

Golder Associates Pty Ltd

A.B.N. 64 006 107 857

Level 3, 50 Burwood Road
Hawthorn, Vic 3122, Australia
(PO Box 6079, Hawthorn West, 3122)
Telephone (03) 8862 3500
Fax (03) 8862 3501
<http://www.golder.com>



REPORT ON

**GEOLOGICAL REVIEW AND
PLANNING ADVICE
BROADCAST AUSTRALIA SITE
TAYLORS ROAD, SYDENHAM**

Submitted to :

Broadcast Australia Pty Ltd

Level 10, Tower A
799 Pacific Highway
CHATSWOOD NSW 2057

DISTRIBUTION:

3 Copies - Broadcast Australia Pty Ltd
2 Copies - Golder Associates Pty Ltd

23 October 2006

05613714/003



OFFICES IN ADELAIDE, BRISBANE, CAIRNS, MAROOCHYDORE, MELBOURNE, PERTH, SYDNEY, TOWNSVILLE
INDONESIA, NEW CALEDONIA, NEW ZEALAND, PEOPLE'S REPUBLIC OF CHINA, PHILIPPINES, SINGAPORE
OFFICES ACROSS AFRICA, ASIA, AUSTRALIA, EUROPE, NORTH AMERICA, SOUTH AMERICA



TABLE OF CONTENTS

SECTION	PAGE
1.0 INTRODUCTION	1
2.0 AIMS OF CURRENT INVESTIGATION	1
3.0 PREVIOUS INVESTIGATION	2
3.1 Site Visit	2
3.2 Conclusions	3
4.0 BRIMBANK NATURAL HERITAGE STRATEGY AND BACKGROUND PAPERS	3
5.0 BACKGROUND GEOLOGICAL DATA REVIEW	5
6.0 REVIEW OF DEVELOPMENT OF SURROUNDING AREA	5
7.0 DISCUSSION	7
8.0 REQUIREMENTS OF THE ENVIRONMENTAL SIGNIFICANCE OVERLAY	8
9.0 PLANNING RECOMMENDATIONS	8
10.0 LIMITATIONS OF THIS REPORT	9
11.0 REFERENCES	10

LIST OF TABLES

Table 1	Main Feature Locations
Table 2	Review of Development of Surrounding Area

LIST OF FIGURES

Figure 1	Site Location
Figure 2	Sunbury Geological Map Sheet
Figure 3	1974 Aerial Photograph
Figure 4	1979 Aerial Photograph
Figure 5	1986 Aerial Photograph
Figure 6	1990 Aerial Photograph

LIST OF APPENDICES

Appendix A	Environmental Significance Overlay – Schedule 2
Appendix B	Brimbank City Council Natural Heritage Strategy Background Paper Extract
Appendix C	Important Information About Your Environmental Site Assessment

1.0 INTRODUCTION

Broadcast Australia Pty Ltd (BA) owns and operates the site of Sydenham MF Radio Station, located at the corner of Taylors and Sydenham Roads, Delahey (the site, Figure 1). In accordance with our proposal of 9 December 2005 (reference P05862_003) Golder Associates Pty Ltd (Golder Associates) has undertaken an assessment of the appropriateness of an Environmental Significance Overlay – Schedule 2 (ESO2) that has been applied to the site by Brimbank City Council (BCC) under section 42.01 of the Brimbank Planning Scheme (Appendix 1). Schedule 2 of the ESO states that:

“As one of the two eruption points of Newer Volcanics in the City of Brimbank, Round Hill is of local geomorphological significance.”

This statement of significance was prepared after an assessment of natural heritage by Ecology Australia in 1997.

2.0 AIMS OF CURRENT INVESTIGATION

The aim of the current investigation is to review the significance of the site features in the context of the proposed BA development, as well as surrounding land use. Our previous investigations have indicated that the Round Hill vent does not occur on the BA site (Golder Associates letter report, reference 714w0011). However some features of the vent's basal dome or flank are present on a small portion of the site. Further actions were recommended to understand what the significance of these features may be in relation to the ESO2 and what strategic approach BA may wish to adopt in proposals for development.

Therefore, the aims of the current investigation are as follows:

- Review the Natural Heritage Strategy and background papers to understand the context of the strategy's recommendations and their applicability to the features observed on the BA site;
- Review plans and aerial photographs in order to establish the sequence by which neighbouring development has been established over the Round Hill cone to understand the context of the original Natural Heritage Strategy recommendations;
- Review other references on the site's potential geological / geomorphological significance to broaden the understanding of BA's site's features in context with the Natural Heritage Study conclusions and recommendations;
- Review the requirements of ESO2 in light of the outcomes from the above tasks; and
- Provide advice as to strategic planning inputs into the BA development proposal with respect to the site features, the ESO2 requirements and the site's geological / natural heritage significance.

3.0 PREVIOUS INVESTIGATION

3.1 Site Visit

A site visit was undertaken by an experienced geologist from Golder Associates' Melbourne office on 30 November 2005.

The site visit comprised:

- An assessment of the local geomorphological setting of the site by visual observation of features in surrounding area;
- Observing and recording on-site and off-site topographical features and geological materials present at the ground surface within the BA site; and
- Recording of data for input into the assessment. This data included photographs of features and associated locations recorded using a GPS unit.

Table 1 presents a summary of the main features recorded during the visit and other site data.

Table 1 - Main Feature Locations

Feature	Co-ordinates (AGD 66)	Comments
Round Hill Vent	E0305200m N5821700m	As measured from Sunbury Geological Map Sheet (1973)
Highest local point – measured at Damte Place	E0305188m N5821729m	Residential area south of the BA site
Centre of a Sink hole /dam	E0305169m N5822045m	Scoracious rocks and basalt in this area. Occurs on a gentle rise to local high point (Damte Pl).

During our site visit, the BA site was observed to have the following features:

- A general falling slope from south to the north (away from the local high spot at Damte Place).
- Crystalline basalt floaters (cobbles and boulders) present across the surface of the southern portion of site;
- On rising ground that lies on the southern boundary with Taylors Rd, the presence of scoria, scoracious or highly vesicular basalt and massive (non crystalline) basalt boulders and cobbles; and
- Scoria and scoracious basalt having features consistent with pyroclastic events (i.e. material that is ejected into the air from volcanic vents) and other has features consistent with extrusion, such as stringy or ropey features and layering.

The scoracious basalt material was assessed as being present over an area of between 1 to 1.5 hectares.

The highest local point of the area was at the end of Damte Place, located to the south of the BA site. The co-ordinates of this high point are within the locality of the Round Hill vent indicated on the Sunbury geological map sheet (Figure 2). The general rising ground around this high point has already been developed for residential and commercial use (i.e. it has been urbanised). Taylors Road also crosses the higher ground.

The features observed close to the southern (Taylors Road) boundary of the site are consistent with volcanic material that occurs close to volcanic vents in the western Victorian Basalt Plains (Geology of Victoria¹).

The low relief of this volcano indicates a small shield type volcano (i.e. a domical base with a steeper vent or cone). The highpoint at Damte Place appears to be the cone / vent of the former Round Hill volcano.

The sloping ground on the BA site appears to be a portion of the northern flank of the basal dome. Scattered volcanic rocks are present and are assessed as overlying and merging into the basalt flows that had extruded from the vent. Thus the surface material encountered on the site is assessed as representing the material erupted during the last period of the volcanic activity. This material was observed over an area of not more than 1.5 hectares.

3.2 Conclusions

The following conclusions were drawn from our assessment of site conditions:

- The volcanic vent known as Round Hill (as identified in the Brimbank City Council Natural Heritage Strategy) is located to the south of the BA site (at Damte Place).
- The Round Hill vent (cone) and a large proportion of flanking basal dome has been developed for residential, commercial and road / transport purposes, i.e. it has been urbanised.
- A small portion of the vent's basal dome extends into the BA site.

4.0 BRIMBANK NATURAL HERITAGE STRATEGY AND BACKGROUND PAPERS

A review of the Brimbank City Council Natural Heritage Strategy and background papers has been undertaken so as to understand the context of the strategy's recommendations and the applicability to the features observed on the BA site.

¹ Geology of Victoria. W D Birch Ed. Geological Society of Australia. Special Publication 23, 2003.

The Brimbank City Council Natural Heritage Strategy Background Papers indicate that sites of geological and geomorphological significance were selected on the basis that they contain geological or geomorphological features that:

- Were unique or important examples at the State or National level, or
- Were important examples at the Melbourne regional level, or
- Were examples of the Brimbank City Council local level.

The “condition” of each site is also considered by evaluation with respect to the following criteria:

- The inherent quality of the feature, i.e. is it a visible and viable entity, and
- The degree to which it has been damaged or otherwise degraded by either human actions or other natural agencies of change.

The background papers note that the significance of some features can be degraded by inappropriate siting of buildings, tracks or revegetation projects.

The Natural Heritage Strategy background papers indicates the position of the Round Hill eruption point is north of Taylors Road, on the southern boundary of the BA site. The reference provided for the location of the site is Melways reference 13 G8 and G9.

Table 13 of The Natural Heritage Strategy Background Papers lists Round Hill as being of ‘local’ importance, while the condition of the feature is described as ‘moderate’ due to the feature being partially built on (south of Taylors Road). The management guidelines suggest that the site be retained as for the existing site use or as modified open space.

5.0 BACKGROUND GEOLOGICAL DATA REVIEW

A review was undertaken of the following background documents:

- Sunbury 1:63,360 Geological Mapsheet (Geological Survey of Victoria, 1973)
- Eruption Points of the Newer Volcanics Province of Victoria (National Trust of Australia, Victoria and Geological Society of Australia, Victoria Division, 1994)
- Sites of Geological and Geomorphological Significance in the Western Region of Melbourne (Department of Conservation, Forests and Lands Victoria, 1986)
- A review of geological and geomorphological sites of significance on the Port Phillip and Westernport Catchment Management Authority (PPW CMA)
- GeoVic Database of the Department of Primary Industries, Victoria.

Review of the Sunbury 1:63,360 Geological Mapsheet (Geological Survey of Victoria, 1973) indicates an eruption point named “Round Hill” to be located to the south of the site (Figure 2).

A review of geological and geomorphological sites of significance on the Port Phillip and Westernport Catchment Management Authority (PPW CMA), Eruption Points of the Newer Volcanics Province of Victoria (National Trust of Australia, Victoria and Geological Society of Australia, Victoria Division, 1994), Sites of Geological and Geomorphological Significance in the Western Region of Melbourne (Department of Conservation, Forests and Lands Victoria, 1986) and the GeoVic Database of the Department of Primary Industries, Victoria do not list “Round Hill” site under any of the categories of National, State, Regional or Local significance. We note that each of the above mentioned publications are based on reports completed from 1986 to 1993, and therefore pre-date the assessment by Ecology Australia for the Brimbank City Council Natural Heritage Strategy.

6.0 REVIEW OF DEVELOPMENT OF SURROUNDING AREA

A review of the development pattern of the surrounding area was undertaken through review of historical aerial photographs (Figures 3 to 6) and historical Melway maps of the area. The focus of the review was the residential development pattern in the surrounding area, particularly to the south of the site. The area referred to as south of Taylors Road is the land bounded by Taylors Road to the north, Kings Road to the west, Main Road West to the south and Sydenham Road to the east. The result of this review is summarised in Table 2.

Table 2 - Review of Development of Surrounding Area

Source Details	Observations	
	<i>Site</i>	<i>Area south of Taylors Road:</i>
Aerial Photograph February 1960 1:9600; 8,200ft	Several small buildings are present. Taylors Road is present.	The vent (cone) and a large proportion of flanking basal dome appear visible south of Taylors Road. A large water tank also is visible in the area.
Melway Directory Edition 1 1966		Residential streets Margrave St and Andrew Road represent the north edge of development in this area.
Melway Directory Edition 5 1971/2		Limited residential development of St Albans shown. Indicative road layout shown south of Taylors Road. MMBW Reservoir shown adjacent to proposed Highcombe Cr. MMBW Area and water tank shown south of Taylors Road.
Aerial Photograph June 1974 1:30,000 15,500ft	The site appears generally consistent with the 1960 aerial, with the exception that a small dam appears to have been constructed north of the buildings noted above.	Kerrison Ave and Ibsley Road have been constructed. The features described in 1960 photograph are still present. A water tank has been constructed and a second tank is observed to be under construction to the west of Kerrison Ave.
Melway Directory Edition 10 1977		The Pacific Can Plant is shown on the south-west corner of Taylors Road and St Albans Road. The road layout south of Taylors Road is present in its current configuration. Two water tanks are shown in the MMBW area.
Aerial Photograph January 1979 1:10,000; 10,000ft	The buildings on the site have been removed. The small dam is still present.	Roads present have now been constructed. Several houses are present off Damte Place and Ibsley Court. Two water tanks are now present west of Kerrison Ave.
Aerial Photograph March 1986 1:25,000; 13,000ft		Further residential development has occurred in the area in the vicinity of Damte Place and Ibsley Court. Three water tanks are now present west of Kerrison Ave.
Melway Directory Edition 17 1987	Telecom Operations Centre is now on the site.	Nestle (Aust) Ltd is shown north of Margrave St.
Melway Directory Edition 22 1993		MMBW infrastructure is now Melbourne Water infrastructure (reservoir, water tanks and area)
Melway Directory Edition 25 1998		Prop Housing Estate shown to the east of Dante Pl. Water tank shown south of Dante Pl.

The analysis described in Table 2 indicates that urban development around the area of the cone of the vent commenced in the early 1970's. Urban development of the feature continued through to 1990, since then development around Damte Place appears to have remained unchanged in nature (minor changes, such as construction of sheds or landscaping may have occurred). Residential development of the surrounding area has occurred over the past forty years.

7.0 DISCUSSION

The features observed close to the southern (Taylors Road) boundary of the site are consistent with volcanic material that occurs close to volcanic vents in the western Victorian Basalt Plains. Based upon observations made at the time of our site visit and information from the Sunbury 1:63,360 Geological Mapsheet the volcanic vent known as Round Hill (as identified in the Brimbank City Council Natural Heritage Strategy) is located to the south of the BA site (at Damte Place). This indicates the Brimbank City Council Natural Heritage Strategy has incorrectly identified the location of the Round Hill feature.

The Round Hill vent (cone) and a large proportion of flanking basal dome have been developed for residential, commercial and road / transport purposes, i.e. it has been urbanised. A small portion of the vent's basal dome extends into the BA site.

Development in the area of the vent, which is present over a large proportion of the Round Hill vent and flanking basal dome, includes Taylors Road and urban development to the south of Taylors Road. Taylors Road has been present since at least 1960. Residential development of the area south of Taylors Road commenced in the early 1970's, with gradual development of the area through to 1990. A small area of open space is present to the west of Damte Place.

We believe a condition rating of 'moderate', as recommended in the Brimbank City Council Natural Heritage Strategy Background Paper (Table 13), is inappropriate for Round Hill. A condition rating of 'poor' would be consistent with other locations within the City of Brimbank where sites of geological and geomorphological significance have been "degraded or highly modified" by building activity and road construction.

A review of other publications on the site's of geological / geomorphological significance in Victoria does not list the "Round Hill" site under any of the categories of National, State, Regional or Local significance.

In conclusion we believe that this data review in addition to our previous investigation suggests that:

- the Brimbank City Council Natural Heritage Strategy Background Paper has incorrectly identified "Round Hill" eruption point as being on the BA site;
- the location of the "Round Hill" vent and flanking basal dome are to the south of Taylors Road, with only a small portion of the vent's basal dome extending onto the BA site;
- the condition rating of the site as "moderate" is not consistent with the Brimbank City Council Natural Heritage Strategy classification of other sites of similar condition and level of modification;
- the level of significance of the feature as listed in the ESO2 is questionable based on the literature review of sites of geological significance in Victoria.

8.0 REQUIREMENTS OF THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

The aim of the ESO2 is to protect the “Round Hill” geomorphological feature, which the ESO2 identifies as being a site containing geological and geomorphological features that are unique or important examples in the local context. The ESO2 applies to the site extent, i.e. the whole of the BA land (Figure 3). The ESO2 does not apply to land south of Taylors Road.

A permit is required to use land to carry out works or subdivide land. The ESO2 requires that the permit application accompanied by a report which demonstrates that consideration has been given to the management principles for geological and geomorphological sites contained in the Brimbank Natural Heritage Strategy Background Papers.

In deciding on the approval of a permit for works or subdivision Council or the responsible authority must consider the State Planning Policy Framework and the Brimbank Natural Heritage Strategy.

Additionally Council must be satisfied that the proposed works or subdivision:

- considered all reasonable means of effectively protecting the significant qualities of the site; and
- the management principles for geological and geomorphological sites contained in the Brimbank Natural Heritage Strategy Background Papers have been followed, in the case of Round Hill the Natural Heritage Strategy Background Paper management guidelines recommends the site be retained as modified open space or existing site use.

9.0 PLANNING RECOMMENDATIONS

We recommend that discussion with the Brimbank City Council (BCC) occur to remove the ESO2 from the site as part of the Planning Scheme Amendment for the redevelopment of the southern portion of the site.

Removal of the ESO2 is warranted given the:

- Current extent of the ESO2 does not accurately capture the volcanic eruption point of “Round Hill”.
- Conclusion of geological investigation of the site which indicates the eruption point at “Round Hill” is not considered to be located on the site;
- Location of the vent is identified in this review as being to the south of the site in the area of Dante Court, which has been developed for residential purposes; and
- Urban development of the majority of the feature has degraded the site and reduced the value of the feature for interpretation;
- BA’s site contributes little to the geological values of the feature, as the site contains only a small portion of the vent’s basal dome;

A condition rating of 'poor' is more appropriate for the "Round Hill" feature and would be consistent with other locations within the City of Brimbank where sites of geological and geomorphological significance have been degraded or highly modified by building activity and road construction, rather than the current condition rating of 'moderate', as recommended in the Brimbank City Council Natural Heritage Strategy Background Paper (Table 13).

Additionally it is consider that the level of significance of the feature as listed in the ESO2 is questionable based on the literature review of sites of geological significance in Victoria.

10.0 LIMITATIONS OF THIS REPORT

This report has been prepared in accordance with the agreement between Broadcast Australia Pty Ltd and Golder Associates Pty Ltd. The services performed by Golder Associates have been conducted in a manner consistent with the level of quality and skill generally exercised by members of its profession and consulting practice. No warranty or guarantee of site conditions is intended.

This report is solely for the use of Broadcast Australia Pty Ltd and any reliance of this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties or for other uses. This report shall only be presented in full and may not be used to support any other objective than those set out in the report, except where written approval with comments are provided by Golder Associates.

The information on subsurface conditions in this report is considered to be accurate at the date of issue in accordance to the current conditions of the site. Subsurface conditions can vary across a particular site which cannot be explicitly defined by investigation. Therefore, it is unlikely that the results and estimations expressed in this report will represent the extremes of conditions within the site. Subsurface conditions including contaminant concentrations can change in a limited period of time. This should be considered if the report is used after a significant delay in time.

Attached as Appendix "C" is a document entitled "Important Information About Your Environmental Site Assessment" which should be read in conjunction with this report. We would be pleased to answer any questions about this important information.

GOLDER ASSOCIATES PTY LTD



Sally Pickard
Environmental Planner



Ric Bland
Associate

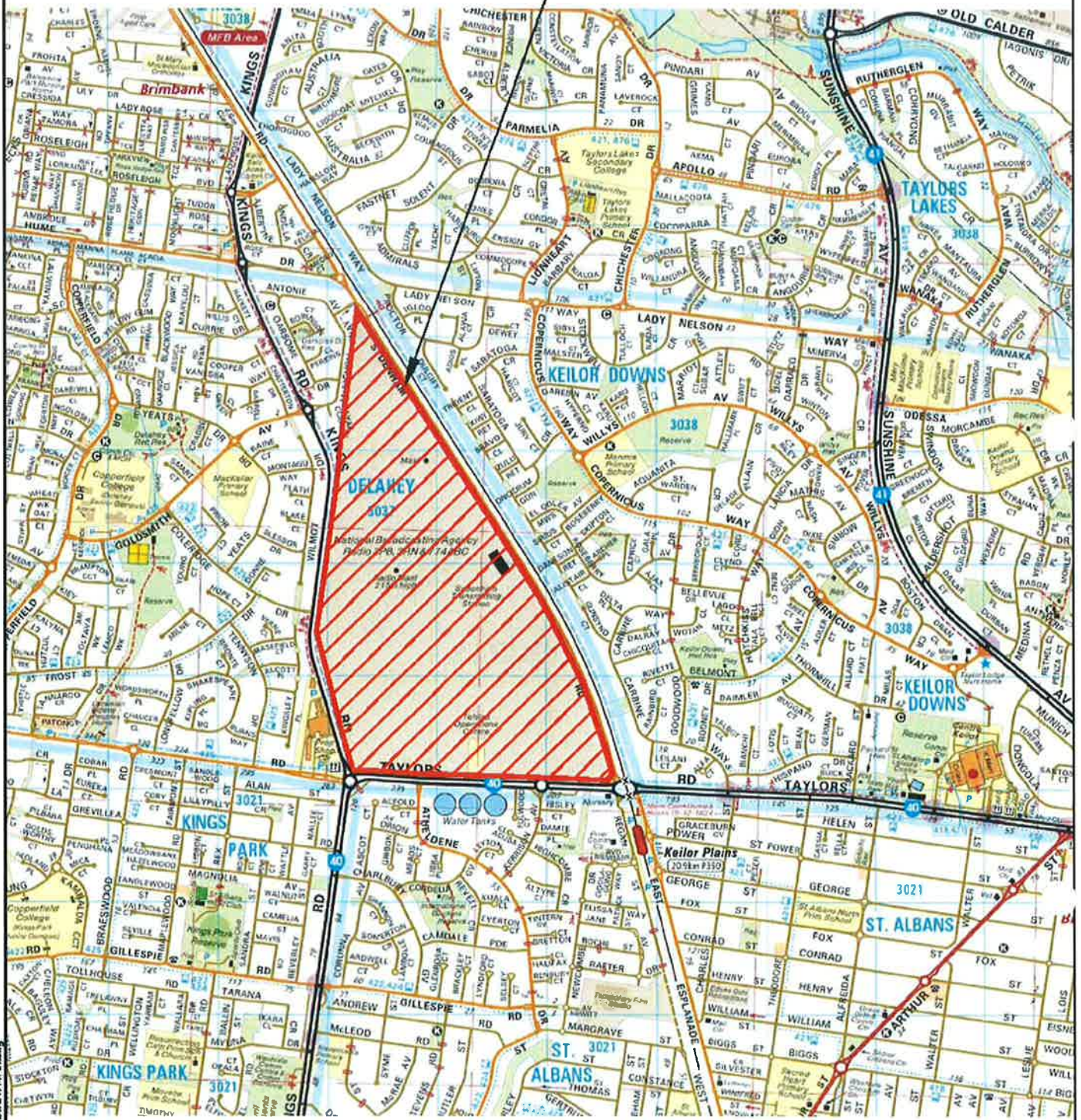
11.0 REFERENCES

- Reference 1 Department of Sustainability and Environment Brimbank Planning Scheme
Online at <http://www.dse.vic.gov.au>
- Reference 2 Geological Survey of Victoria (1973) Sunbury 1:63,360 Geological Mapsheet.
- Reference 3 Rosengren, N (1994) Eruption points of the Newer Volcanics Province of
Victoria. National Trust of Australia (Victoria) and the Geological Society of
Australia (Victorian Division)
- Reference 4 Ecology Australia (1997) Brimbank City Council Natural Heritage Strategy
Background Papers – Inventory, Status and Management Issues
- Reference 5 Sites of Geological and Geomorphological Significance in the Western Region
of Melbourne (Department of Conservation, Forests and Lands Victoria, 1986)
- Reference 6 Port Phillip and Westernport Catchment Management Authority (PPW CMA)
A review of geological and geomorphological sites of significance on the Port
Phillip and Westernport Catchment Management Authority
- Reference 7 Department of Primary Industries, Victoria (2006) GeoVic Database Accessed
at <http://www.dpi.vic.gov.au/dpi>

FIGURES



SITE LOCATION



DRAFT ONLY

COPYRIGHT MELWAY PUBLISHING PTY. LTD.
REPRODUCED WITH PERMISSION FROM
MELWAY STREET DIRECTORY EDITION 31

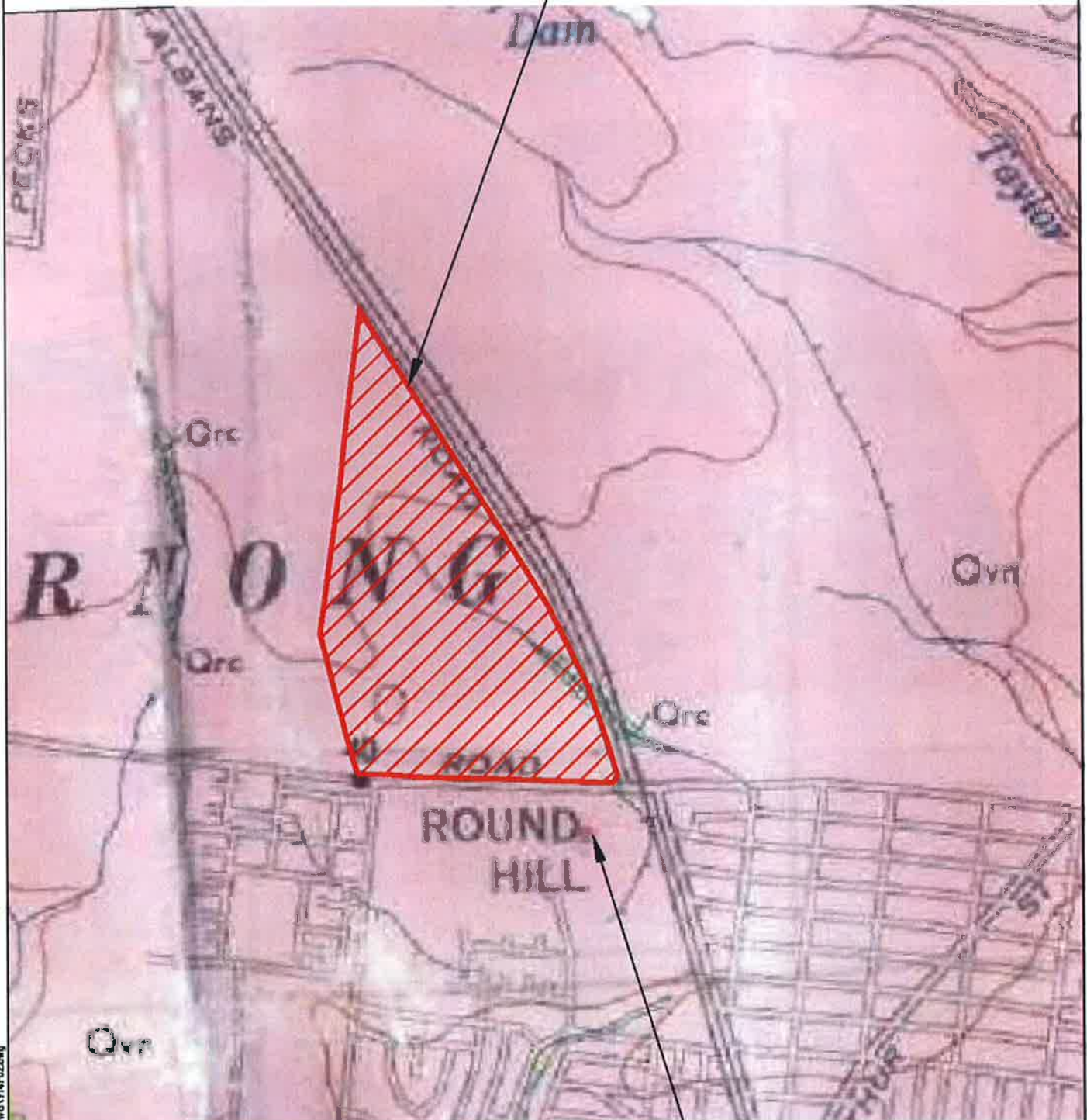


50 BURWOOD ROAD
HAWTHORN VIC. 3122
Telephone (03) 9092 3000
Facsimile (03) 9092 3001

CLIENT BROADCAST AUSTRALIA		PROJECT GEOLOGICAL REVIEW & PLANNING ADVICE	
DRAWN PJB	18.10.06	TITLE SITE LOCATION PLAN	
CHECKED SP	18.10.06		
SCALE 1:20,000		PROJECT No 05613714/F01	FIGURE 1



SITE LOCATION



VENT LOCATION

DRAFT ONLY

IMAGE FROM: SUNBURY GEOLOGICAL SURVEY MAP OF VICTORIA
IMAGE: round hill vent.jpg
DATED: 30/11/2005

1:20000 0 200 400 600 800 1000m



50 BURWOOD ROAD
HAWTHORN VIC 3122
Telephone (03) 8662 3600
Facsimile (03) 8662 3501

CLIENT BROADCAST AUSTRALIA		PROJECT GEOLOGICAL REVIEW & PLANNING ADVICE	
DRAWN PJB	18.10.06	TITLE SITE GEOLOGY	
CHECKED SP	18.10.06		
SCALE 1:20,000	A4	PROJECT No 05613714/F02	FIGURE 2

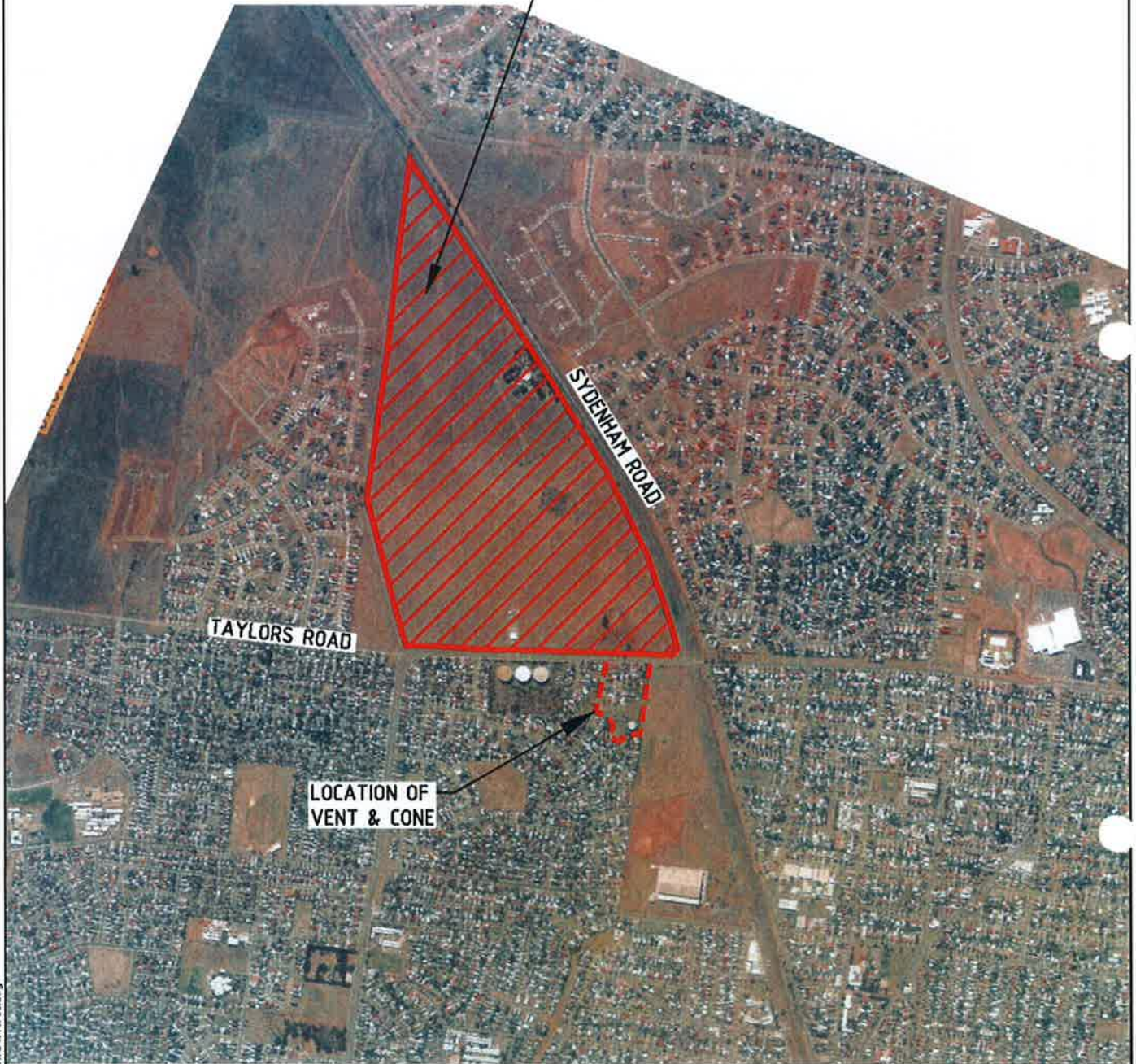
INFORMATION CONTAINED ON THIS DRAWING IS THE COPYRIGHT OF GOLDBER ASSOCIATES PTY. LTD. UNAUTHORISED USE OR REPRODUCTION OF THIS PLAN IN ANY WAY WITHOUT WRITTEN PERMISSION INFRINGES COPYRIGHT.

© GOLDBER ASSOCIATES PTY. LTD.

image-j:\env\DATA\05613714\Technical info\DWG\714\F02\round hill vent (cropped).jpg
image-j:\env\DATA\05613714\Technical info\DWG\714\F02\round hill vent (cropped).jpg



SITE LOCATION



TAYLORS ROAD

SYDENHAM ROAD

LOCATION OF
VENT & CONE

DRAFT ONLY

IMAGE FROM: DEPARTMENT OF CROWN LAND AND SURVEY, VICTORIA
IMAGE: 1990.jpg
DATED: 13/03/1990

1:20000 0 200 400 600 800 1000m



60 BURWOOD ROAD
HAWTHORN VIC 3122
Telephone (03) 8862 3600
Facsimile (03) 8862 3501

CLIENT BROADCAST AUSTRALIA		PROJECT GEOLOGICAL REVIEW & PLANNING ADVICE	
DRAWN PJB	18.10.08	TITLE 1990 AERIAL PHOTOGRAPH	
CHECKED SP	18.10.06		
SCALE 1:20,000 APPROX.	A4	PROJECT No 05613714/F03	FIGURE 3



SITE LOCATION



DRAFT ONLY

IMAGE FROM: DEPARTMENT OF CROWN LAND AND SURVEY, VICTORIA
 IMAGE: 1986.jpg
 DATED: 25/03/1986

1:20000 0 200 400 600 800 1000m



50 BURWOOD ROAD
 HAWTHORN VIC 3122
 Telephone (03) 8662 5600
 Facsimile (03) 8662 3501

CLIENT BROADCAST AUSTRALIA		PROJECT GEOLOGICAL REVIEW & PLANNING ADVICE	
DRAWN PJB	18.10.06	TITLE 1986 AERIAL PHOTOGRAPH	
CHECKED SP	18.10.06		
SCALE 1:20,000 APPROX.	A4	PROJECT No 05613714/F04	FIGURE 4

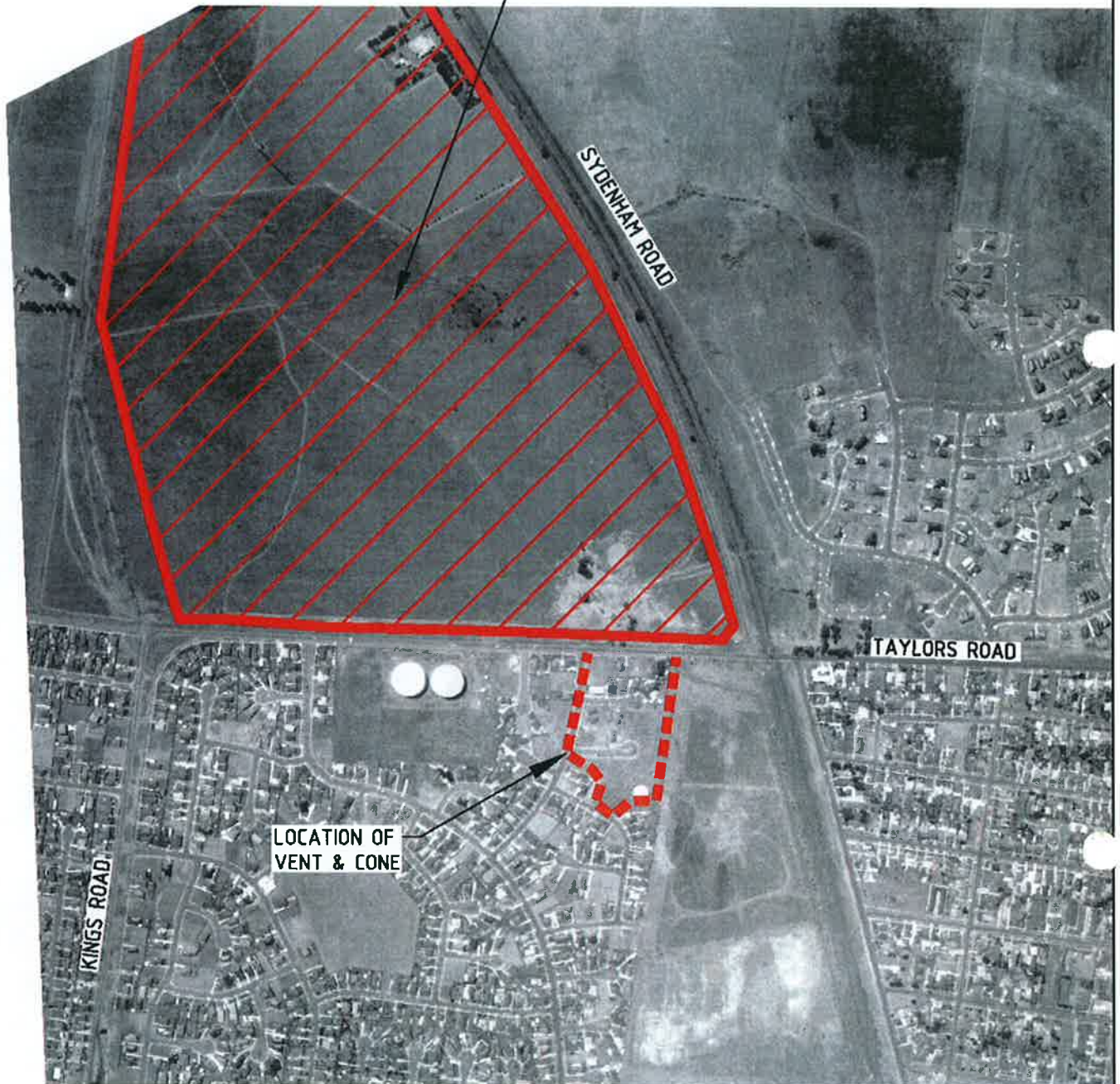
INFORMATION CONTAINED ON THIS DRAWING IS THE COPYRIGHT OF GOLDER ASSOCIATES PTY. LTD. UNAUTHORISED USE OR REPRODUCTION OF THIS PLAN IN ANY WAY WITHOUT WRITTEN PERMISSION INFRINGES COPYRIGHT.

© GOLDER ASSOCIATES PTY. LTD.

Image: J:\Env\DATA\05613714\Technical Info\05613714\IMAGES-1986.jpg
 Corfile: J:\Env\DATA\05613714\Technical Info\05613714\F04.jpg



SITE LOCATION



LOCATION OF
VENT & CONE

DRAFT ONLY

IMAGE FROM: DEPARTMENT OF CROWN LAND AND SURVEY, VICTORIA
IMAGE: 1979.jpg
DATED: 11/01/1979

1:10000 0 100 200 300 400 500m



60 BURWOOD ROAD
HAWTHORN VIC. 3122
Telephone (03) 8662 3500
Facsimile (03) 8662 3501

CLIENT BROADCAST AUSTRALIA		PROJECT GEOLOGICAL REVIEW & PLANNING ADVICE	
DRAWN PJB	18.10.06	TITLE 1979 AERIAL PHOTOGRAPH	
CHECKED SP	18.10.06		
SCALE 1:10,000 APPROX.	A4	PROJECT No 05613714/F05	FIGURE 5



SITE LOCATION



IMAGE FROM: DEPARTMENT OF CROWN LAND AND SURVEY, VICTORIA
IMAGE: 1976.jpg
DATED: 1974

1:20000 0 200 400 600 800 1000m



50 BURWOOD ROAD
HAWTHORN VIC. 3122
Telephone (03) 8662 3000
Facsimile (03) 8662 3001

CLIENT BROADCAST AUSTRALIA		PROJECT GEOLOGICAL REVIEW & PLANNING ADVICE	
DRAWN PJB	18.10.06	TITLE 1974 AERIAL PHOTOGRAPH	
CHECKED SP	18.10.06		
SCALE 1:20,000 APPROX.	A4	PROJECT No 05613714/F06	FIGURE 6

INFORMATION CONTAINED ON THIS DRAWING IS THE COPYRIGHT OF GOLDBER ASSOCIATES PTY. LTD. UNAUTHORISED USE OR REPRODUCTION OF THIS PLAN IN ANY WAY WITHOUT WRITTEN PERMISSION INFRINGES COPYRIGHT.

© GOLDBER ASSOCIATES PTY. LTD.

Image: J:\ENV\EDAT\A\05613714\Technical\Info\ADW\G\14\F06-1974.jpg
Caption: J:\ENV\EDAT\A\05613714\Technical\Info\ADW\G\14\F06-1974.jpg

APPENDIX A

ENVIRONMENTAL SIGNIFICANCE OVERLAY – SCHEDULE 2

19/01/2006
VC37

SCHEDULE 2 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

Shown on the planning scheme map as **ESO 2**

SYDENHAM RADIO TRANSMISSION ENVIRONMENTAL SIGNIFICANCE AREA – ROUND HILL

1.0

19/01/2006
VC37

Statement of environmental significance

As one of the two eruption points of Newer Volcanics in the City of Brimbank, Round Hill is of local geomorphological significance.

2.0

19/01/2006
VC37

Environmental objective to be achieved

To protect sites containing geological and geomorphological features that are unique or important examples in the local context.

3.0

19/01/2006
VC37

Permit requirement

An application to use land to construct a building or construct or carry out works, or to subdivide land must be accompanied by a report which demonstrates that consideration has been given to the management principles for geological and geomorphological sites contained in the Brimbank Natural Heritage Strategy Background Papers.

4.0

19/01/2006
VC37

Decision guidelines

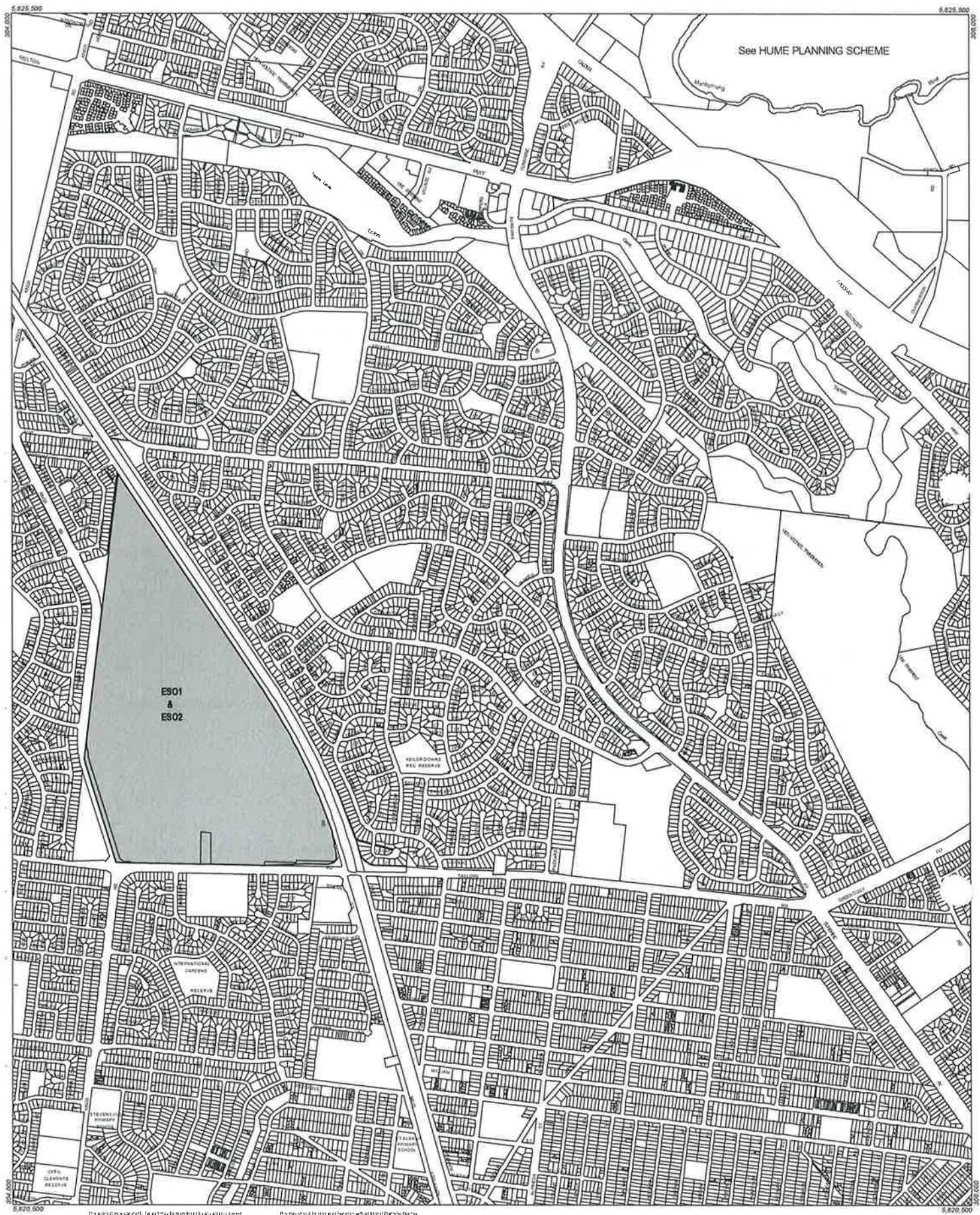
Before deciding on an application to use land to construct a building or construct or carry out works, or to subdivide land the responsible authority must consider:

- The State Planning Policy Framework.
- The Brimbank Natural Heritage Strategy.

The responsible authority must be satisfied that

- All reasonable means of effectively protecting the significant qualities of the site have been considered.
- The management principles for geological and geomorphological sites contained in the Brimbank Natural Heritage Strategy Background Papers have been followed.

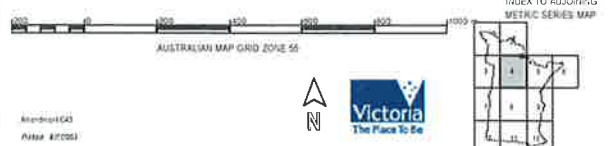
BRIMBANK PLANNING SCHEME - LOCAL PROVISION



This publication is copyright. No part may be reproduced by any person except in accordance with the provisions of the Copyright Act.

This map should be used in conjunction with the Brimbank Planning Overlay Map of the City of Brimbank and the City of Brimbank.

Overlay	Environmental Significance
ES01	Quality - Schedule 1
ES02	Quality - Schedule 2



Brimbank (CA)
April 2013

APPENDIX B

BRIMBANK CITY COUNCIL NATURAL HERITAGE STRATEGY BACKGROUND PAPER EXTRACTS

Table 13 (continued)

8. Taylors Creek - Campaspe Ct Keilor/Keilor Downs	14/F7	Basalt overlying Brighton group	Regional	Poor. Further degraded by bank filling since 1986. A section is exposed in a cutting on the old Green Gully Road on the northern side of the bridge.	Excavation of section along access track by power pylon would enhance clarity of this exposure.
9. Taylors Creek - Green Gully Keilor	14/G8 & G9	Alluvial terraces, Brighton Group, Older Volcanics. Human remains dated at approximately 8,000 years discovered in 1964.	Potential National? for archaeology. Once State for geology - now Local	Poor - very disturbed. Extensive reshaping of terraces due to soil extraction and various engineering and road works. Deteriorated since 1986	Weed control. Not much can be done to rehabilitate this once very important geomorphological and archaeological site. Interpretive literature indicating the origins, original terrain and the past importance could be developed.
*10. Round Hill St. Albans	13/G8 & 9	Eruption point of Newer Volcanics	Local	Moderate. Partly built on.	Retain as modified open space or existing use.
*11. Mt. Derrimut (Diarmuid Hill) Derrimut	39/D2-4 to F2-4	Eruption Point	Local	Moderate. Highly modified by buildings and cultivation. New Site	Continue with present land use. Site needs detailed mapping to determine possible boundaries and extent of significant basalt and scoria outcrops. If site came into public access, could be used as volcanic interpretation centre.

Significant geological and geomorphological sites



Project No.: 05613714	Brimbank City Council Natural Heritage Strategy Background Paper Significant geological and geomorphological sites	

APPENDIX C

IMPORTANT INFORMATION ABOUT YOUR ENVIRONMENTAL SITE ASSESSMENT

Important Information About Your

Environmental Site Assessment

These notes have been prepared by Golder Associates Pty Ltd using guidelines prepared by ASFE; The Association of Engineering Firms Practising in the Geosciences, of which Golder Associates Pty Ltd is a member. They are offered to help you in the interpretation of your Environmental Site Assessment (ESA) report.

Reasons For Conducting An ESA

ESA's are typically, though not exclusively carried out in the following circumstances :

- as pre-acquisition assessments, on behalf of either purchaser or vendor, when a property is to be sold;
- as pre-development assessments, when a property or area of land is to be redeveloped or have its use changed, for example, from a factory to a residential subdivision;
- as pre-development assessments of greenfield sites, to establish "baseline" conditions and assess environmental, geological and hydrogeological constraints to the development of, for example, a landfill; and
- as audits of the environmental effects of an ongoing operation.

Each of these circumstances requires a specific approach to the assessment of soil and groundwater contamination. In all cases, however, the objective is to identify and if possible quantify the risks which unrecognised contamination poses to the proposed activity. Such risks may be both financial, for example, clean-up costs or limitations on site use, and physical, for example, health risks to site users or the public.

The Limitations of An ESA

Although the information provided by an ESA can reduce exposure to such risks, no ESA, however diligently carried out, can eliminate them. Even a rigorous professional assessment may fail to detect all contamination on a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which showed no signs of contamination when sampled.

An ESA Report Is Based On A Unique Set of Project Specific Factors

Your environmental report should not be used :

- When the nature of the proposed development is changed, for example, if a residential development is proposed instead of a commercial one;

- When the size or configuration of the proposed development is altered;
- when the location or orientation of the proposed structure is modified;
- When there is a change of ownership; or
- For the application to an adjacent site.

To help avoid costly problems, refer to your consultant to determine how any factors which have changed subsequent to the date of the report may affect its recommendations.

ESA "Findings" Are Professional Estimates

Site assessment identifies actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing are interpreted by geologists, engineers or scientists who then render an opinion about overall subsurface conditions, the nature and extent of contamination, its likely impact on the proposed development and appropriate remediation measures. Actual conditions may differ from those inferred to exist, because no professional, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than a report indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, but steps can be taken to help minimise its impact. For this reason, owners should retain the services of their consultants through the development stage, to identify variations, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

Subsurface Conditions Can Change

Subsurface conditions are changed by natural processes and the activity of man. Because an ESA report is based on conditions which existed at the time of subsurface exploration, decisions should not be based on an ESA report whose adequacy may have been affected by time. Speak with the consultant to learn if additional tests are advisable.

ESA Services Are Performed For Specific Purposes And Persons

Every study and ESA report is prepared in response to a specific Brief to meet the specific needs of specific individuals. A report prepared for a consulting civil engineer may not be adequate for a construction contractor, or even some other consulting civil engineer. A report should not be used by other persons for any purpose, or by the client for a different purpose. No individual other than the client should apply a report even apparently for its intended purpose without first conferring with the consultant. No person should apply a report for any purpose other than that originally contemplated without first conferring with the consultant.

An ESA Report Is Subject To Misinterpretation

Costly problems can occur when design professionals develop their plans based on misinterpretations of an ESA. To help avoid these problems, the environmental consultant should be retained to work with appropriate design professionals to explain relevant findings and to review the adequacy of their plans and specifications relative to contamination issues.

Logs Should Not Be Separated From The Engineering Report

Final borehole or test pit logs are developed by environmental scientists, engineers or geologists based upon their interpretation of field logs (assembled by site personnel) and laboratory evaluation of field samples.

Only final logs are customarily included in our reports. These logs should not under any circumstances be redrawn for inclusion in site remediation or other design drawings, because drafters may commit errors or omissions in the transfer process. Although photographic reproduction eliminates this problem, it does nothing to minimise the possibility of contractors misinterpreting the logs during bid preparation. When this occurs, delays, disputes and unanticipated costs are the all-too-frequent result.

To reduce the likelihood of boring log misinterpretation, the complete report must be available to persons or organisations involved in the project, such as contractors, for their use. Those who do not provide such access may proceed under the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing all the available information to persons and organisations such as contractors helps prevent costly construction problems and the adversarial attitudes which may aggravate them to disproportionate scale.

Read Responsibility Clauses Closely

Because an ESA is based extensively on judgement and opinion, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, model clauses have been developed for use in written transmittals. These are not exculpatory clauses designed to foist liabilities onto some other party. Rather, they are definitive clauses which identify where your consultant's responsibilities begin and end. Their use helps all parties involved recognise their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your ESA report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.