

The majority of private vehicles using Moore Road then use the Picton-Boyanup Road into Bunbury. Residue trucks only operate between the sawmill and the particle board plant and thus do not use regional roads.

Picton-Boyanup Road and Martin Pelusey Road are the regional roads which are used to truck finished products to Perth and logs to the sawmill and particle board plant. About 70% of log trucks come from areas south of Dardanup and consequently use the Picton-Boyanup Road. Currently 440 to 480 single truck movements occur on this road on a daily basis and of these about 12 are log trucks going to and from the sawmill (5.5% of the total truck movements).

Approximately 6 pine log truck movements and 10 finished product truck movements due to the sawmill are part of the 210 truck movements along Martin Pelusey Road. This represents about 8% of the truck movements along this road.

3.3.3 Changes to Traffic Due to Expansion

Moore Road

The changes in traffic volume that will result from the sawmill upgrade are described in detail in the traffic study on the project. The study concludes that the upgrade of the sawmill will result in an increase in the number of vehicles using Moore Road and other connecting roads in the area. However, traffic volumes are expected to increase by 50% over the next 10 years independent of the sawmill expansion as a result of expansion of residential areas and industrial activity.

The present levels and predicted changes in traffic volume on Moore Road are presented in Table 4. There will be an increase in log trucks and finished product truck movements together with increases in the number of staff vehicle movements which in total will mean about 33% more traffic eventually than at present (including 30% more trucks and 36% more cars). WESPINE proposes to use larger trucks than currently used to cart residue to the particle board plant until log receival volumes increase to at

TABLE 2

Total Existing Daily Traffic - Moore Road
(Number of vehicle movements)

Trucks	200
Staff Cars	448
Sand Pit Trucks	24
Padbury Fields and other residents cars (based on 40 residences at 8 vehicle trips per day 90% using Moore Road)	290
Total	**962 vpd**

TABLE 3

Existing Daily Traffic - Trucks and Staff Cars WESFI and WESPINE
(Number of vehicle movements)

Vehicle Types	Sawmill	P/B Plant	Resin Plant
1. Trucks			
Logs			
o Pine Log Hauliers	18	50	
Finished Product (Incl. to Koppers)			
o Brookes Transport	10	50	
Other	10	10	
Residue			
o Brookes Transport	32		
Resin Products			20
Sub Total Trucks	70	110	20
2. Staff Cars	160	240	48
TOTAL	230	350	68

TABLE 4

Predicted Changes in Traffic Related to the Sawmill, Particle Board Plant and Resin Plant on Moore Road, Dardanup

(Number of vehicle movements per day)

	Current			Total	Medium Term			Total	Long Term			Total	Change %
Truck Types	Sawmill	Particle Board Plant	Resin Plant		Sawmill	Particle Board Plant	Resin Plant		Sawmill	Particle Board Plant	Resin Plant		
Log	18	50	-	68	46	44	-	90	92	24	-	116	+70
Finished Product	10	50	-	60	20	50	-	70	42	50	-	92	+53
Other	10	10	20	40	10	10	24	44	10	10	28	48	+20
Residue	32	-	-	32	52	-	-	52	- - - (pipeline operating)			0	-100
Total Trucks	70	110	20	200	128	104	24	256	144	84	28	256	+28
Staff Vehicles	160	240	48	448	220	240	52	512	300	248	60	608	+30
TOTALS	**230**	**350**	**68**	**648**	**348**	**344**	**76**	**768**	**444**	**332**	**88**	**864**	**+33**

least 200,000m^3. This will reduce the increase in truck numbers on Moore Road due to the sawmill upgrade. A pipeline to transport these residues will be considered at that time and this would result in there being no residue trucks on Moore Road.

Initially, as the plant expands to 200,000m^3 log volume intake, the truck volumes will increase by a total of 52 movements above existing volumes as follows:

- log truck movements to and from the sawmill will increase by 28 movements,
- finished product movements will increase by 10 movements,
- residue trucks will increase by 20 movements, and
- log trucks to and from the particle board plant will decrease by 6 movements.

The above increases are a direct result of the increase in the capacity of the sawmill. Log trucks going to the particle board plant will reduce since the residue from the sawmill will replace some pine thinnings currently trucked to the particle board plant.

When the sawmill has a capacity of 400,000m^3, truck volumes will increase by 48 movements from existing levels as follows:

- log truck movements to and from the sawmill will increase by 74 movements,
- finished product trucks will increase by 32 movements,
- residue trucks will decrease by 32 movements due to the installation of the residue pipeline, and
- log truck movements to and from the particle board plant will decrease by 26 movements.

Truck traffic along Moore Road will increase by about 28% by the year 2003 as a result of the sawmill upgrade.

Staff vehicle movements to and from the sawmill will increase by 140 movements (36%).

Regional Roads

The majority of private vehicles using Moore Road then use the Picton-Boyanup Road into Bunbury and therefore have little impact on the regional road network. Residue trucks are confined to Moore Road.

Trucks carting pine logs and finished products, however, use regional roads to gain access to and from CALM forests and to and from Perth respectively. In the future it is expected that approximately 70% of the pine log trucks will use the Picton-Boyanup Road which translates to 34 additional truck movements. The remaining 30% will be along Martin Pelusey Road to access the south-western highway north which represents 14 movements per day.

Between 440 and 480 single truck movements occur daily along Picton-Boyanup Road and thus the increase in trucks along this road as a consequence of the sawmill upgrade is a maximum of 8%.

On Martin Pelusey Road about 210 single truck movements occur daily and the increase in trucks will be in the order of 7% of daily truck traffic. Most finished product trucks originating from the sawmill also will use Martin Pelusey Road. There will be a maximum increase of 32 finished product truck movements along this road which equates to 15% of the existing level of truck traffic. This truck traffic combined with log truck traffic would result in a 22% increase in truck movements along Martin Pelusey Road.

The principal pine log transport routes that will be used throughout the south-west are presented in Figure 18. This figure also shows the distribution of pine plantations from which timber will be sourced for the sawmill. It can be seen that the plantations are spread widely and that different routes will be used at different times. The proposed routes are established regional roads and highways which carry large volumes of truck traffic. As previously stated log trucks carting pine logs are the responsibility of CALM.

The upgrade of the sawmill will eventually result in an additional 48 movements of log trucks to the mill on a daily basis. When the variety of sources and thus transport routes from the plantations throughout the south-west are considered it can be seen that the additional trucks will contribute little extra truck volume to regional roads and highways outside the vicinity of the Dardanup sawmill.

In the very unlikely event that all of the trucks may use either only the Picton-Boyanup Road or Martin Pelusey Road in one day, then the increase in traffic over the present levels on these roads would be 48 vs 440 movements (i.e. 11% increase) and 48 vs 210 movements (23%) respectively.

3.3.4 Traffic Management

Moore Road

The increases in traffic along Moore Road, Picton-Boyanup Road and Martin Pelusey Road that would result from the sawmill upgrade are described in the preceding section. With regard to truck movements, this would involve an increase of 28% along Moore Road, an 8% increase on Picton-Boyanup Road and 22% increase along Martin Pelusey Road. Staff vehicle increases would result in a 30% increase of private vehicles along Moore Road. These increases are based on existing traffic volumes.

The above figures cannot be considered in isolation of the general growth in traffic that will occur along these roads in the future. Increasing occupancy of rural subdivisions in the area could result in a 90% increase in local private traffic. It is estimated in the traffic study that there will be an overall increase in general traffic of 53% north of the particle board plant along Moore Road in the next 10 years.

LEGEND

PRINCIPAL TRANSPORT ROUTES

PINE PLANTATIONS

Kilometres 0 40

Wanneroo
WANNEROO ROAD
GREAT EASTERN HIGHWAY
Perth
TONKIN HIGHWAY
Fremantle
INDIAN OCEAN
WESTERN HIGHWAY
Waroona
SOUTH WESTERN HIGHWAY
Harvey
OLD COAST ROAD
COAL FIELDS ROAD
Collie
Dardanup
Bunbury
DARDANUP PINE SAWMILL
RAILWAY ROAD
Capel
DONNYBROOK ROAD
Donnybrook
SOUTH WESTERN HIGHWAY
Bridgetown
Nannup
VASSE HIGHWAY
SUE'S ROAD
Busselton
BUSSELL HIGHWAY
Margaret River
BROCKMAN HIGHWAY
Augusta
Manjimup
MUIRS HIGHWAY
Pemberton
VASSE HIGHWAY
Northcliffe

PRINCIPAL SOUTH-WEST PINE LOG TRANSPORT ROUTES

FIGURE 18

ALAN TINGAY & ASSOCIATES

Moore Road has the capacity to accommodate this increase in traffic and little benefit would be gained by widening it. Future widening of Moore Road would most likely promote higher speeds and thus increase the potential for accidents. The significant problems that need to be addressed are turning movements onto and from Moore Road and vehicle speed. These conclusions are consistent with the issues raised by nearby residents during the public consultation phase of this CER.

The following traffic issues were identified during the study period as being of concern to residents:

i) Volumes of truck traffic on Moore Road especially with regard to safety and the suitability of the road for the current volume of trucks.

ii) Trucks accessing Moore Road from industrial sites particularly when they occasionally do not stop before pulling out onto the road.

iii) Volumes of truck traffic on Martin Pelusey Road considering its narrow width and poor condition.

iv) Traffic noise from Picton-Boyanup Road affecting Copplestone residents.

v) Sight distances of trucks pulling out of industrial sites being limited by vegetation and fences.

vi) Excessive vehicle speeds along Moore Road, especially cars.

All of the above issues are relevant to the sawmill upgrade since this proposal would increase the number of trucks and cars travelling along the abovementioned routes. However, issues (ii), (v) and (vi) will occur irrespective of the upgrade occurring.

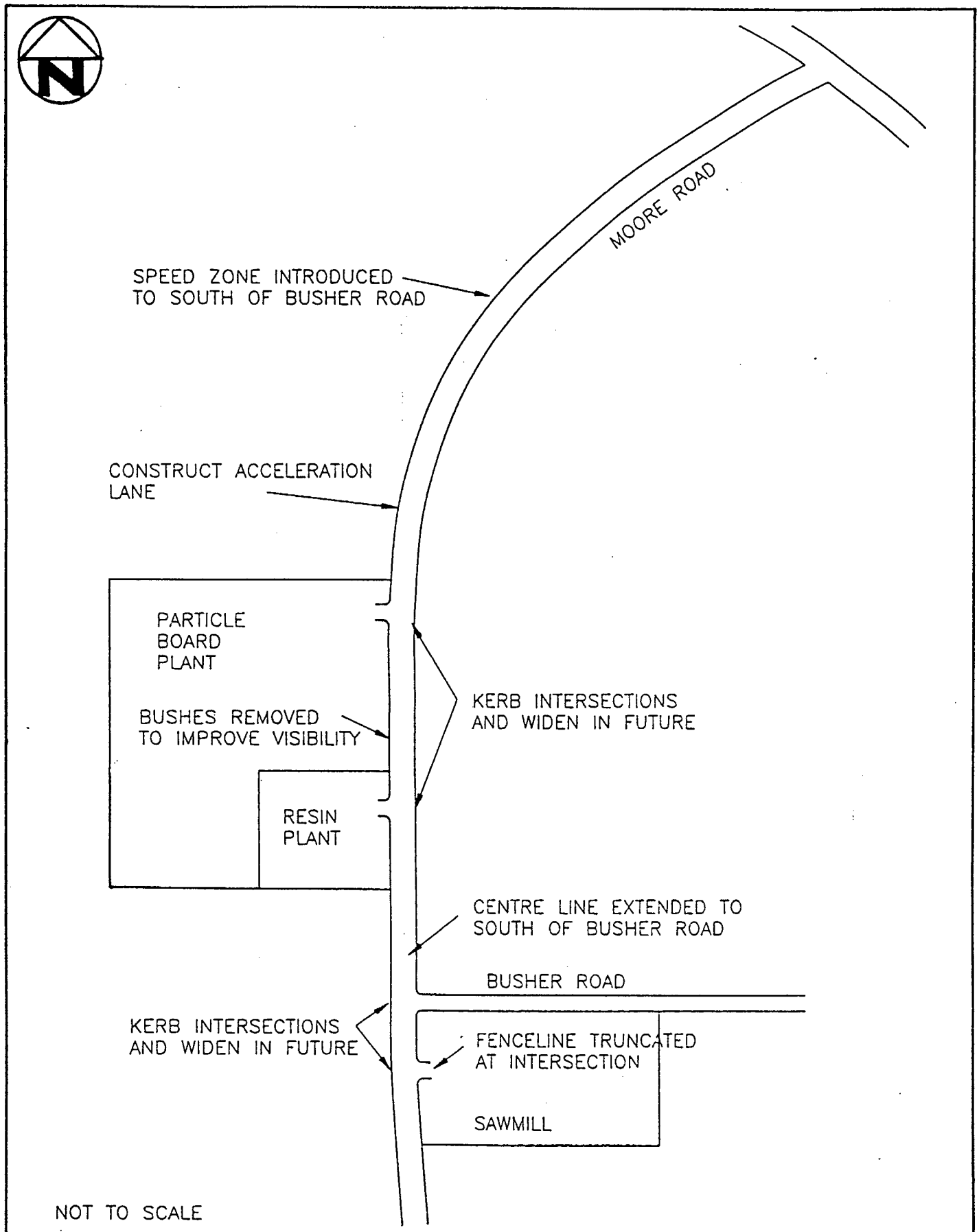
In order to address these issues, WESPINE intends to propose the following traffic management strategies on Moore Road to the relevant authorities following the assessment of this CER:

i) A reduction of speed limit through the industrial development area from the existing 110kph to 80kph. This decision will need to made by the Main Roads Department (MRD).

ii) Kerbing and sign posting with stop signs at all access points and side roads. Median strips may also be provided. This decision will need to made by the Main Roads Department (MRD).

iii) Sight distances at all existing industrial exits will be improved by the removal of vegetation and fences that currently restrict sight distances.

Other proposals to increase safety along Moore Road are shown in Figure 19 and include acceleration lanes and road centre lines. A new entrance to the sawmill for log trucks will also be provided from Busher Road.



SOURCE: COSSILL & WEBLEY, CONSULTING ENGINEERS

ALAN TINGAY & ASSOCIATES

TRAFFIC MANAGEMENT PLAN

FIGURE 19

As a result of the above management strategies it is considered that the potential impacts associated with the sawmill with regard to traffic and that posed by coincident general growth in the area can be minimised. The traffic study concludes that Moore Road has the capacity to carry the increased volume of traffic that will occur over the next ten years. This includes the traffic contributed by the upgraded sawmill.

Traffic generated by industry along Moore Road is currently being considered as part of other regional traffic studies. For example, WESPINE has been informed that the Draft Preston Industrial Park Structure Plan will recommend the closure of Moore Road just south of Busher Road and the continuation of Busher Road through to the Picton-Boyanup Road. The Padbury Fields end of Moore Road would be diverted westwards joining the proposed Bunbury Outer Ring Road. These measures would make Moore Road into an access for the industrial area only with no through traffic.

Regional Roads

It is predicted that the upgrade of the sawmill will result in a 8% increase in the frequency of truck movements on Picton-Boyanup Road and an 22% increase on Martin Pelusey Road over 10 years based on existing vehicle movements. Future forecasts of traffic for these roads are not available, however, steady growth in traffic volumes is expected with growth in the area.

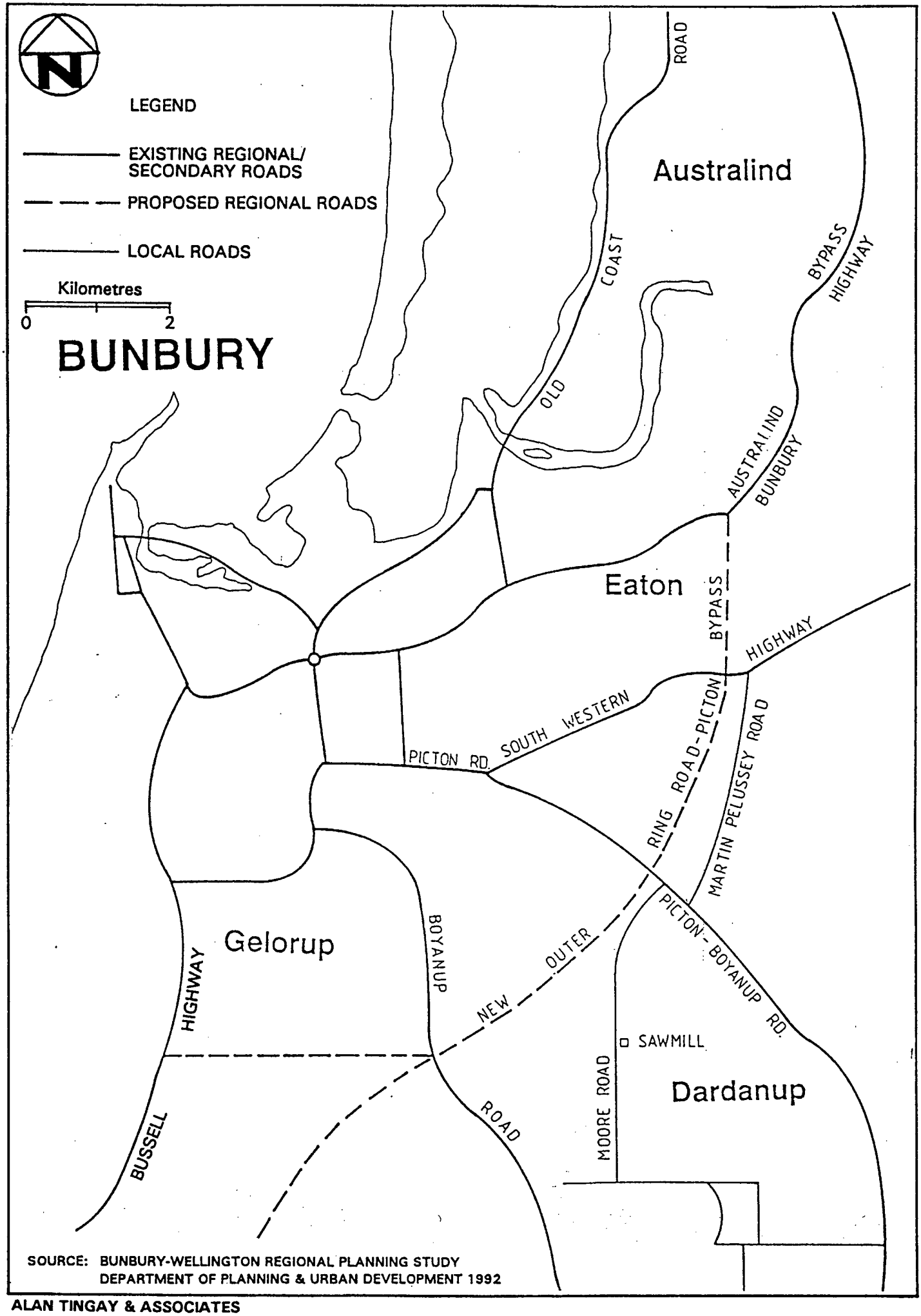
It is considered that the proportion of traffic on the Picton-Boyanup Road generated by the sawmill will not significantly alter because of growth in other activities. There will, however, be a more significant increase in the proportion of trucks using Martin Pelusey Road.

Both of these roads have the capacity to handle the increases in road traffic in the future. The Shire of Dardanup proposes to upgrade Martin Pelusey Road by widening it to 7m over the next two years which will make the passing of trucks easier.

The regional studies, the Draft Bunbury-Wellington Region Plan and the Draft Preston Industrial Park Plan propose a Bunbury Outer Ring Road (Figure 20) in the medium term and this should rationalise truck movements and provide the local industries with a good road network drawing traffic off roads such as Martin Pelusey Road.

3.4 Waste By-Products and Their Uses

By-products of the milling operation are sawdust, chips, planer shavings, docking waste, and bark. The bark will be stored on site in a pile on the northern boundary of the site. This is currently sold to gardening suppliers for soil improvement. All sawmill residues will be utilised by the particle board plant as a result of improvement in operations and as a result there will be no significant wastes produced. There will be a significant improvement therefore in the utilisation of the resource compared to the current situation.



SOURCE: BUNBURY-WELLINGTON REGIONAL PLANNING STUDY
DEPARTMENT OF PLANNING & URBAN DEVELOPMENT 1992

ALAN TINGAY & ASSOCIATES

FUTURE REGIONAL TRANSPORT ROADS

FIGURE 20

It is predicted that approximately 55% of the total log volume received will be converted to chips, sawdust and shavings when the sawmill has the capacity to receive 400,000m^3 of logs. This will result in the transfer of 220,000m^3 of material to the particle board plant. Currently the particle board plant utilises pine thinnings for board production. It is expected that less pine forest thinnings will be available in the future and that the wood residues from the sawmill will make up the shortfall.

The proponent has three options regarding the method by which wood residues could be transported to the particle board plant. These are as follows:

i) by truck as done currently,
ii) by conveyor belt, and
iii) by sealed pipeline.

Trucking has the disadvantage of resulting in more truck traffic on Moore Road. Currently, however, it is the most economical alternative as volumes of wood residues are insufficient to justify a conveyor or pipeline.

It is considered that once log intake reaches approximately 200,000m^3 a conveyor or a pipeline may become economically viable. A conveyor would produce noise whereas a pipeline could be underground and thus be quieter. This option will be fully considered once volumes of wood residues are sufficient to allow the economic operation of a pipeline to the particle board plant.

3.5 Dust, Smoke and Odour

The current sawmill operation generates very little dust and this will remain the case when the sawmill is upgraded. Significant dust generation is prevented by the use of sprinklers around log stacking areas and the bitumen seal over the majority of the site. Wherever possible wood residues will be fed into the waste stream that is currently utilised by the particle board plant. It is WESPINE's intention that the mill will remain in a generally clean condition and that sawmill dust will not be allowed to accumulate. The chance of dust being a nuisance is minimal.

Mention has been made of the odour of sawn pine that comes from the sawmill, however, the majority of people contacted throughout the public liaison process made no mention of it. It is concluded that residents find this odour to be acceptable and part of the character of living in the area.

The mill has generated smoke in the past but only when a pile of residual material was burnt on site at the beginning of winter. This activity has been substantially discontinued and only small quantities associated with good house keeping will be burnt in the future. This waste will also be available for employees to take home for use as firewood as an alternative to burning on site.

3.6 Lighting

There is the potential for light spill from the sawmill given that it will be operating after daylight hours. It is expected that the potential of any light spill to disturb nearby residents will be minimal given that:

- all lighting will have shrouds that will direct light to the sawmill and towards the ground in order to prevent light spillage,
- a distance of about 600m exists between the mill and the nearest residence, and
- the visual buffer of trees to the east of the sawmill will be retained.

The proponent is prepared to commit to installing lighting which will limit the spill of light from the site with the types of lighting determined by industrial consultants. In addition, the proponent is prepared to commit to planting and maintaining a visual buffer along the southern and western boundary of the sawmill site.

3.7 Groundwater

Advice from WAWA indicates that the installation of an additional bore to extract 260,000kL/annum should not have significant implications. It is probable that the additional bore would be sunk into the Yarragadee Formation to ensure that it did not interfere with the existing bore in the Leederville Formation. WAWA require that this bore be licensed and thus the proponent will need to prove to WAWA that it will not interfere with other bore water users.

The majority of the activities that are currently carried out and are proposed at the sawmill are innocuous and involve nothing more than processing wood, so there is little potential for contamination of groundwater. Trenches on site act to intercept the uppermost part of the superficial aquifer and these waters are being monitored by WAWA. It is considered that this programme is adequate given the small potential for chemical contamination of groundwater.

3.8 Kiln Fires

There have been two significant fires related to the operation of the kilns over the life of the sawmill. The first fire was during 1984 when timber within a kiln ignited, burning down the kiln. Sprinklers were installed to prevent further fires and these have since extinguished two fires within the kilns preventing their spread.

The second fire occurred in December 1991 within a shed containing a stack of timber that had recently been removed from the kiln. The fire spread to other stacks of timber and so became a major blaze which required the attendance of the local fire brigade. WESPINE have since rebuilt the shed away from timber storage areas and thus should another fire start it will not be able to reach the scale of the previous fire.

The proponent believes that as a result of previous experience it has reduced the fire hazards associated with the operation of the kiln. It is considered that appropriate fire controls are in place to prevent further fires and the current practice of holding regular fire drills will maintain this ability.

3.9 Social Considerations

3.9.1 Buffer Zone

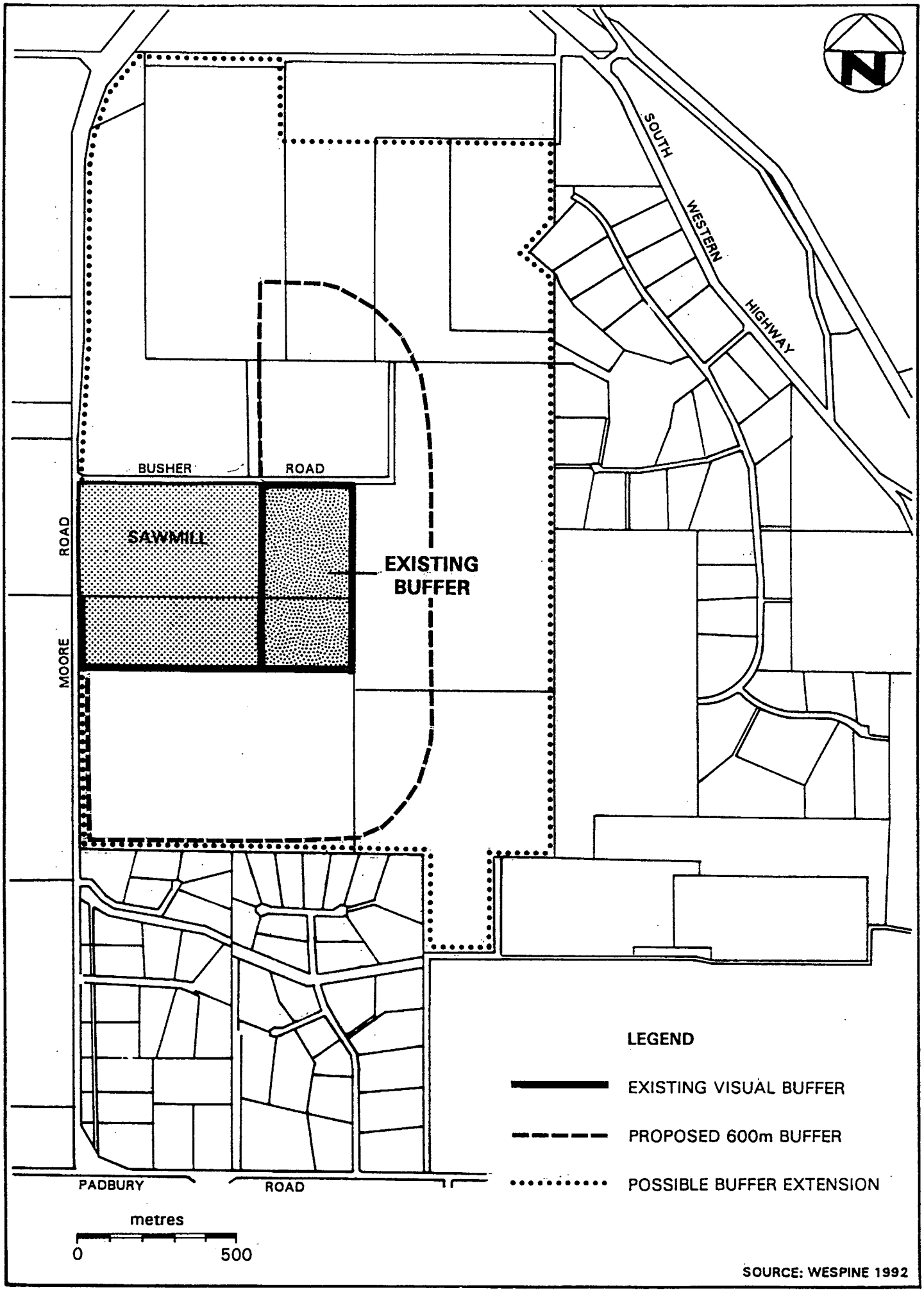
Buffer zones are important to industry as they allow industrial activity to continue without disturbing residents and they prevent residents from adversely affecting industrial activity. In order to be effective, however, it is necessary to limit activities within buffers to those which can operate in harmony with industry as well as with more sensitive adjacent land uses such as residential. Such activities include light industry, general farming, conservation purposes or agroforestry.

It is important to note that WESPINE has no control over any of the land surrounding the sawmill and cannot directly establish buffer zones. Buffers can only be established as an initiative of the Minister for Planning.

At the time of writing there was some community discussion regarding a buffer zone around the Dardanup sawmill. This discussion resulted from the submission of proposals to Council to rezone land adjacent to the existing 300m visual buffer of the sawmill from General Farming to Small Holdings. Such a rezoning would result in the establishment of residences in close proximity to the sawmill. WESFI responded to an invitation by Council to comment on the proposal by submitting that a 1km buffer should be considered around the sawmill instead of residential areas. The grounds for this were that the rezoning may result in complaints from any future residents regarding the operation of the sawmill and these could result in the restriction of the sawmill's operation. The Shire of Dardanup suspended the passage of the rezoning in early 1992.

In order to maintain an appropriate distance between future residences and its operation the State Government has sought a buffer surrounding the sawmill site and this buffer has been incorporated into the State Agreement (see Section 1.4). In this Agreement it is proposed that land within approximately a 600m radius of the sawmill should not be rezoned without the specific approval of the Minister for Planning. The Agreement states that the zoning of the subject land "*shall not be changed during the currency of the Agreement to a zoning that is determined by the Minister for Planning, after consultation with the Minister and the relevant local authority to be incompatible with or likely to restrict or adversely affect the activities of the company under this Agreement*". The 600m buffer includes 7 separate lots or part thereof as shown in Figure 21.

In the proposed Agreement the Minister also may extend the above condition to a larger area of land. This possible buffer extension is shown in Figure 21. Such an extension would mostly include land currently zoned General Farming but also would incorporate Lots 293 and 309 which are zoned Small Holdings but which have not been subdivided.



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PROPOSED BUFFER ZONES

FIGURE 21

If the buffer extension is implemented there will be a need therefore for an appropriate arrangement with the owners of these lots. This matter would be addressed by the Minister for Planning.

Reference is also made in the Agreement to the recommendations of the Preston Industrial Park Study which is soon to be released to the public in draft form. The Minister for Planning will consider the recommendations from this study with regard to buffers around the sawmill and other industrial sites in the Preston Industrial Park Study. After this consideration the Minister will decide what buffers around industry are appropriate. There are 11 lots which are either entirely or partially within the proposed buffer zones around the sawmill. These lots are owned by 9 different owners, most of whom are residents of Dardanup and Bunbury.

Studies on the sawmill and its upgrade indicate that unacceptable levels of noise would be experienced by future residents if they were to reside within the proposed 600m buffer. Currently some residents close to the boundary of this proposed buffer consider that noise levels are unacceptable. A full discussion of this issue is given in Section 3.2.

With regard to the Preston Industrial Park Study, WESPINE will submit the findings of its noise study together with other comments on the study as a submission to the Department of Planning & Urban Development (DPUD). The basis of the submission will be that a suitable buffer of land should be retained between the sawmill and the Small Holdings subdivisions of Copplestone and Padbury Fields.

3.9.2 Lifestyle and Land Values

It is the view of the proponent that the expansion of the sawmill will result in the following positive impacts on the lifestyle of the residents of Copplestone and Padbury Fields.

- a reduction in noise levels compared to the present situation,
- improved traffic management on Moore Road which will increase safety even though there will be an increase in traffic on the road, and
- no change in permitted uses for the already subdivided Small Holdings zones.

The only properties which may be adversely affected by the proposal are Lots 293 and 309 which are currently zoned Small Holdings but which have not been subdivided. It is possible that the Minister for Planning may decide to include these properties in a general buffer zone for the Preston Industrial Park as noted in Section 3.9.1.

3.9.3 Employment Prospects and Workforce Impact

Additional workers will be required at the sawmill as a result of the upgrade in order to construct and run the mill. Given the proximity of Bunbury and Dardanup it is expected that there will be a relative abundance of skilled labour. However, the

upgrade will be gradual and there will be no dramatic impact on the area as a result of a construction workforce.

It is expected that the expansion of operations will result in 65 direct jobs at the sawmill and 50 jobs in the forest which will go to workers in the south-west region. This will have a positive effect on business in the area and will no doubt increase the number of people who wish to live close to the mill as is currently the case. This can only positiviely affect the local property market.

A significant number of additional jobs also will be created throughout the region as a consequence of the need to supply, install and maintain the additional sawmill machinery required for the upgrade.

3.10 Site Decommissioning

It is envisaged that the current location of the sawmill site will remain in industrial use well into the next century and that the mill will remain in operation for as long as there are sufficient timber resources to maintain its viability.

The present activities on the site and those proposed in the mill upgrade do not pose any potential for the contamination of soils on the site. Moreover a bitumen seal covers almost all the working area and this further reduces the possibility of accidental soil contamination.

The proponent is prepared to commit to ensuring that the site is not rendered unsuitable for other land uses by its use as a sawmill and will take all necessary steps to ensure this when the mill is decommissioned.

If the sawmilling operation were to cease for any reason the existing infrastructure and surface areas would remain suitable for other general industrial proposes consistent with the zoning originally given to the site in 1979.

4. CONCLUSIONS

This CER has identified a variety of potential environmental and social impacts that could result from the upgrading of the pine sawmill at Dardanup. These potential impacts were identified as a result of consultation with nearby residents and their representatives and detailed examination of the proposal by specialist scientists and engineers.

The principal potential impacts posed by the proposal relate to noise generation from the sawmill and increases in traffic along Moore Road. Other potential impacts are considered to be minor and relatively easily managed.

It is proposed that noise levels will be managed by limiting the quantity of noise produced, or where this is impractical by housing noisy machinery in enclosures. The proponent's noise specialist has concluded that the sawmill can operate within EPA noise regulations given this management.

The hazards posed by trucks on Moore Road are of particular concern to many residents and the proponent. Truck volumes will increase on Moore Road and other roads, however, the proponent's traffic specialists have identified a range of strategies by which these hazards can be minimised. Furthermore regional studies propose that residential and industrial traffic be separated on Moore Road. WESPINE strongly supports this recommendation.

The proponent believes that the sawmill expansion will be of significant benefit to the Shire of Dardanup and the south-west generally. It will create jobs in the region, directly at the sawmill and within State Forests, and indirectly through the purchase of services and maintenance of equipment. Further jobs in the area will increase the attractiveness of Dardanup as a place to live and will have a positive impact on property values.

In conclusion, the proponent believes that the potential impacts posed by the sawmill upgrade are acceptable given the proposed management strategies. The proponent commits to these strategies as described in Section 5. It is expected that these commitments will form part of the conditions imposed by the Minister for the Environment which must be complied with for the project to proceed.

5. COMMITMENTS

Commitments represent the proponent's solutions to potential environmental and social problems posed by the development. Essentially they are the promises of the proponent regarding the methods by which certain aspects of the proposal will be carried out to prevent or ameliorate potential adverse environmental and social impacts.

WESPINE Industries Pty Ltd commits to undertake the following actions to the satisfaction of the EPA with regard to the proposed upgrade of the pine sawmill at Dardanup.

1. The proponent will comply with EPA noise regulations and will carry out further noise reduction measures if necessary to ensure compliance with EPA regulations.

2. The proponent will ensure that the sound output levels of all new equipment purchased for the sawmill will allow ongoing conformance to EPA Regulations.

3. The proponent will conduct a monitoring program for noise to the satisfaction of the EPA.

4. The proponent comits to continue liaising with local residents regarding the operation of the sawmill.

5. The proponent will continue to water pine logs stored within the mill site to ensure that fugitive dust levels do not create a nuisance.

6. The proponent will prepare and implement a lighting strategy to the satisfaction of the EPA.

7. The proponent commits to seek and co-operate with the implementation of the following measures designed to minimise traffic hazards that relate to the sawmill on Moore Road:

   - Reduction in the speed limit to 80kph.
   - Kerbing and sign posting with stop signs at all access points and side roads.
   - Removal of vegetation and fences that currently restrict sight distances near exits from the sawmill, particle board plant and resin plant.

   If agreed by the Department of Main Roads and Shire of Dardanup, these measures will be implemented as soon as possible.

8. The proponent will plant and maintain a visual buffer of vegetation 20 to 30m in width around the southern and western portions of the sawmill site's periphery.

9. The proponent will take the necessary steps to ensure that the sawmill site is free of chemical contamination in accordance with the then prevailing standards once the current use of the site has ceased.

10. The proponent will investigate the economic feasibility of constructing a residues pipeline to the particle board plant when log intake to the sawmill reaches 200,000m^3 per annum.

In addition, the Department of Conservation & Land Management (CALM), which will be responsible for the supply of pine logs to the Dardanup mill, makes the following commitments as part of this CER:

1. CALM will ensure that all of its operations relating to the supply of pine logs to the Dardanup sawmill are in accordance with the provisions of the Conservation and Land Management Act, 1984 and Regulations thereto, and with all relevant approved and then current Forest Management Plans.

2. CALM will ensure that road haulage contractors employed by CALM involved in the transport of the logs to the Dardanup sawmill receive specific direction on the routes to be used between each plantation and the mill, together with the need to comply with any conditions on the use of any route determined by the Main Roads Department or a Local Authority in accordance with their respective statutory responsibility or power.

A copy of the letter from CALM requesting that these commitments be included in the CER is given in Appendix 4.

APPENDICES

APPENDIX 1

EPA GUIDELINES FOR THIS CER

GUIDELINES FOR CONSULTATIVE ENVIRONMENTAL REVIEW

MAJOR STAGED EXPANSION OF PINE LOG SAWMILL.

WESPINE INDUSTRIES PTY LTD

DARDANUP WA.

Overview

In Western Australia all environmental reviews are conducted in order to protect the environment. The fundamental requirement is for the proponent to describe what they propose to do, to identify and discuss the potential environmental impacts of the proposal, and then to describe how those potential environmental impacts will be managed so that the environment is protected.

If the proponent can demonstrate that the environment will be protected then the proposal will be found environmentally acceptable. If the proponent cannot show that the environment would be protected, or cannot demonstrate that proposed environmental management strategies would be effective, the Environmental Protection Authority (EPA) will recommend against the proposal.

Throughout the process it is the aim of the EPA to advise and assist the proponent to improve or modify the proposal in such a way that the environment is protected or benefited. However, the Western Australian environmental review process is proponent driven, and it is up to the proponent to identify potential environmental impacts, and to design and implement proposals which protect the environment.

For this proposal, protecting the environment means that the major staged expansion of the pine log sawmill is to be managed in a way which aims to improve or maintain the natural and social environment of the area. Where this objective can not be readily achieved, strategies to mitigate any potential impacts will be required.

These guidelines identify issues that should be addressed within the Consultative Environmental Review (CER). The guidelines are not intended to be exhaustive and the proponent may consider that other issues should also be addressed in the document. The format of the CER is the proponent's responsibility but care should be taken to ensure that topics such as the existing environment and project description are adequately addressed.

The CER is intended to be a public document and should be easily read by the general public. Its purpose should be explained, and its contents should be concise and accurate. Specialist information or technical descriptions should not be included in the body of the document unless considered crucial to an issue. It is appropriate to include ancillary or lengthy technical information in the appendices.

Environmental issues

The Environmental Protection Authority considers that the following issues are likely to be the most important environmental issues related to this proposal:

noise emissions;
fugitive dust emissions;
solid waste discharges and management practices;
groundwater usage and contamination;
* transportation of raw materials and finished products;
adequacy of supply of raw material;
smoke emissions; and
odours.

The CER should include sufficient information to enable the EPA to thoroughly assess the proposed expanded sawmill operations and its potential environmental impacts. In particular the EPA considers that the proponent should:

provide diagrams outlining plant operations. This should include various machinery components used for the various processes;

provide detailed waste management (minimisation, reuse, disposl and treatment) strategies; and

provide detailed information relating to the issue of transportation. This should include current and future trucking schedules, routes taken and maintenance activities. The method of transport used to convey by-products and/or waste products from sawmill to the particle board plant should also be addressed.

identify all known or potential issues that (from experience of the operations elsewhere or in trials) may result in environmental impacts.

address the issue of buffer zones. All industrial areas and operations should have buffer zones. The extent of a proposed buffer should be determined in the context of the nature of the proposed expansion and its effect on the ambient environment.

provide a description of land ownership within any proposed buffer zone around the site, identifying residences which may fall within such a zone.

provide a description of the existing residential communities adjacent to the site (Padbury Fields and Copplestone), including population size and character, lifestyles and values of existing residents, and a brief history of the settlement of the area.

provide a description of the existing community issues which relate to the current use of the site.

* Proponent responsibility for this issue still to be determined.

As with all industrial proposals, it is important to address:

land use issues:
- alternative sites;
- cadastral information;
- adjacent land uses;
- impact of expansion on current land uses;
- location of structures to be built on the site;
- provision of services and drainage.

water supply and management issues:
- scheme and groundwater water availability/use;
- groundwater drawdown potential and impacts (eg. salinity or competing uses);
- ground or surface water processing requirements/impacts.

* transport issues:
- advantages/disadvantages of transport alternatives;
- potential social and environmental consequences.

operational management issues:
- pollution controls (dust and noise controls);
- waste minimisation and management;
- rehabilitation/decommissioning and final land use.

social issues
- impact of workforce during expansion and operations;
- impact of workforce and attendant population on local communities;
- impact of expansion on nearest neighbours to sites;
- local benefits;
- impact of expansion on current and proposed uses of land adjacent to the site;
- * impact of trucking and other site related traffic on local communities and road users, and on other communities which lie along the proposed transport routes;
- impact of any potential buffer zone on the existing residents and land owners within or adjacent to the buffer zone; and
- impact of expanded operations on the character of local residential settlements, and the lifestyles of the residents.

and any other relevant environmental issues raised during the environmental impact assessment process.

Related issues include the provision and management of pine logs for the sawmill, and land planning issues in the proposed buffer zone.

Public participation and consultation

A description should be provided of the public participation and consultation activities undertaken by the proponent and the objectives of those activities. It should be cross referenced with the "environmental issues" section and should clearly indicate how community concerns have been addressed. Where these concerns are dealt with by government agencies or procedures outside the EPA process, these should be noted and referenced.

Monitoring programmes

The proponent should recognise that periodic and long term monitoring may be required for certain aspects of this proposal, in particular noise emissions, and commit to putting a programme in place to address such issues.

Environmental management commitments

The commitments being made by the proponent to protect the environment should be clearly stated and separately listed. The list will then be included as an attachment to the Minister for the Environment's environmental conditions if the proposal is found to be acceptable.

Where an environmental problem has the potential to occur, there should be a commitment to rectify it. They should be numbered and take the form:

who will do the work;
what will be done;
when will it be carried out;
to whose satisfaction will it be carried out; and
where it will be carried out(if relevant).

All actionable and auditable commitments made in the body of the CER should be numbered and summarised in this list. Where the EPA considers that issues covered by commitments can be managed under the Works Approval and Licence conditions of the Environmental Protection Act (eg. noise and dust), those commitments will be identified by the EPA in order to prevent unnecessary duplication of the commitments in the environmental conditions issued by the Minister for the Environment.

APPENDIX 2

ALTERNATIVE SITE COST STUDIES

ASSESSMENT OF THE FINANCIAL IMPACT OF A RELOCATION OF THE SAWMILL

Wood & Grieve Consulting Engineers and KPMG Peat Marwick were commissioned to determine the financial impact of relocating the sawmill. Their reports are appended.

Wood & Grieve have assessed the expenditure involved in the physical relocation of the mill including plant and re-establishment of operations.

KPMG Peat Marwick has determined the consequential costs of the move including the costs of business interruption and the losses associated with leaving behind the siteworks on the existing site.

Separate assessments have been prepared on the basis of a mill shutdown period of either two weeks or eight weeks during the relocation process. An eight week mill shutdown period would allow a greater recovery of certain existing major plant whilst a two week period would necessitate a far greater replacement of existing plant and infrastructure.

Contingency factors have been included in the estimates and these are discussed further in the reports. Including these allowances for contingencies, the estimates are summarised as follows:

	Two Week Shutdown			Eight Week Shutdown		
	Cost	Cont	Total	Cost	Cont	Total
	$'000	$'000	$'000	$'000	$'000	$'000
Relocation Costs	10,487	1,166	11,653	9,020	1,003	10,023
Consequential Costs	699	572	1,271	1,308	556	1,864
Cost of Site Infrastructure Abandoned	4,500	-	4,500	2,700	-	2,700
	15,686	1,738	17,424	13,028	1,559	14,587

GJS1914/ll

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jhmc:dc:jn/649

4 August 1992

Mr Alistair Thom
Secretary
Wespine Industries Pty Ltd
44 Fisher Street
BELMONT WA 6104

Dear Sir

PROPOSED RELOCATION OF THE PINE SAWMILL ON MOORE ROAD, DARDANUP

INTRODUCTION

We refer to our letter of engagement dated 29 July 1992. You have requested that we prepare an independent expert's report of the estimated indirect costs which would be incurred by Wespine Industries Pty Ltd ("Wespine") if the pine mill was moved from its present location in Dardanup to another nearby location in Dardanup.

Our report is to be prepared for inclusion in a Consultative Environmental Review along with a similar report being prepared by Messrs Wood & Grieve ("W&G"), a firm of engineers who have been requested to prepare an estimate of the direct cost of relocating the mill.

It is intended that our report provide an independent appraisal of the indirect costs which would be incurred as a result of the moving of the mill including:

- loss of earnings from production during the period of relocation and re-establishment; and

- the fixed costs and other similar costs which would be incurred during this period of reduced productive activities including the salaries and wages of skilled employees and supervisory staff, insurances, rates, taxes, payroll on-costs, other administrative costs and marketing costs.

In order to be consistent with the recommendations of W&G, we have been requested to assume that the shutdown period for the sawmill will be either a two week period or an eight week period. In both instances there will be a commissioning period following the shutdown where the level of production will be below that achieved in current operations and will gradually increase to current levels.

BACKGROUND

Wespine is a joint venture between Westralian Forest Industries Ltd ("Wesfi") and Bunnings Limited ("Bunnings"). The joint venture was established to mill timber gained from Wesfi's and Bunnings' plantation softwood resources. Wespine commenced trading as a softwood saw milling operation and distributor in late June 1992.

Wespine acquired the sawmill from Wesfi in June 1992. The sawmill has been operated by Wesfi since 1984. Wespine intends to expand its operations in order to realise economies of scale and to remain competitive with rival saw mill operators.

A committee of residents of Dardanup has raised concerns as to the possible impact on the area of Wespine's planned extension of the pine mill, in particular with regard to possible increases in road traffic and noise levels. The residents have enquired as to the feasibility of Wespine relocating the mill. Wespine have agreed to address this possibility along with other alternative methods of allaying the concerns of residents of Dardanup as part of the Consultative Environmental Review process.

SOURCES OF INFORMATION

We have completed our assessment of the indirect costs of the proposal to relocate the mill based on the following documents provided to us:

- the unaudited detailed profit and loss statements of the Dardanup pine sawmill for the three years ended 30 June 1992, prepared by Wesfi. These profit and loss accounts have not been audited as the pine mill was a division of Wesfi and not a separate reporting entity. The accounts of Wesfi for these periods, as a whole, were audited by another firm of Chartered Accountants;

- sawmill production reports prepared by Wesfi for the three years ended 30 June 1992;

- management reports analysing Wesfi's sales of pine, by origin, for the three years ended 30 June 1992;

- plant register of Wespine's plant, machinery and other contents as at April 1991 prepared by Rushtons, together with calculations, for various scenarios, prepared by Wespine of the estimated loss on disposal of fixed assets in the event of relocation; and

- the draft report prepared by W&G.

We have relied on discussions with senior management of Wespine on certain issues, in particular, the likely time delays involved in recommissioning the saw mill and the ability to meet customer demand using production from alternative sources, albeit at lower margins. We have, however, carried out sensitivity analyses as to the effect of changes in key assumptions on the loss of income which would be suffered by Wespine in the event of a relocation.

We have not addressed the possibility of recovering any part of the costs . It is not within our scope to examine the impact of the closure of the mill on other entities such as Wesfi's particle board factory, Dyno Industries (WA) Pty Ltd's Dardanup works, Wesfi's and Bunnings' timber sales and any flow-on effects to the communities near Dardanup and the building industry in Western Australia.

METHODOLOGY

We have separately calculated:

(i) the indirect cost of shutting down the plant during the period of the shutdown; and

(ii) the indirect cost of commissioning delays which will reduce productivity for a period of time following the shutdown.

We examined the historical trading results of the mill to determine the average level of daily production of timber. We then calculated the marginal or variable cost of that production. These figures were then used to calculate the contribution which would be lost to the company in the event of a shutdown.

We also calculated the extent to which Wespine would be able to realise savings in its 'fixed' costs during the period of the shutdown, in particular with regard to the cost of labour and asset depreciation and the extent to which it would be able to mitigate its losses by purchasing supplies from other parties and on-selling that timber to Wespines' customer base. We have also considered mitigation through requiring the workforce to take annual leave during a part of the shutdown period.

This ability to mitigate losses will depend upon the timing of any relocation and the extent to which surplus capacity may exist in the timber industry having regard to the economic conditions prevailing at that time.

All amounts are expressed in terms of current costs and have not been adjusted for inflationary factors which may affect costs between the date of this report and the date of any relocation. No deduction has been made for the effect of possible savings in taxation payable which may result from the loss of income calculated above in the event that Wespine has other taxable income in the period of the shutdown. We also note that any recovery received by Wespine or any party would, most likely, be taxable income itself.

We have not set out in detail in our report the assumptions underlying our calculations as this would disclose information which is commercially sensitive.

Our estimate of costs is of the outgoings required in respect of the plant closure and recommissioning period. Accordingly, it does not reflect the non-cash profit and loss charges relating to the following:

i) the erosion of shareholders' funds which would occur as a result of the company being required to write off the book value of assets not relocated less their salvage value. In the event of a two week shutdown, this profit and loss expense is estimated at $4.5 million and at $2.7 million for an eight week shutdown; and

ii) any diminution of the goodwill of Wespine caused by creating an opportunity for competitors to take part of the company's market share during the period of the shutdown.

Further, this report does not reflect the cost of obtaining finance to fund any relocation or the possibility of the above factors creating adverse market sentiment, leading to falls in the share price of either or both of the shareholders of Wespine.

CONCLUSION

In our opinion, the indirect pre-tax cost to Wespine of relocating its Dardanup mill from its existing site to an adjacent site in Dardanup would be:

	Estimated Cost $	Contingency Factor $	Total $
Assuming a two week shutdown	699,000	572,000	1,271,000
Assuming an eight week breakdown	1,308,000	556,000	1,864,000

The size of the contingency factor reflects the subjectivity of certain of the assumptions undrelying the calculations, in particular the potential for the actual shutdown period to exceed that planned by up to four weeks.

DISCLAIMER

We have not conducted any audit procedures or verified any of the information provided to us for the purpose of this report. We have relied on information received from various parties without the benefit of ensuring either its accuracy or completeness. Accordingly, although nothing has come to our attention to indicate that any of the information was inaccurate or incomplete, we express no opinion on the reliability of any of the information supplied to us and upon which this report is based and do not accept liability to any party with respect to negligence however caused.

This report has been prepared for the sole purpose of Wespine's use in relation to the suggested relocation of Wespine's pine mill and we do not accept responsibility for its use other than for this purpose. We understand that our report is to be published as part of a review of a Consultative Enironmental Review but this report should not be otherwise distributed, copied or shown to any other party without our prior written consent.

Should you have any questions in respect of the above, please contact Mr John Campbell or Mr Duncan Calder of this office.

Yours faithfully
KPMG PEAT MARWICK

KPMG Peat Marwick

J H M CAMPBELL
Partner

jhmc:dc:cas/wp/12/4

Annexure 1

DECLARATION OF INDEPENDENCE

At the date of this report, none of KPMG Peat Marwick, JHM Campbell nor any other member of KPMG Peat Marwick has any interest in, nor any relationship with Wespine or Wesfi or Bunnings, except as disclosed below:

Wespine

KPMG Peat Marwick currently act as auditors to Wespine, having been appointed on 31 July 1992.

Wesfi

KPMG Peat Marwick have provided tax advice to Wesfi on a number of occasions and also carried out an independent valuation of Wesfi's interests in its associated companies dated 18 September 1990.

KPMG Peat Marwick has made due internal enquiries in respect of these services and whether their performance has in any way impaired our independence and we are satisfied KPMG Peat Marwick is sufficiently independent of Wespine, Wesfi and Bunnings to be able to prepare this report as an independent expert.

KPMG Peat Marwick is entitled to receive a fee for the preparation of this report based on time occupied at normal professional rates. With the exception of the above fee, KPMG Peat Marwick will not receive any other benefits, whether directly or indirectly, for or in connection with the making of this report.

WESPINE INDUSTRIES
DARDANUP SAWMILL

BUDGET ESTIMATE FOR RELOCATION

TO:	**Bob Style** **Wespine Industries**
FROM:	**Tim Fisher** **Wood & Grieve ENGINEERS**
DATE:	**4 August 1992**
PROJECT NO.:	**13555S**

CONTENTS

1.0 INTRODUCTION

This report sets out the methodology and the scope of the budget estimate for the relocation of the Wespine Industries Dardanup Sawmill from lot 317 to lot 354 as indicated on the attached location plan.

The budget figures must be taken within the context of this information. The figures quoted reflect the estimated cost to Wespine Industries of the proposed relocation. To reflect the accuracy of the estimate we recommend that a 10% contingency be allowed for.

In summary the budgets are as follows:

(a) Two Week Total Plant Shutdown:

	Budget Estimate	Contingency
- Structures	2,452,200	272,500
- Services & Infrastructure	1,854,000	206,000
- Plant	5,252,200	583,900
- Relocate Equipment/ Furniture/Stores	149,600	16,600
- Civil Works	778,500	86,500
TOTAL	$ 10,486,500	$ 1,165,500

(b) Eight Week Total Plant Shutdown:

	Budget Estimate	Contingency
- Structures	2,452,200	272,500
- Services & Infrastructure	1,654,000	183,800
- Plant	3,985,200	443,100
- Relocate Equipment/ Furniture/Stores	149,600	16,600
- Civil Works	778,500	86,500
TOTAL	$ 9,019,500	$ 1,002,500

This estimate is subject to escalation and may be effected by unresolved planning issues relating to the proposed site as discussed in the body of the report. Plant costs used are heavily dependent on the exchange rate at the time of purchase. Fluctuations in the Australian dollar will significantly effect the cost of relocation particularly in option (a).

Every effort has been made within the programme for the preparation of this report to obtain reasonable estimates which truly reflect the cost of the proposed relocation exercise.

2.0 BASIS FOR ESTIMATE

The assumptions below reflect the contents of our brief of 22 June 1992 incorporating the comments contained in Wespine's fax of 24 June 1992.

- Relocation of identical facilities and amenities as currently exist on lot 317 to lot 354.
- Maximum shutdown of sawmill during relocation to be:
  - (a) Two weeks.
  - (b) The minimum time to relocate major sawmill plant.
- No works to be carried out by Wespine Industries staff or employees, associated with relocation works.
- Lot 317 to be left in the most cost effective alternative of:
  - (i) Natural ground condition - ie. complete demolition.

  or
  - (ii) Intact building shells completely stripped internally.
- Salvage of plant from existing site has been included.

It should be noted that the estimates for works associated with the SECWA gas pipeline and the relocation of the proposed Bunbury bypass are provisional sums. Neither SECWA nor the MRD are prepared to provide cost estimates and SECWA are reluctant to relocate this gas pipeline. SECWA's letter on this topic is attached. As such there is considerable uncertainty in these figures.

The cost of finance has not been included in our budget estimate and will impact on the final cost to Wespine Industries. The consequential cost of the sawmill shutdown are assessed in a separate report prepared by KPMG Peat Marwick. The reader is referred to this report for details.

Wood & Grieve ENGINEERS have investigated several alternatives in an attempt to minimise the cost of relocation. These are discussed in the body of the report. However, the relocation of an operating sawmill is an inherently complex and costly task and the majority of costs are essentially fixed.

3.0 METHODOLOGY

The budget estimate has been compiled as follows:

Structures:

- Industry cost guides; Ralph & Beattie Bosworth pocket compendium, Rawlinsons Australian Construction Handbook, calculated from area rates for comparable structures, plus Wood & Grieve ENGINEERS knowledge and experience.

Kilns:

- Quotes from industry suppliers.

Plant:

- Quotes from industry suppliers for the purchase, installation and commissioning of new equipment or relocation of existing equipment. Suppliers advised of the practicality of relocating plant within the two week shutdown period and prices were calculated accordingly. In some cases suppliers were not able to provide cost estimates within the time frame required for the report. In these cases plant valuations were used.

  Advice on minimum shutdown times to relocate major plant items were also sought from industry suppliers.

Services and Infrastructure:

- Industry cost guides and recent tender results for similar work.

Equipment Furniture and Stores:

- Quote from removalist contractors based on inspection of the existing work.

Professional Fees:

- Based on ACEA fee scale for these works.

Specific details relating to particular items are included in Section 4.0

4.0 DETAILED COMMENTS

The relocation of an entire sawmill during its operating life is a complex problem involving many facets of planning, engineering and management. Several items warrant specific comment and are included below as background to this report.

4.1 Water Supply

Water supply covers the provision of a fire fighting supply as well as a domestic service. The estimate assumes that a similar system to that currently in operation at Wespine Industries Sawmill would be used at the relocated plant. This system entails the provision of a bore, two concrete tanks, various fittings, pressure equipment and fully reticulated pipework to all buildings on the site.

4.2 Effluent Disposal System

Effluent disposal is catered for by the provision of five (5) domestic type septic tanks and leach drain systems, as currently used. Connection to a reticulated sewerage system is not a viable option in this area.

4.3 SECWA Natural Gas Pipeline

Currently a portion of the SECWA natural gas pipeline traverses lot 354. This is a 150mm diameter high pressure gas pipeline and was constructed on an alignment within the proposed Bunbury bypass road reserve.

Discussions with SECWA regarding this pipeline have resulted in the following information:

- Relocation of the line is not an option according to SECWA.
- Therefore, to construct the sawmill on lot 354, it would be necessary to site plant and structures outside the 16m easement of the pipeline in order to give SECWA unrestricted access to their pipeline.

We consider that it is not feasible to relocate the sawmill to lot 354 without relocating the SECWA gas line.

If the site were levelled, some sections of the pipeline would be several metres above finished ground level which is not acceptable to the SECWA. Nor is it conducive to the operations of a sawmill.

4.4 Telecom

The provision of a Telecom service is likely to be a fairly minor item. It entails reticulating a Telecom line through to the property and the provision of a connection.

4.5 Earthworks

Lot 354 varies in level from RL 24 (AHD) near Moore Road to RL 14 towards the rear of the site. To provide a site which is acceptable to construct a sawmill, extensive earthworks are required. It is assumed that the majority of earthworks required to provide a relatively level site can be obtained by cut to fill operations on site, using the existing material. The area of earthworks has been assumed to be equal to the area of the existing sawmill site. This area is approximately 550m x 550m.

Prior to construction a geotechnical study of the site would be required to ensure that the site does have sufficient quantities of acceptable filling material.

4.6 Drainage

A similar site drainage system is assumed to be required on lot 354 as has been installed on the existing sawmill site. This system consists of a piped system throughout the pavement area connecting into an open drainage system which carries flows to existing water courses.

4.7 Pavement Areas

The existing site is fully paved to allow the easy and safe movement of vehicles throughout the site. A similar extent of pavement to a similar standard has been costed for lot 354. These works would need to be constructed well before site construction of buildings can occur.

4.8 Proposed Bunbury Bypass Route

Current MRD Planning shows the route for the proposed Bunbury bypass through lot 354. We have approached the MRD to ascertain their requirements to shift this proposed alignment. A copy of their response is attached. They are very reluctant to change their alignment.

We have assumed that the alignment can be changed and costs will be associated with MRD having to sell land already acquired and then having to acquire other land. An allowance for costs associated with the above has been included in the costs of relocation.

4.9 Structures

The existing structures are typically steel framed, steel clad industrial standard building. Most do not have concrete floor slabs. They are typically in good condition consistent with six years service.

To facilitate a two to eight week shutdown of the sawmill operations all structures would have to be reproduced new at the new site prior to relocation. Hence estimates assume new buildings to match existing types.

4.10 Kiln, Heat Plant and De-humidifier

These items all consist of mechanical plant integrated with structure and will have to be substantially replaced in order to satisfy the shutdown requirements. Some equipment from the kiln and some plant from the de-humidifier can be relocated.

4.11 Power Supply, Reticulation and Fitout

The power supply to the new site is relatively straightforward being via the existing spur line to the particle board factory which adjoins the site. SECWA headworks charges have been allowed for.

Whilst almost no electrical switchboards could be relocated as part of a two week shutdown, we have included for some relocation with the eight week shutdown option.

The remainder of the estimate assumes the following:

- Field devices supplied with plant.
- All cabling run at machine level on covered cable tray.
- All cables are PVC/PVC and protected by galvanised conduit and Anaconda.
- Standard lighting levels.
- Identical quantities and rating of equipment to match existing as advised by sawmill engineering staff.
- Prices obtained from contractor's experienced in the field.
- No allowance for adjustment of field devices and turning of mill
- Control isolation of motors larger than 60kW.

4.12 Plant

Whenever possible we have assumed that existing plant could be relocated to the new site. However the restriction of a two week maximum shutdown means that very little plant can be relocated. Typically the relocation of plant requires major stripping down and servicing before it can be re-installed and commissioned.

We have been advised that an eight week shutdown period would be required in order to relocate the major items of sawmill plant. We have modified the estimates for plant relocation accordingly. However we note the potential for significant delays when relocating plant of this size and complexity and recommend that a contingency be allowed in the consequential cost of an additional 2-4 weeks.

Whilst we acknowledge that the existing plant is second hand, we have not been able to locate similar condition equipment with which to replace it. Hence, to accurately reflect the costs that would be incurred to relocate the sawmill, we have allowed for new plant.

The salvage value of the plant remaining after relocation has been assessed based on recent sales of second hand plant in the timber industry. These indicate that the maximum asking price is 25% of the replacement price. However in the current weak market, prices actually realised are in the order of 10-15%.

4.13 Condition of Existing Site After Relocation

Two situations have been assessed:

(a) Complete clearance of the site back to natural ground.

(b) Retention of pavement and structures with all buildings gutted and floors made level and smooth.

In (a) above an assessment has been performed by a demolition firm which indicates that the salvage value of the site after all plant has been salvaged would be about equal or slightly greater value than the cost of demolition of all structures, footings, pavement and below ground services. For the purposes of this assessment we have assumed a $50,000 surplus. Land values for light industrial usage consistent with recent sales in the area have been used.

Condition (b) will involve significant structural repairs to some buildings which will have to be altered in order to remove the larger items of plant. The additional costs of repairing floors and cutting off projecting steelwork has been allowed for together with the demolition of the kiln, heat plant and de-humidifier. This cost is offset by a greater resale value on the land in this condition. The suitability of the existing structures in their current arrangement is not ideally suited to their complete re-use as a light industrial area. Even so, our estimates indicate option (b) to be the most advantageous and this has been used in our estimate.

4.14 Timber Stockpiles

Budget estimates have been based on the following typical stockpile quantities:

• Log Stockpile	5000 cum
• Saw Timber Stockpiled	4000 cum

4.15 Equipment, Furniture and Stores

An estimate has been made for the relocation of all mobile equipment (not already covered under plant above), moveable effects and stores currently on the site. This includes for packing, transport and unpacking in good order. It is considered that two weeks will be sufficient for this removal operation.

4.16 Staged Relocation

Our investigation of the sawmill's operation and the interdependence of the various processes indicates that a staged relocation would have no positive impact on relocation costs and could in fact result in increased costs.

4.17 Residue Transport

We understand that there has been some discussion regarding the potential advantage to Wespine Industries when considering reduced transportation costs of sawmill residues to the particle board factory from the proposed site.

Whilst it is outside the scope of this report we note the following:

- Currently the transportation of residues is performed by truck. The majority of cost and time is in waiting. The difference in transport distance is slight. Hence any reduction in total cost would be very slight.

- In the future the residues could be transported by pressure pipe. This is true of both sites. The entry point of residues at the particle board factory is on the south side, closest to the current site.

  While the overall length of run is somewhat longer from the existing site, it is more direct. Hence the running costs of a pressurised system from either site would be similar.

4.18 Professional Fees

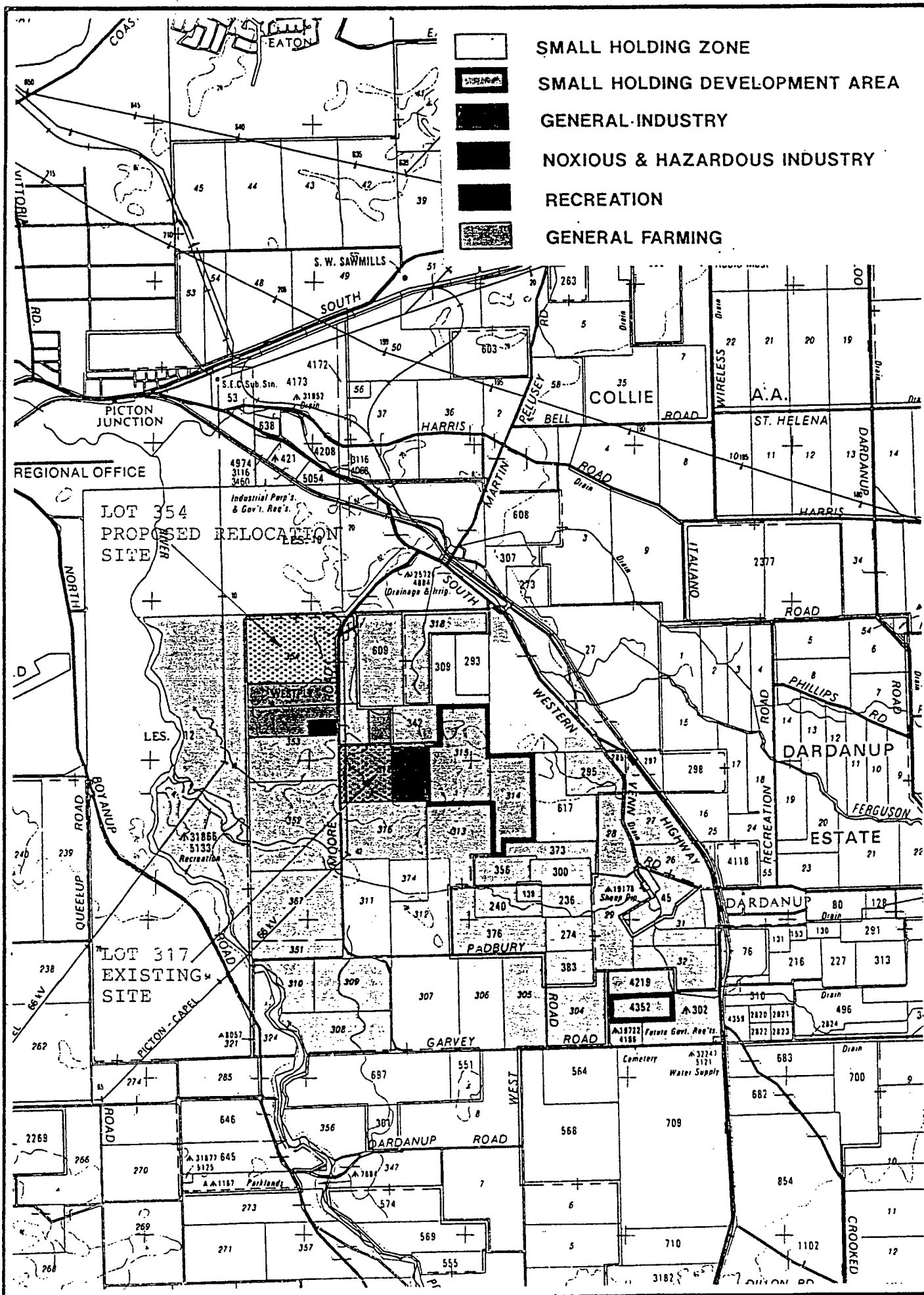
Project management has been identified as a particular area of importance in this relocation exercise due to the importance of co-ordinating many disciplines together with critical programming implications. Allowance has been made to minimise impact on Wespine Industries Management during this process.

5.0 SUMMARY

This report has attempted to address all the issues and cost implications relating to the proposed relocation of Wespine Industries Dardanup Sawmill. We have pointed out where uncertainties exist and have set out assumptions effecting other estimates.

Notwithstanding this we must point out that the accuracy of this estimate should be considered to be within 10% of what might be the actual cost of relocation. As such we advise that the budget estimate provided should be interpreted as reflecting the order of magnitude of the relocation rather than the exact figure.

This report has been prepared for Wespine Industries to be included in their CER report relating to the upgrade of the sawmill. This report should not be used for any other purpose nor copied or referred to in any other context.



SHIRE OF DARDANUP
TOWN PLANNING SCHEME No.3
ZONING PLAN

CHAPPELL & LAMBERT
PLANNING & DESIGN CONSULTANTS

Scale 1:50000 Compiled C&L, CALM
Date 17/6/1992 Drg. No. 430

NOTE: All Lot Areas And Dimensions Are Subject To Survey

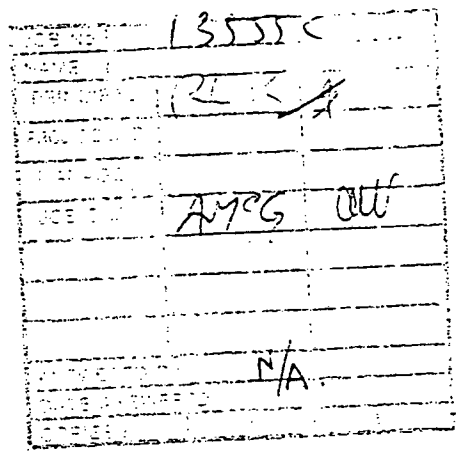
PLAN No:

MAIN ROADS DEPARTMENT
WATERLOO CRESCENT, EAST PERTH, WESTERN AUSTRALIA.
PO Box 6202 EAST PERTH WA 6004 Phone (09) 323 4111 Fax (09) 323 4430

Enquiries Mr MacKenzie on 323 4536

Our Ref 60-301-5

Your Ref RGK:13555C



Wood & Grieve Engineers
16 Altona Street
WEST PERTH WA 6005

ATTENTION: MR BOB KELLIHER

Dear Sir

WESFI SAWMILL LOCATION
FUTURE BUNBURY BYPASS

I refer to your letter dated June 25 1992 sent by fax.

The proposal for the future Bunbury Bypass Route is shown in the Bunbury Region Plan. This Plan is under consideration by Department of Planning and Urban Development and four local authorities for adoption as a Statutory Document.

The alignment of the future bypass is now fixed by the purchase of some land in the proposed reservation west of the Ferguson River. In addition, a section of the Dampier-Bunbury gas pipeline was constructed in an easement through Lot 354 in anticipation of the freeway route being adopted as part of a formal Region Plan.

For the above reasons, Main Roads does not expect a change in the land protection through Lot 354 for the future bypass.

You are requested to liaise with Department of Planning and Urban Development's consultant, Taylor and Burrell, for other alternatives to suit the future expansion of the Westfi Sawmill.

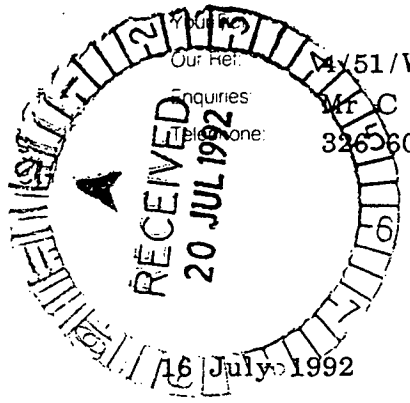
Yours faithfully

J G O Hackett
DIRECTOR STRATEGIC ROAD PLANNING

Per. .....

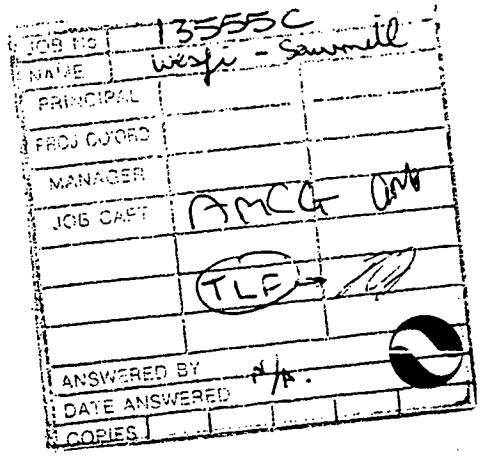
June 26 1992

PL-12756



Your Ref:
Our Ref: 4451/W35
Enquiries: Mr C Varol
Telephone: 3266016

16 July 1992



State Energy Commission
of Western Australia
Corporate Energy Services
8th Floor West
363 Wellington Street
Perth WA 6000
GPO Box L921 Perth 6001
Telephone (09) 326 4911
Fax (09) 326 6036
Telex AA92674

SECWA

Mr Anthony McGrath
Wood & Grieve Engineers
16 Altona St
WEST PERTH WA 6005

Dear Mr McGrath

I refer to your facsimile message dated 13 July 1992 and our previous telephone conversation about the proposed relocation of Wespine saw mill.

I confirm that the North West Shelf Natural Gas Pipeline runs across the proposed new site for relocation. This section of the transmission pipeline is 150mm diameter high pressure steel main, running approximately one meter below the ground.

SECWA has a 16 meter wide "Right of Way" along the pipeline route. Any building or structure on the Right of Way is not acceptable. The exact terms and conditions of the Right of Way are described in the title of the property.

Please note that SECWA is not prepared to relocate the pipeline because of the associated costs.

I hope this advice on the matter is sufficient for your purposes. Please do not hesitate to contact me on 326 6016 if you have any further queries.

Yours sincerely

C VAROL
GAS CONTRACTS
ENGINEER

\L\1283.Bjk

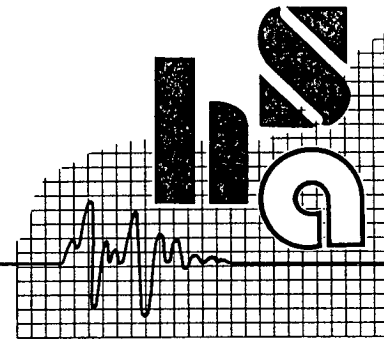
APPENDIX 3

NOISE LEVEL IMPACT ASSESSMENT

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

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

A.C.N. 009 049 067



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

WESPINE INDUSTRIES PTY LTD

DARDANUP SAW MILL

NOISE LEVEL IMPACT ASSESSMENT

Reference: 0258-92056 August 1992

CONTENTS

APPENDICES

1. INTRODUCTION

This report presents the results and findings of a study of the noise level emission from the existing Westpine Saw Mill operations at Dardanup, Western Australia.

Predictions are made of the noise emission of an expanded saw mill operation. This emission is assessed in terms of the impact on the surrounding residential area for both day and night time operations.

2. CONCLUSION

It is the conclusion of this report that:

A. The existing plant noise emissions comply with the Environmental Protection Authority criteria of 50 dB(A) for day time operations.

B. The expanded plant can comply with the Environmental Protection Authority criteria of 40 dB(A) for night time operations providing engineering noise controls are implemented.

C. Under certain conditions, noise emission from the plant will have an additive effect with other existing industry noise and the resultant levels may exceed the 40 dB(A) night time criteria.

3. METHOD

Sound levels and spectral make-up were recorded of all major sources at the saw mill complex and the sound power level outputs calculated. This information, along with terrain topography, was input in the computer program ENM (Environmental Noise Model) to predict noise levels to the surrounding area.

Existing noise was monitored continuously over several days at a number of locations with statistical data being recorded. This data was used, in part, to develop an understanding of the existing environment and in part to confirm the predictions of the computer modelling. Spot levels were also recorded and observations made over the monitoring period.

Sound power levels of the proposed expanded plant were calculated taking into account the extra plant, process modifications and noise control proposals. These were input into the computer program and predictions in the form of noise level contours made for the surrounding area.

Computer modelling included all fixed plant and wood handling operations, being relatively steady state noise sources. The mobile equipment being more intermittent and variable was considered separately but using the same algorithms as the computer generated contours.

The results were assessed in terms of the effects on the existing environment and the Environmental Protection Authority recommended levels.

4. RESULTS

The results of sound level monitoring are shown in graphical form in Appendix A. Monitoring locations are shown in Figure 1. Two indicative print-outs of the monitored levels are shown Figures 2 & 3 along with descriptive notes.

The graphs show the monitored sound levels in hourly increments and percentile levels L0, L10 and L90 being:

L0 Sound level exceeded for 0% of the time. This is the maximum level occurrence in a given hour - usually due to local occurrences such as wildlife (birds etc), vehicles, high wind velocities etc.

L10 Sound level exceeded for 10% of the time. Accepted as the criteria for assessing intrusive noises.

L90 Sound level exceeded for 90% of the time. Accepted as the criteria for background noise levels.

Also shown on these graphs are the saw mill operation times as well as the times of operation of the other major industry in the area being the Wesfi Particle Board Plant.

A summary graph of wind speed and direction (Bunbury Power Station meteorological data) is included in Appendix C. This can be used as an overlay to the noise level graphs to allow assessment of coincident occurrences of all events. The wind chart shows breezes from N.E. to N.W. as positive values and all other as negative values. It is the N.E. to N.W. breezes that are likely to cause maximum propagation to the Padbury area.

The results of the computer predictions in the form of noise level contours for both existing and expanded plant are shown in Figures 4 to 7. Predictions for calm wind conditions and for the considered worst case conditions of down wind propagation to the Padbury area are given.

Full size printouts of all the above are included in Appendix B.

Single point calculations for loader operations are given in Appendix E. The receiver location for these calculations is Location 2. The predicted noise levels for existing equipment and attenuated equipment are as follows:

		Existing	Attenuated
Loader:	Engine	38 dB(A)	34 dB(A)
	Beeper	50 dB(A)	35 dB(A)
Fork Trucks:	Engine	33 dB(A)	33 dB(A)
	Beeper	40 dB(A)	35 dB(A)

The above calculations are based on measured levels of existing equipment at 7 metres distance, as follows:

Loader	Engine Noise	95 dB(A)
	Reversing Beeper	100 dB(A)
Fork Truck	Engine Noise	90 dB(A)
	Reversing Beeper	90 dB(A)

The predicted noise levels are to the Padbury Area and under worst case down wind propagation conditions.

Determined sound power levels of all existing equipment and for noise attenuated equipment and processes are shown in Appendix D.

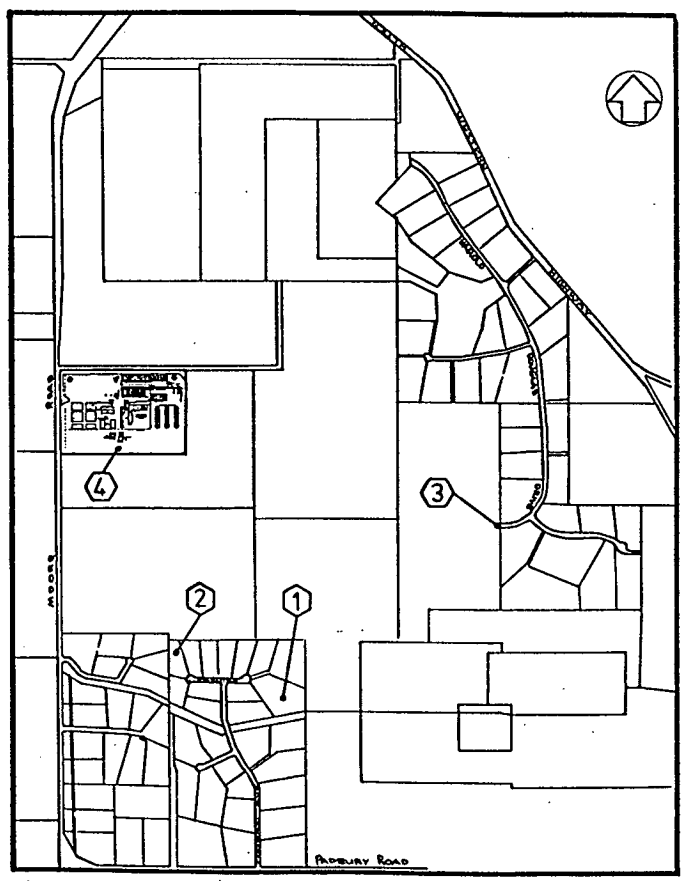


FIGURE 1

5. ACCEPTABLE CRITERIA

It is the current policy of the Environmental Protection Authority that the following noise levels be used for the assessment of intrusive noise.

Monday to Friday	0700 - 1900 hrs	50 dB(A)
Monday to Friday	1900 - 2200 hrs	45 dB(A)
Weekends & Public Holidays	0700 - 2200 hrs	45 dB(A)
Always	2200 - 0700 hrs	40 dB(A)

These levels are conditional in that no annoying characteristics exist such as tonal components, frequency modulations or impulsive qualities.

6. ASSESSMENT OF EXISTING NOISE

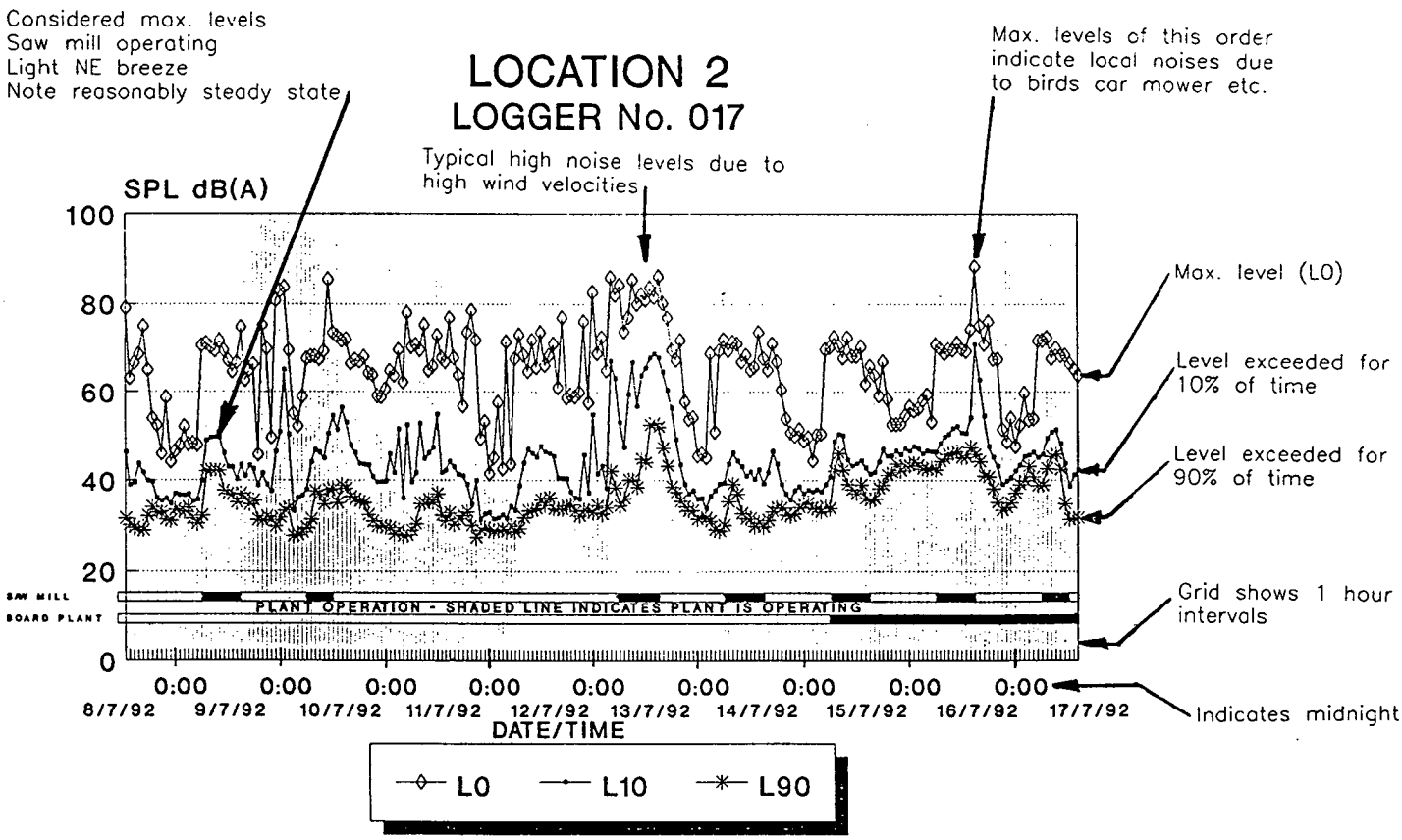
Monitored noise levels were quite erratic over the recording periods primarily due to inclement weather, particularly gusting winds, but also due to birds, frogs, crickets, fowl etc.

Some spot level measurements recorded indicate the following under relatively calm conditions.

Location 1	Background	36 dB(A)
	Banging	40 dB(A)
	Reverse Beeper	40 dB(A)
	Birds, etc.	50+ dB(A)
Location 2	Background	34 dB(A)
	Reverse Beeper	40 dB(A)
	Chipper	39 dB(A)
	Banging	41 dB(A)
	Traffic	45 dB(A)
Location 4	Loader Eng.Noise	40 dB(A)
	Reverse Beeper	40 dB(A)
	Birds, Frogs	50+ dB(A)

In assessing the monitoring graphs, attention should be paid to the wind strength generally indicated by the high maximum levels (L10).

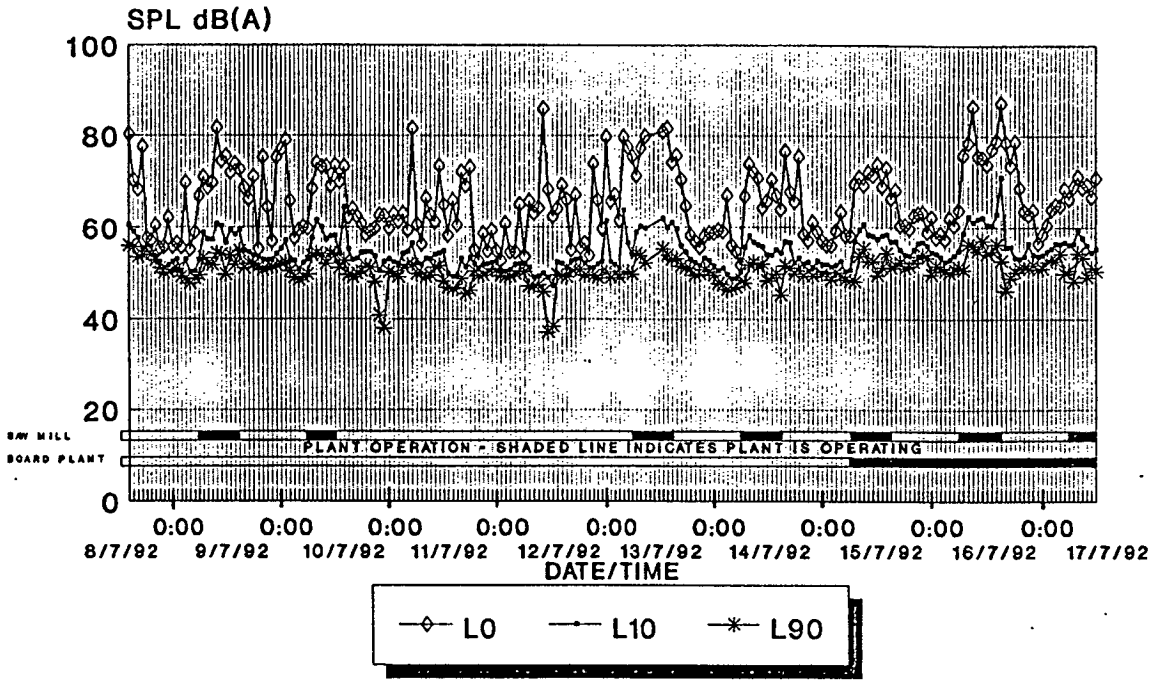
Spot observations during the monitoring period were mainly during calm or light down wind conditions. These observations and recordings showed levels of a maximum of 40 dB(A). One occasion, recorded during the monitoring period, showed what can be considered as maximum noise levels to the Padbury area, being on 9 July 1992. This was also reported by residents as a "very noisy" period. Levels of 50 dB(A) were recorded on this occasion (L10). At this time only the saw mill was operating and a light east to north east breeze prevailed.



KELLY RESIDENCE

FIGURE 2

LOCATION 4
LOGGER No. 039



SAW MILL

FIGURE 3

The data logger recordings and the computer model predictions show good correlation. In the Padbury area, at the nearest residences the computer predictions range from 40 to 53 dB(A) for calm and down wind propagation respectively.

It should be noted that the maximum propagation to the Padbury area occurred under light east through north easterly breezes whereas north east through north west breezes are expected to create maximum propagation. This is likely due to the fact that wind direction is determined from the Bunbury Power Station and this may not hold true for the Dardanup area where local conditions may affect direction.

The monitored levels and computer modelling show that noise emissions from the saw mill in its current form generally comply with the Environmental Protection Authority guidelines for day time levels although at times tonal noise is evident from the Chipper and reversing beepers. Under maximum propagation conditions when levels are around 50 dB(A), these tonal components may cause the level to be considered excessive.

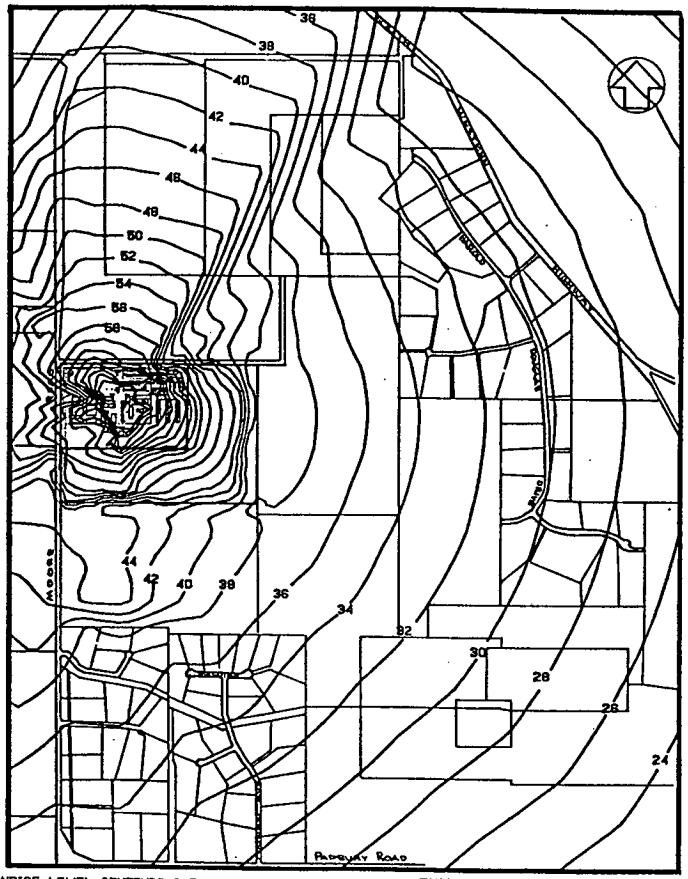


FIGURE 4

NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PECENTILE LEVELS

EXISTING PLANT
CALM CONDITIONS

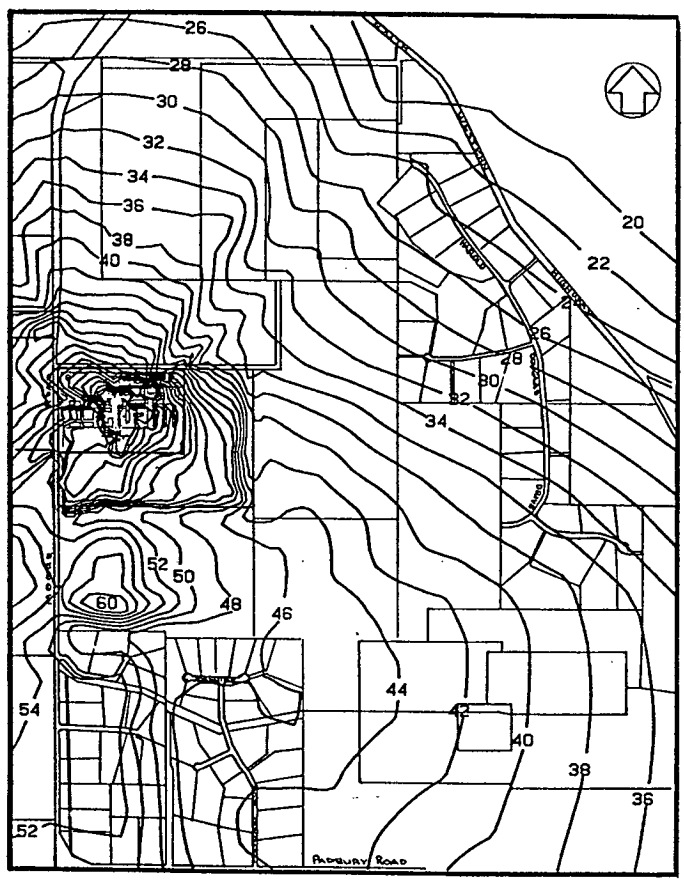


FIGURE 5

NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PECENTILE LEVELS

EXISTING PLANT
WIND - NORTHERLY AT 3m/s

7. ASSESSMENT OF EXPANDED PLANT NOISE

As part of the expansion process includes shift work resulting in night time operations, there will be a requirement to reduce the existing noise emission to comply with the 40 dB(A) criteria.

Computer ranking of noise sources indicates the Chipper, Green Chain, Green Mill and Loaders are the major sources and thus the first phase of control would be as follows:

1.	Chipper	Enclosure system incorporating internal acoustic absorption lining.
2.	Green Chain	Screening of wood stacking operations with stockpile and purpose built screens.
3.	Green Mill	Closing and screening of southern openings.
4.	Loaders	Some engine bay noise control and reduced level reversing beepers.

The above controls would reduce the emission to a maximum 45 dB(A). The remaining major noise source, in terms of complying with the 40 dB(A) criteria, is still the Green Chain line due to general wood conveying and stacking noises.
It is anticipated that the move to night shift work will coincide with the introductions of an automated conveying stacking system which will reduce this source of noise to below 40 dB(A). Should the move to nightshift occur without the automated line then further screening and roof cover would be required to ensure emissions comply with the 40 dB(A) criteria.

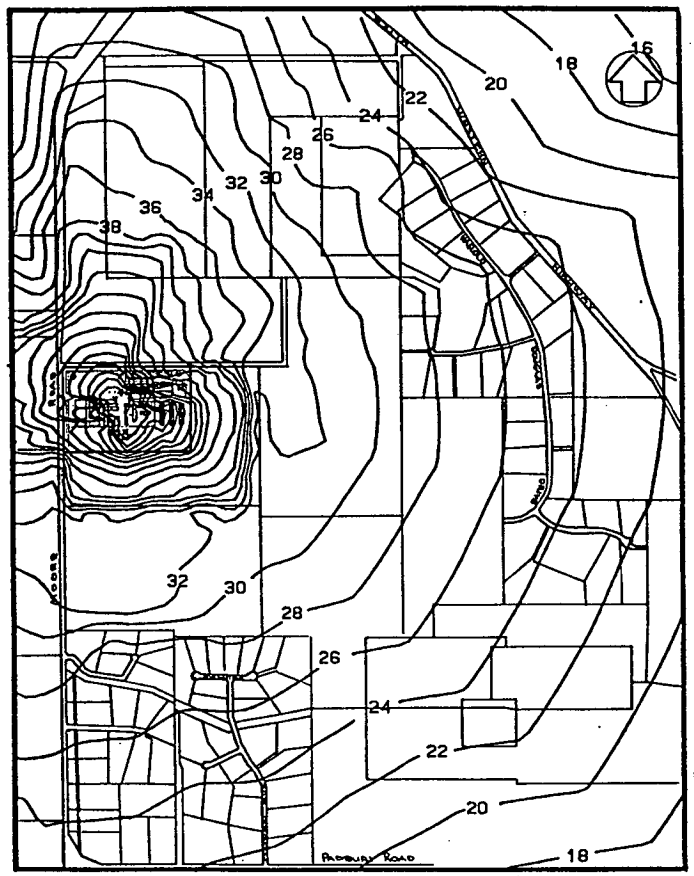
To achieve 40 dB(A), it may also be necessary to carry out noise control to the existing kiln due to possible tonal characteristics. This would take the form of replacing the electric motors of the main circulation fans.

The introduction and upgrading of saws, moulders etc housed inside the existing buildings will only marginally increase the reverberant field noise levels and hence emitted noise levels outside will give a minimal increase to the overall emission. The proposed building control measures for the existing equipment would ensure new equipment emissions would be below the required criteria.

Some engineering controls will be required for new outside equipment, primarily in the form of specification of required sound levels of this equipment such as Kilns, Mobile Equipment, etc. The limits for this equipment should be 85 dB(A) at 3 metres for fixed plant and 85 dB(A) at 7 metres for mobile equipment, these levels being practically achievable and as used in computer model predictions.

Relocation of the debarker to the more open area is not expected to result in excessive emissions. However, provision should be made for screening in the event that levels prove to contribute to an excess of the 40 dB(A) criteria.

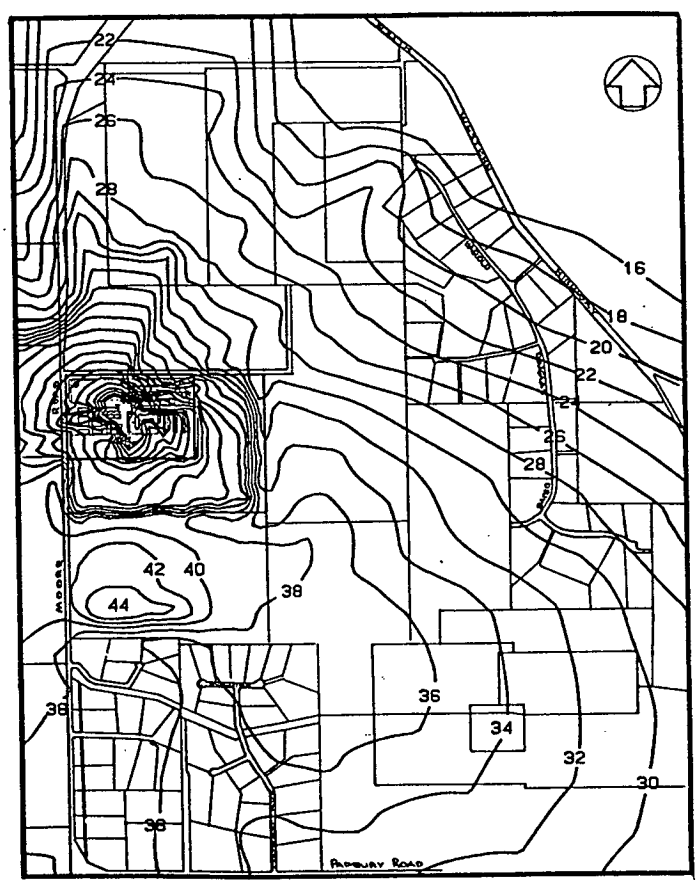
The computer modelling shows that the expanded plant along with noise control measures can meet the 40 dB(A) night time criteria under maximum propagation conditions (down wind) - refer Figure 7.



NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PECENTILE LEVELS

EXPANDED PLANT CALM CONDITIONS

FIGURE 6



NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PECENTILE LEVELS

EXPANDED PLANT WIND - NORTHERLY AT 3m/s

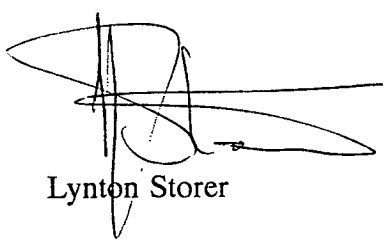
FIGURE 7

8. DISCUSSION

When levels from the saw mill approach 40 dB(A) (due to down wind propagation) an additive effect will occur with the other existing industrial noise. This would still be considered acceptable for day time operations and in fact would be a net reduction on the existing levels. Combined levels at night, however, may cause some disturbance. For instance, if the level from the saw mill is 40 dB(A) and existing other industry is 40 dB(A) the resultant level will be 43 dB(A).

Monitoring and assessment of one of the other existing industries (Particle Board Plant) is underway at the time of writing this report and initial results show levels of around 45 dB(A) at night in the Padbury area. The cumulative effect of this level with the predicted 40 dB(A) from the Saw Mill would be an increase of 2 dB(A) to 47 dB(A). Such an increase is only barely detectable and unlikely to cause annoyance in itself, but as previously mentioned the overall level may cause annoyance and it would be in excess of the regulatory levels by 7 dB(A).

The expanded plant has predicted noise levels of up to 40 dB(A) to the nearest residents in Padbury. The same principles apply to noise propagation to the Copplestone area, however, levels will be less due to the extra distance involved. The conditions required to cause the maximum levels of 40 dB(A) are likely to only occur for around 10% of the time when winds are light and in the direction of propagation. For the balance of the time the levels will be less than 30 dB(A). Levels of 30 dB(A) or less (due to the saw mill) will have no additive effect with other industry emissions in the area.



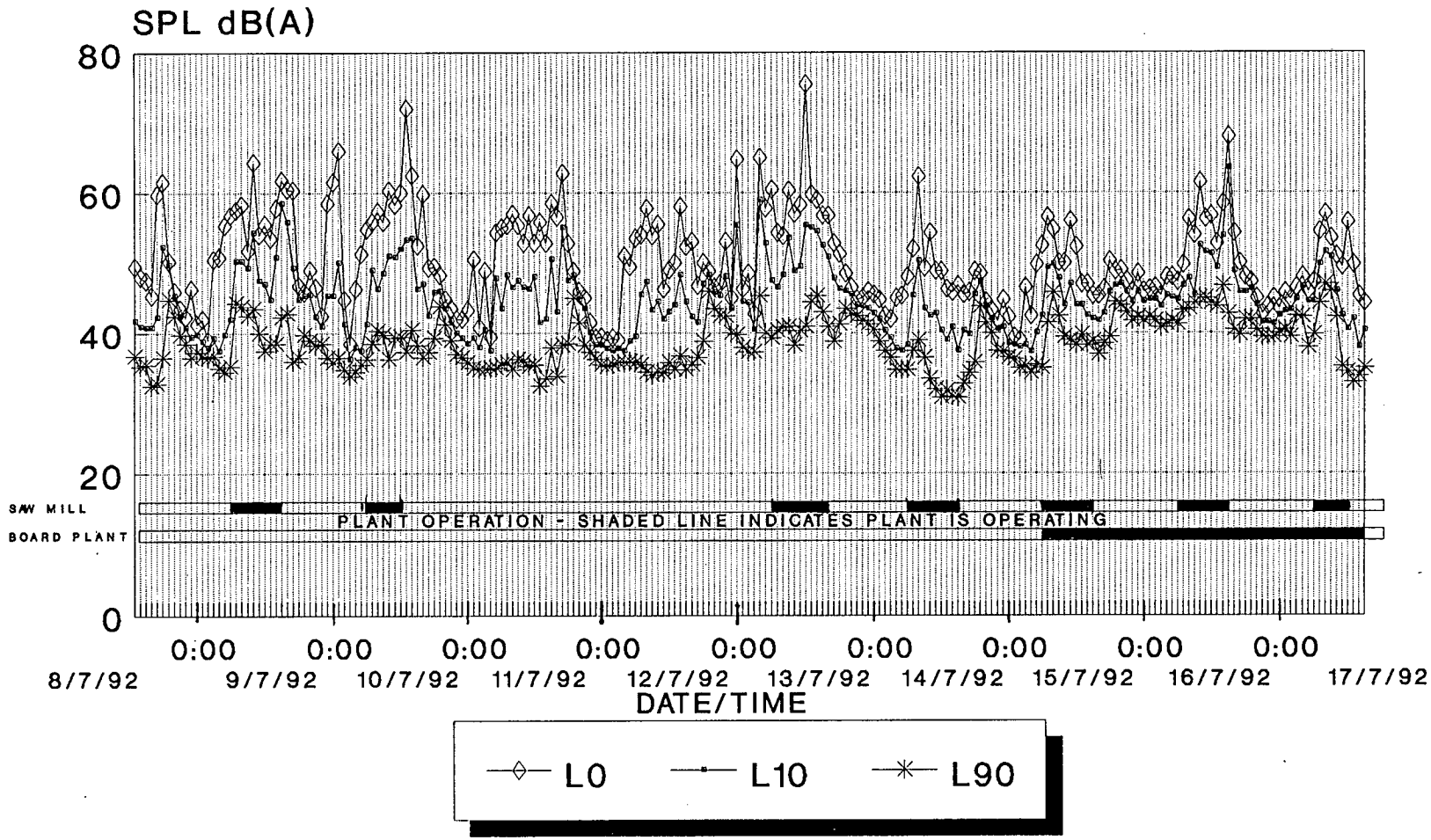
Lynton Storer

6 October 1992

APPENDIX A

SOUND LEVEL MONITORING DATA

LOCATION 1
EPA LOGGER

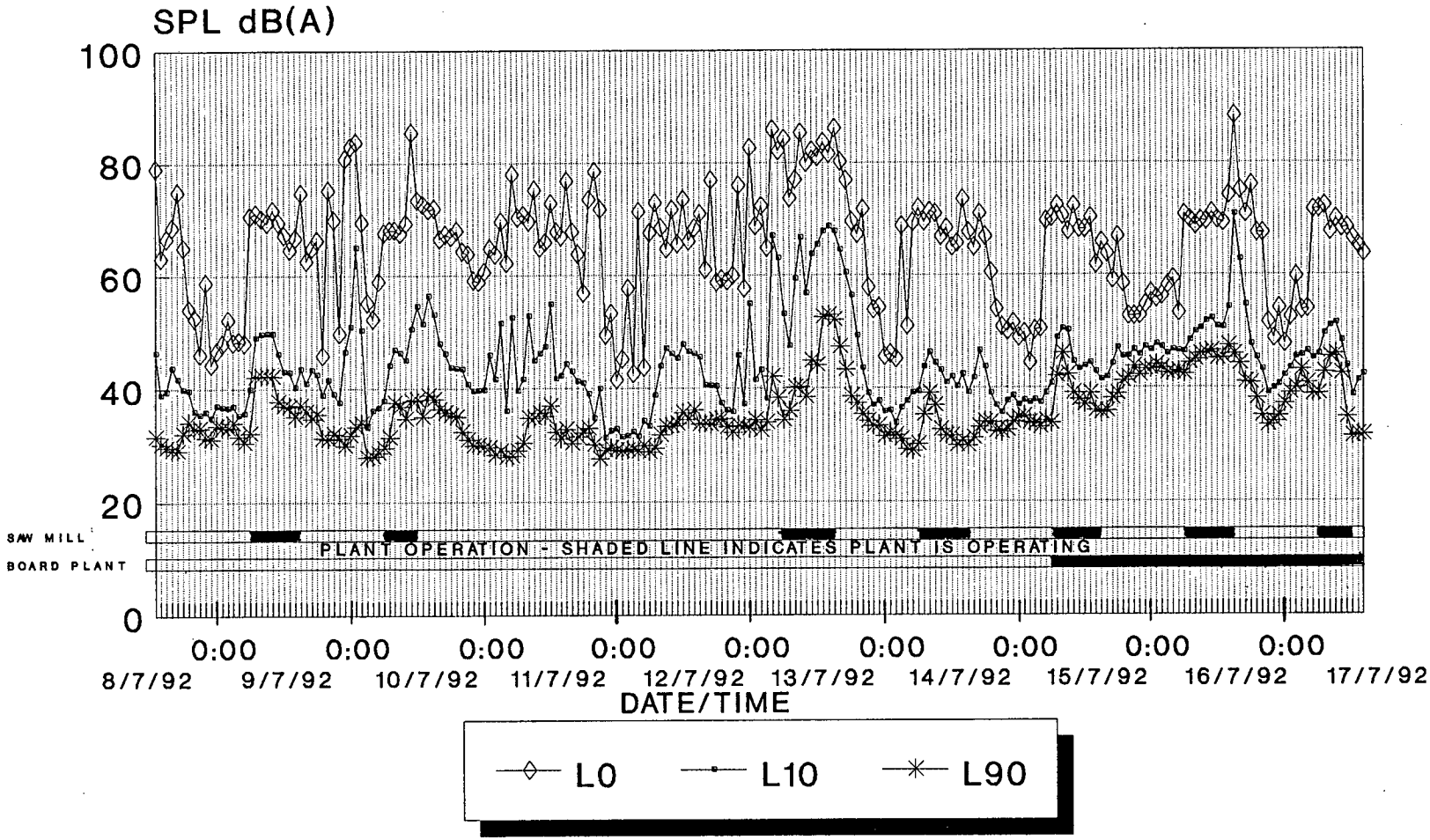


LUMMIS RESIDENCE

SOUND LEVEL MONITORING DATA

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street Como,
Western Australia, 6152
Telephone: (09)3676200
Facsimile: (09)4742579

LOCATION 2
LOGGER No. 017

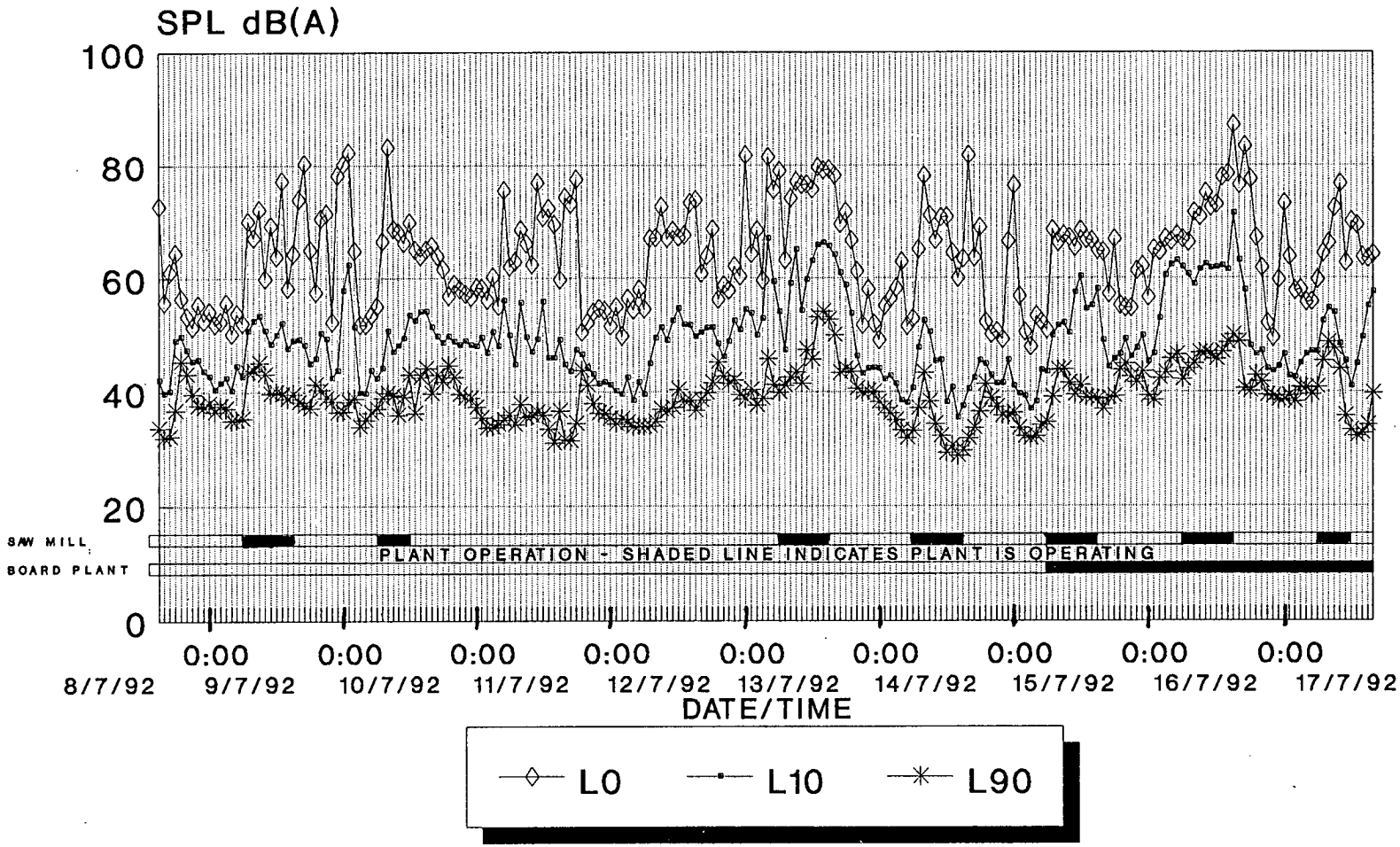


KELLY RESIDENCE

SOUND LEVEL MONITORING DATA

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street Como,
Western Australia, 6152
Telephone: (09)3676200
Facsimile: (09)4742579

LOCATION 3
LOGGER No. 003

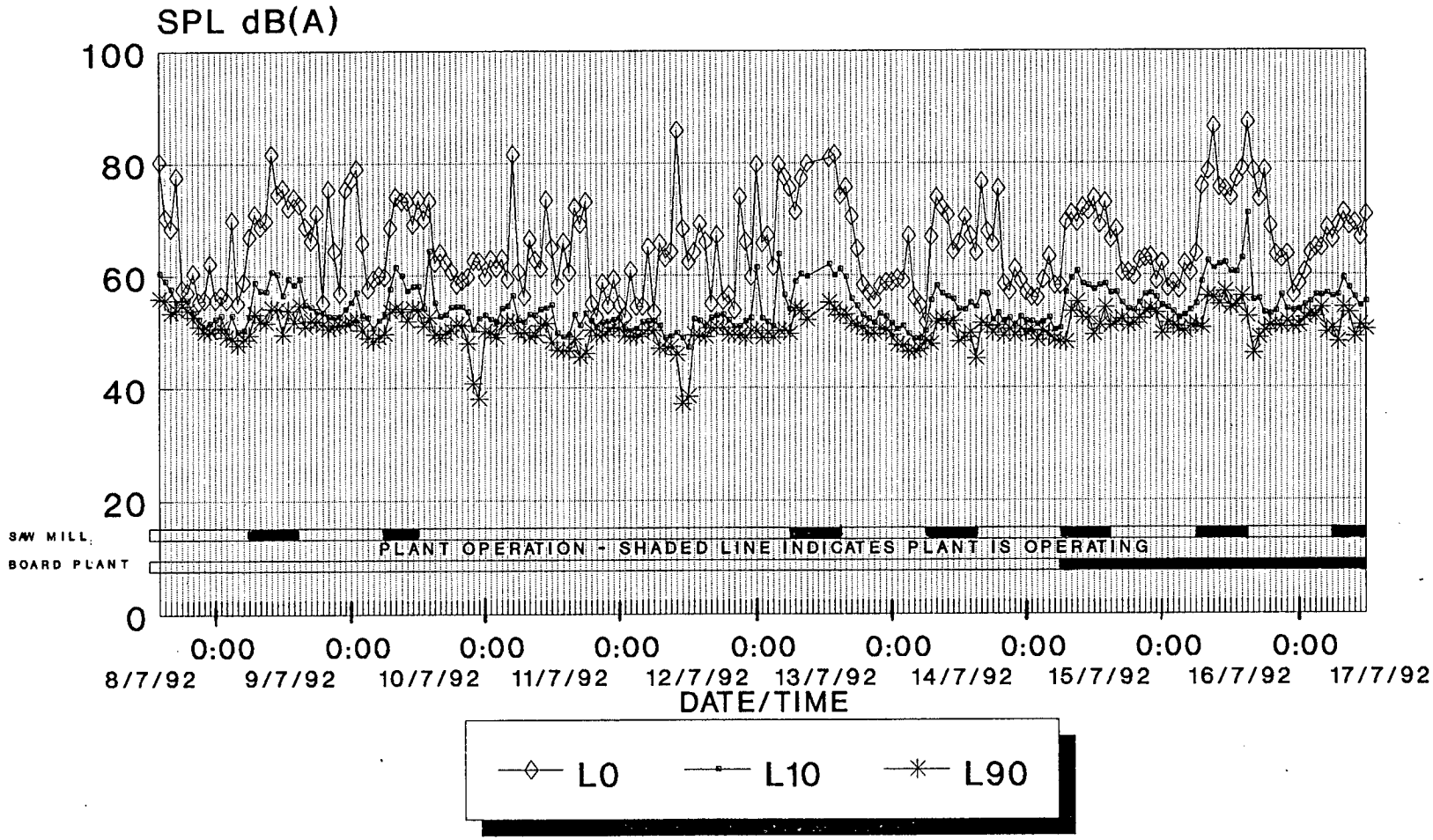


HAROLD DOUGLASS DRIVE

SOUND LEVEL MONITORING DATA

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street Como,
Western Australia, 6152
Telephone: (09)3676200
Facsimile: (09)4742579

LOCATION 4
LOGGER No. 039



SAW MILL

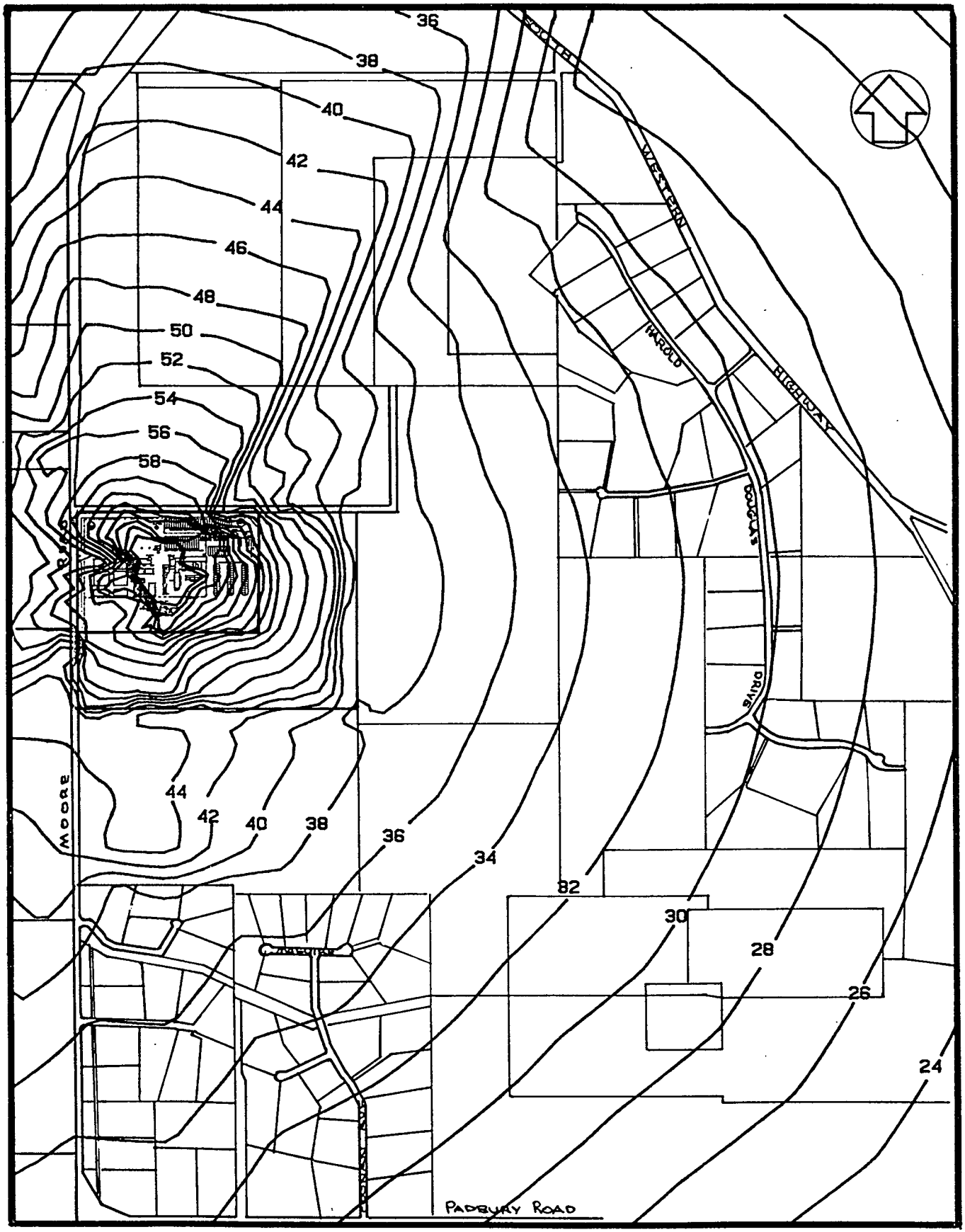
SOUND LEVEL MONITORING DATA

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street Como,
Western Australia, 6152
Telephone: (09)3676200
Facsimile: (09)4742579

APPENDIX B

SOUND LEVEL PREDICTIONS

NOISE CONTOURS



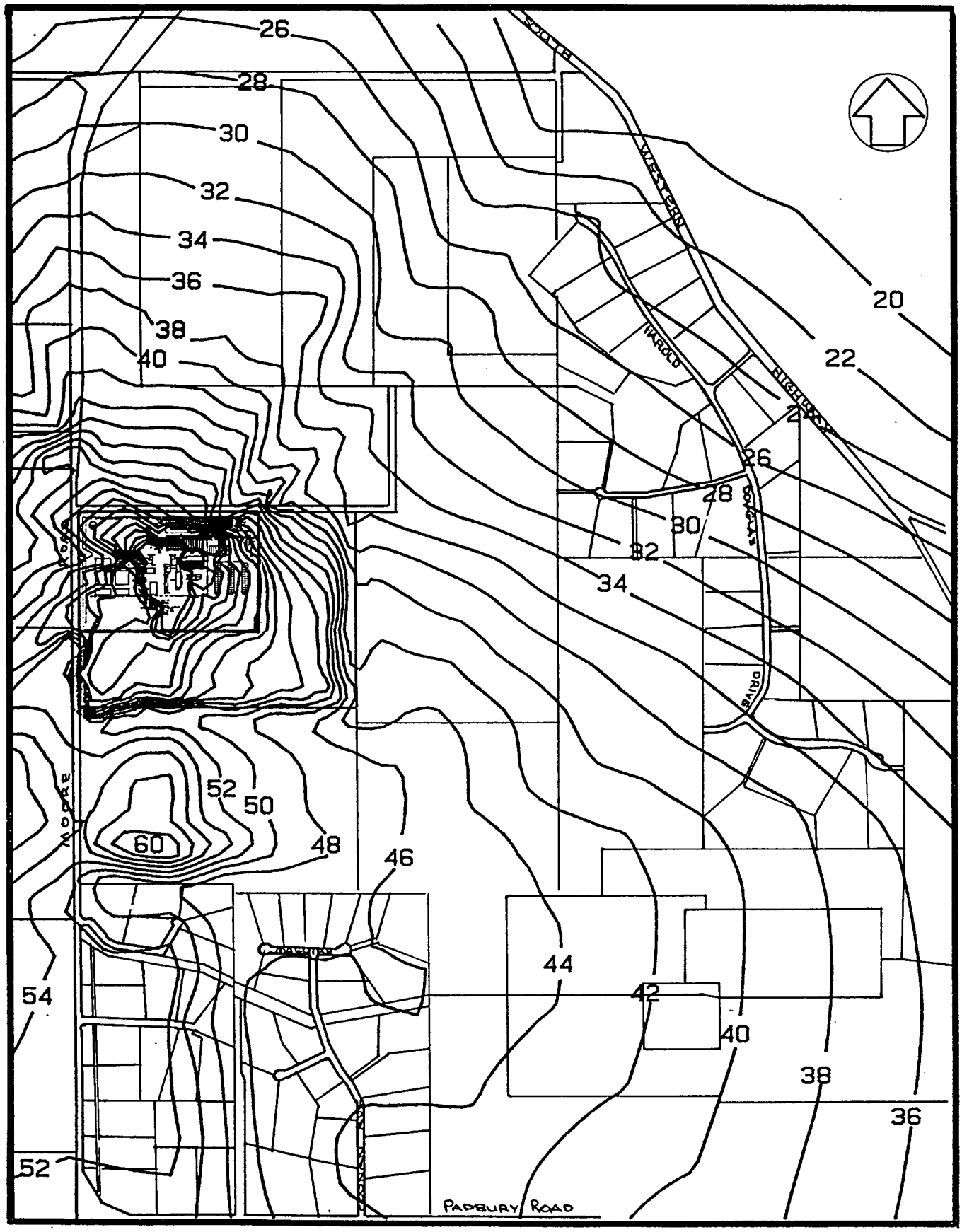
NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PECENTILE LEVELS

EXISTING PLANT
CALM CONDITIONS

DATE: JULY 1992	SCALE: N. T. S.	BY: L. STORER	DRG. NO. 92056/01

WESPINE INDUSTRIES PTY LTD
DARDANUP EXPANSIONS
NOISE LEVEL PREDICTIONS

HERRING STORER ACOUSTICS
Suite 34 11 Preston Street Como
Western Australia, 6152
Telephone: (09)3676200
Facsimile: (09)4742579



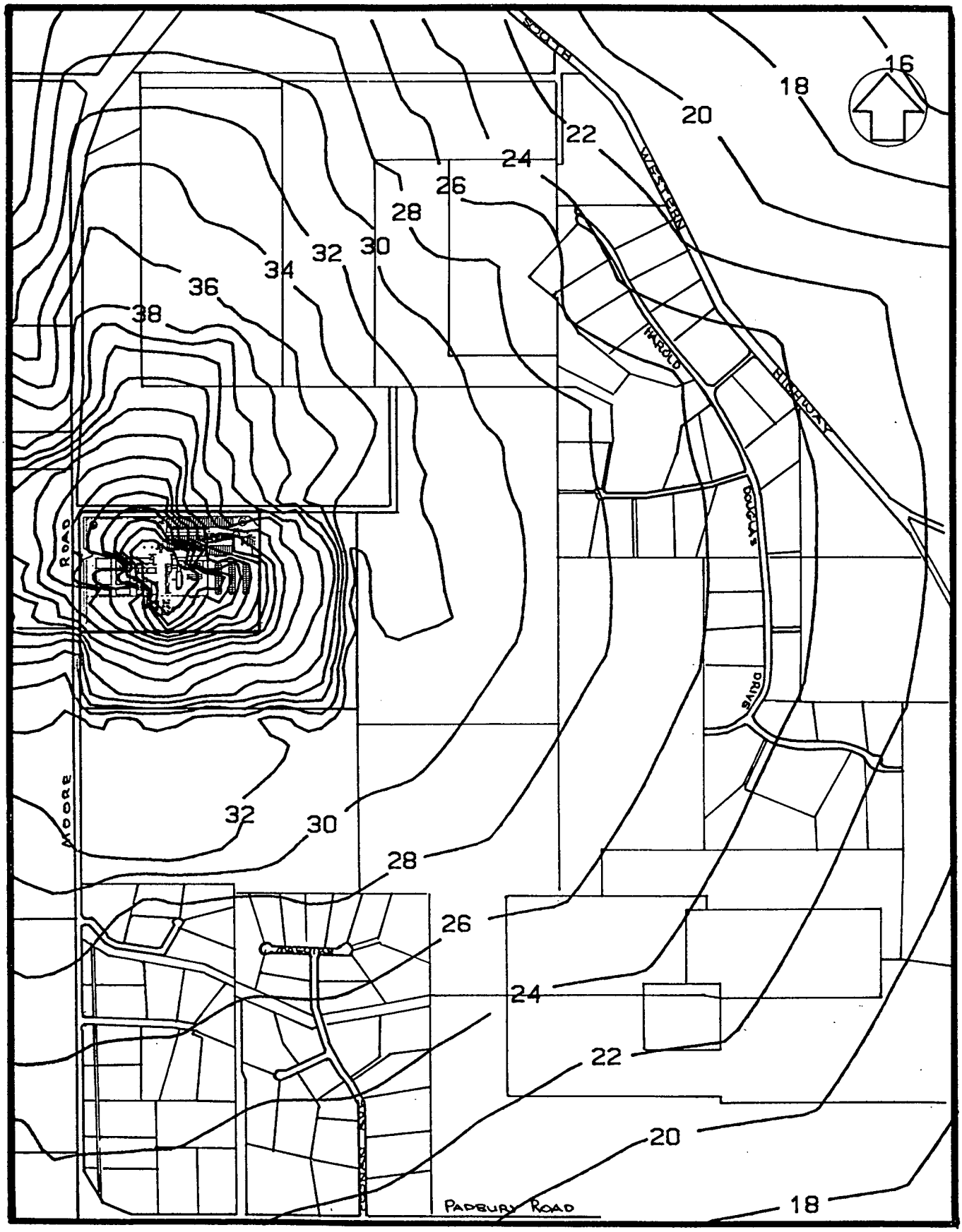
NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PECENTILE LEVELS

EXISTING PLANT
WIND - NORTHERLY AT 3m/s

DATE: JULY 1992	SCALE: N. T. S.	BY: L. STORER	DRG. NO. 92056/02

WESPINE INDUSTRIES PTY LTD
DARDANUP EXPANSIONS
NOISE LEVEL PREDICTIONS

HERRING STORER ACOUSTICS
Suite 34, 11 Preston Street Como,
Western Australia, 6152
Telephone: (09)3676200
Facsimile: (09)4742579



NOISE LEVEL CONTOURS SHOWN ARE IN dB(A) AND ARE EQUIVALENT TO L10 PECENTILE LEVELS

EXPANDED PLANT
CALM CONDITIONS

DATE: JULY 1992	SCALE: N. T. S.	BY: L. STORER	DRG. NO. 92056/03

WESPINE INDUSTRIES PTY LTD
DARDANUP EXPANSIONS
NOISE LEVEL PREDICTIONS

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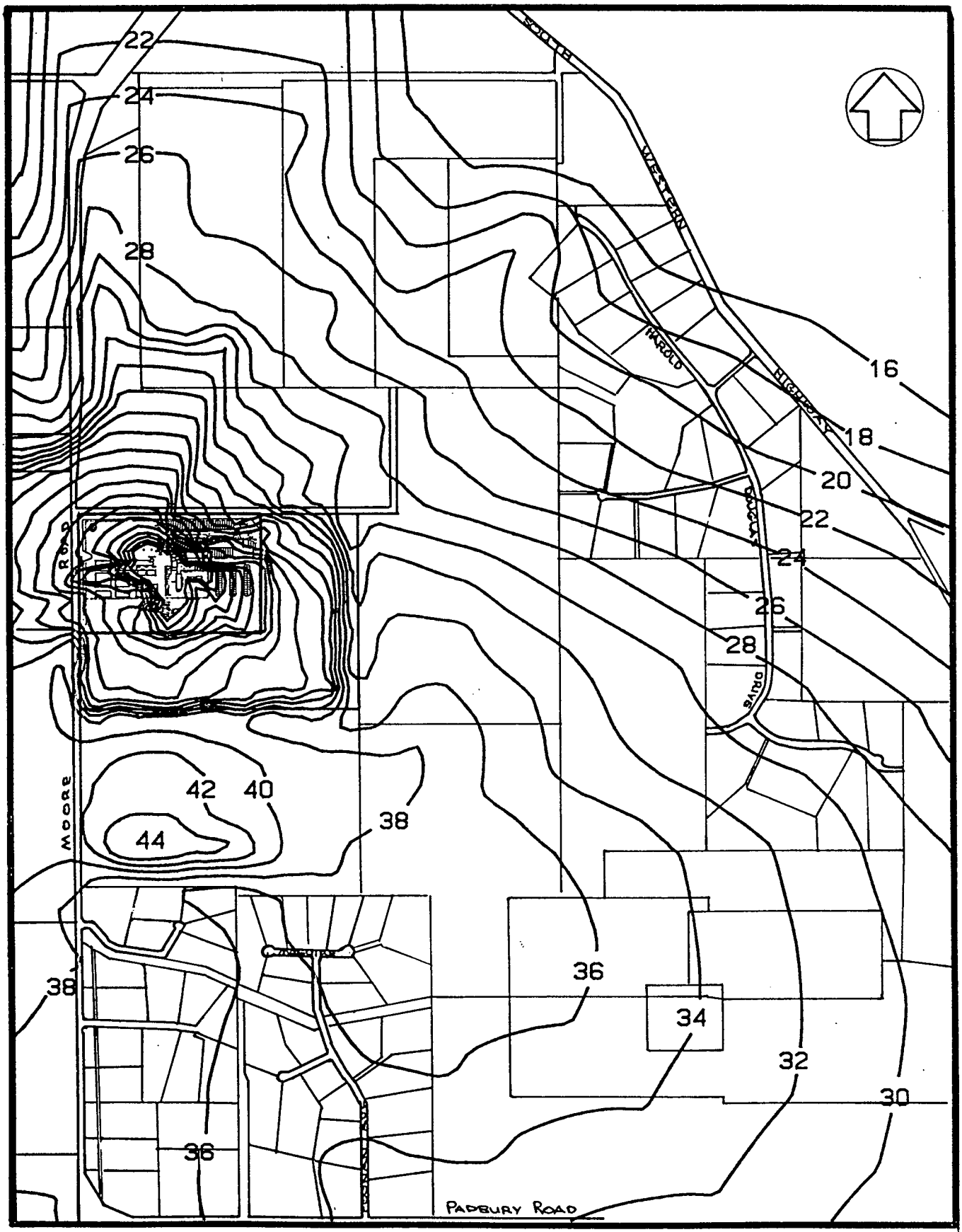

NOISE LEVEL CONTOURS SHOWN
ARE IN dB(A) AND ARE EQUIVALENT
TO L10 PECENTILE LEVELS

EXPANDED PLANT
WIND - NORTHERLY AT 3m/s

DATE: JULY 1992	SCALE: N. T. S.	BY: L. STORER	DRG. NO. 92056/04

WESPINE INDUSTRIES PTY LTD
DARDANUP EXPANSIONS
NOISE LEVEL PREDICTIONS

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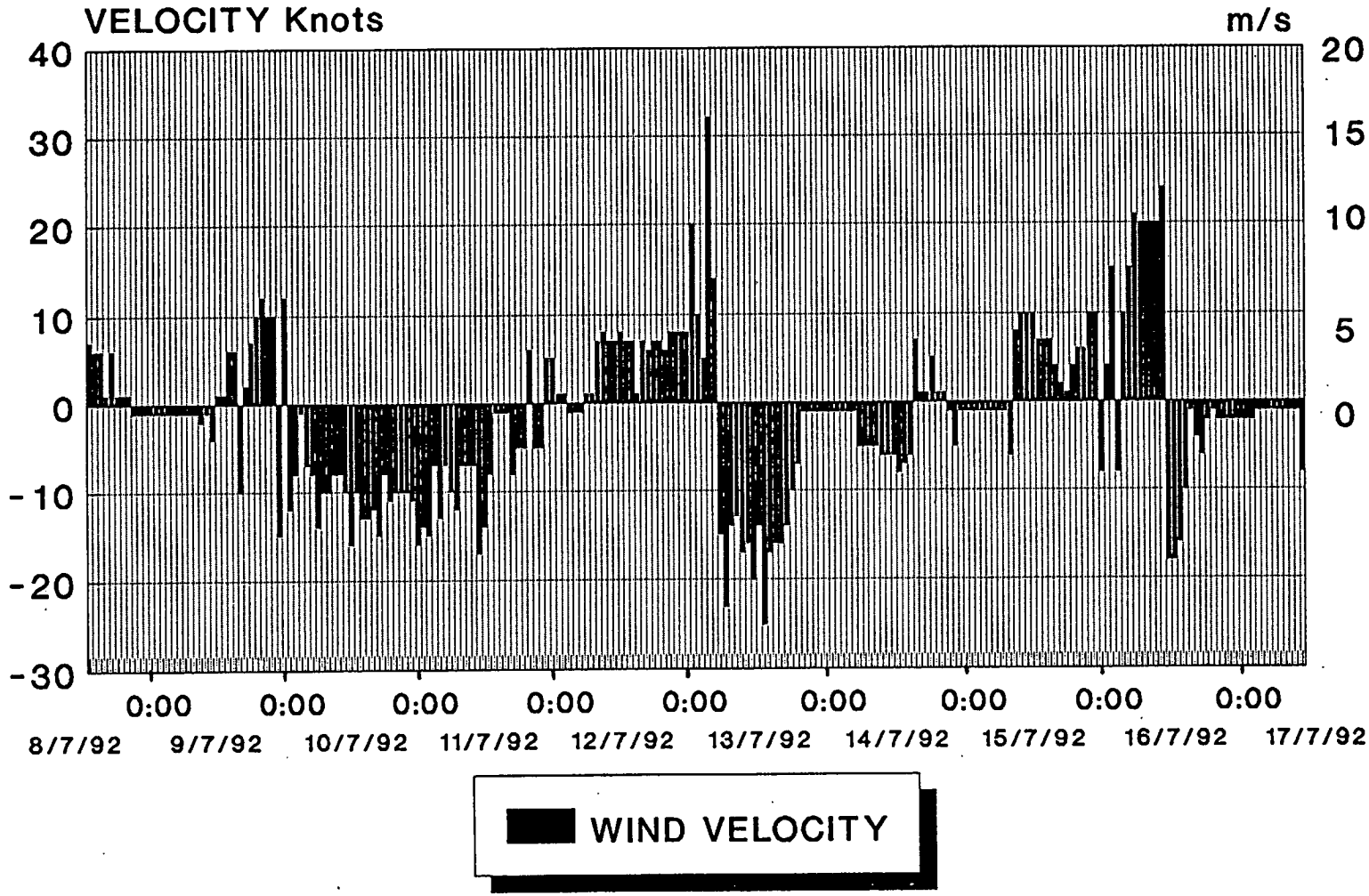
Western Australia, 6152
Telephone (09)3676200
Facsimile (09)4746579

APPENDIX C

METEOROLOGICAL DATA

WIND DATA



BUNBURY BUREAU OF METEOROLOGY WIND VELOCITY & DIRECTION DATA

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

APPENDIX D

DATA SHEETS

OCTAVE BAND ANALYSIS

APPENDIX D: DATA SHEET - OCTAVE BAND ANALYSIS

WESPINE INDUSTRIES, DARDANUP SAW MILL - Existing Plant Sound Power Levels

ITEM	EQUIPMENT	SOUND PRESSURE LEVELS - OCTAVE BAND CENTRE FREQUENCY HZ									
		31.5	63	125	250	500	1K	2K	4K	8K	16K
1	Green Mill North	105	104	97	95	92	91	88	84	78	67
2	Green Chain West	117	117	112	111	108	110	111	104	91	76
3	Green Chain South	117	117	112	111	108	110	111	104	91	76
4	Dry Mill North	105	104	97	95	92	91	88	84	78	67
5	Dry Mill South	107	105	106	105	107	108	106	105	104	98
6	Kiln	98	101	97	98	95	101	88	81	75	66
7	Chipper	121	122	125	124	123	120	117	113	105	96
8	Green Mill South West	109	107	107	107	109	108	107	105	104	98
9	Margaret River	105	104	97	95	92	91	88	84	78	67
10	Green Mill South East	102	107	105	106	111	109	108	109	108	106
11	Dust Extract	111	112	120	110	100	98	97	99	94	85

(Ref.0258DS1)

APPENDIX D: DATA SHEET - OCTAVE BAND ANALYSIS

WESPINE INDUSTRIES, DARDANUP SAW MILL - Attenuated Plant Sound Power Levels

ITEM	EQUIPMENT	SOUND PRESSURE LEVELS - OCTAVE BAND CENTRE FREQUENCY HZ									
		31.5	63	125	250	500	1K	2K	4K	8K	16K
1	Green Mill North	105	104	97	95	92	91	88	84	78	67
2	Green Chain West	115	115	107	106	98	100	99	92	79	64
3	Green Chain South	115	115	107	106	98	100	99	92	79	64
4	Dry Mill North	105	104	97	95	92	91	88	84	78	67
5	Dry Mill South	107	105	106	105	107	108	106	105	104	98
6	Kiln	98	101	97	98	95	101	88	81	75	66
7	Chipper	116	117	115	109	103	100	97	93	85	76
8	Green Mill South West	107	105	105	102	99	98	97	95	94	88
9	Margaret River	105	104	97	95	92	91	88	84	78	67
10	Green Mill South East	100	105	102	101	105	103	102	103	102	100
11	Dust Extract	111	112	120	110	100	98	97	99	94	85

(Ref.0258DS2)

APPENDIX E

LOADER OPERATION CALCULATION DETAILS

SINGLE POINT CALCULATION

ENM CALC MODULE

INPUT FILENAMES

C:\ENM\SOURCES\TEMP

SECTION FILENAMES

C:\ENM\SECTIONS\TEMP

MAP FILENAMES

C:\ENM\MAPS\WESFB

CALC SECTION FILE

C:\ENM\SECTIONS\TEMP

CALC OUTPUT FILE

prn

TEMP (deg C) HUMIDITY (%)

20.0 50.0

WIND SPEED (m/sec) WIND DIR (deg)

3.0 270.0

TEMP GRAD (deg C/100m)

.0

X= 2960.0 Y= 1204.0 Z= 1.5

SOURCE : 12

WESFI

	FREQUENCY Hz									
	31.5	63	125	250	500	1k	2k	4k	8k	16k
POWER LEVEL	115.0	116.0	111.0	105.0	101.0	106.0	103.0	97.0	91.0	86.0
DIRECTIVITY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
DISTANCE	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
BARRIER	6.1	5.2	.0	.0	.0	.0	.0	.0	.0	.0
AIR ABSORPTION	.0	.2	.6	1.7	4.0	7.1	13.4	30.8	91.1	300.0
TEMP & WIND	-5.2	-5.2	-2.1	.0	-9.4	-9.4	-6.2	-7.3	-7.3	-7.3
GROUND	-6.0	-5.5	4.2	-1.4	-2.1	-1.7	-2.4	-2.7	-4.1	-1.2
TOTAL AWT 37.7	46.0	47.3	34.2	30.6	34.4	35.9	24.1	2.2	-62.8	-100.0

PROGRAM ENM SOURCE RANKING

SINGLE POINT CALCULATION

X= 2960.0 Y= 1204.0 Z= 1.5

SOURCE TITLE	dB(A)
12 WESFI	37.7
TOTAL	37.7

APPENDIX 4

LETTER FROM CALM REGARDING COMMITMENTS

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

HEAD OFFICE
HACKETT DRIVE CRAWLEY
WESTERN AUSTRALIA
Phone (09) 386 8811
Telex AA94868
Facsimile (09) 386 1578

STATE OPERATIONS HEADQUARTERS
50 HAYMAN ROAD COMO
WESTERN AUSTRALIA
Phone (09) 367 0333
Telex AA 94616
Facsimile (09) 367 0466

Please address all correspondence to Executive Director, P.O. Box 104, COMO W.A. 6152

Your Ref:
Our Ref: 032338F1404
Enquiries: Mr Keene
Phone: 386 8811

The Manager
Wespine Industries Pty Ltd
1 Somersby Road
WELSHPOOL WA 6106

Dear Sir

EXPANSION OF DARDANUP SAWMILL CER

This is to authorise you to include in the Consultative Environmental Review (CER) for the proposed Major Stage Expansion of the Wespine Industries Pine Sawmill at Dardanup the following commitments on behalf of the Department of Conservation and Land Management (CALM).

1. CALM will ensure that all of its operations relating to the supply of pine logs to the Dardanup sawmill are in accordance with the provisions of the Conservation and Land Management Act 1984 and Regulations thereto, and with all relevant approved and then current Forest Management Plans.

2. CALM will ensure that road haulage contractors it employs to transport pine logs to the Dardanup sawmill receive specific direction regarding the routes to be used between each plantation controlled by CALM and the sawmill. CALM will also ensure that its contractors comply with any conditions imposed by the Main Roads Department or a Local Authority issued in accordance with the relative statutory responsibility regarding the use of any route.

I am agreeable for you to include a copy of this letter in the CER to confirm my authorisation for you to make the above commitments on behalf of CALM.

Yours faithfully

Syd Shea
EXECUTIVE DIRECTOR

10 September 1992

APPENDIX 5

WESFI LETTER REGARDING PARTICLE BOARD PLANT

WESFI
WESTRALIAN FOREST INDUSTRIES LIMITED
ACN 008 672 740
REGISTERED OFFICE: 1-27 SOMERSBY ROAD, WELSHPOOL, WESTERN AUSTRALIA 6106
POSTAL ADDRESS: BOX 95, VICTORIA PARK, WESTERN AUSTRALIA 6100
TELEPHONE: (09) 451 7011 TELEX: 93755 FAX: (Gp 3, 2, 1) (09) 451 7482

DMCk21/knp

10th August, 1992

The Chairman
Environmental Protection Authority
9th Floor, Westralia Square
38 Mounts Bay Road
PERTH 6000

Dear Sir

Re: Pine Sawmill Upgrade - Dardanup

The upgrade of the Dardanup Pine Sawmill as proposed by WESPINE Industries Pty Ltd is the subject of a Consultative Environmental Review (CER) in accordance with the Environmental Protection Act (1986). This letter is to provide you with information regarding the nearby WESFI Pty Ltd Particleboard Plant which may be of use to the Authority in assessing the sawmill upgrade.

As a result of public consultation with residents of the nearby Copplestone and Padbury Fields subdivisions, WESFI has become aware that some people perceive the Particleboard Plant to be a problem with respect to noise. Whilst not agreeing that this opinion is necessarily warranted, WESFI understands that some people are more sensitive to noise than others and is concerned to maintain a good relationship with its neighbours.

Historically, WESFI has commissioned a number of independent noise surveys in the 16 years of operation of the particleboard plant, the most recent in November 1991 by Herring Storer Acoustics. A number of noise reduction steps have occurred as a consequence.

WESFI will continue to retain consultants to review existing noise survey data, to extend this where necessary, and to recommend what measures, if any, WESFI needs to undertake to reasonably influence the impact of the Particleboard Plant on neighbouring residential areas.

It is WESFI's firm policy to co-exist in harmony with its neighbours and to work within noise levels consistent with EPA requirements for industry.

We hope the above aids your assessment of the Dardanup Pine Sawmill upgrade.

Yours faithfully
WESTRALIAN FOREST INDUSTRIES LIMITED

G J Shepherd
GROUP GENERAL MANAGER