



LETTER REPORT

TO

BRIGHTON AUSTRALIA

ON

PRELIMINARY CONTAMINATION & GROUNDWATER ASSESSMENT

FOR

PLANNING PROPOSAL

AT

64-68 THE GRAND PARADE, BRIGHTON-LE-SANDS NSW

Job No: MPG 2039

Report No: ENV AA

Our Ref No: 508

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ABN: 44 106 976 738

Job No: MPG 2039
Report No: ENV AA
Our Ref: 508

Brighton Australia
65 the Grand Parade
Brighton Le Sands NSW 2216

Attention: Mr Alex Scionti

**Preliminary Contamination & Groundwater Assessment
64-68 The Grand Parade, Brighton-Le-Sands NSW**

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Document Status		
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Revision Number	Status	Date
0	Final	27 May 2014



1 Introduction

Compaction & Soil Testing Services Pty Ltd (CSTS) was engaged to undertake a limited desktop study of the properties known as 64-68 The Grand Parade, Brighton-Le-Sands NSW, hereinafter referred to as '*the Site*'.

2 Objective

The objective of the assessment was to provide a preliminary indication of the potential for soil contamination to be present within the site, approximate depth to groundwater and general advice regarding dewatering the site for the excavation of basement levels.

3 Scope of Works

In order to achieve the objectives, consultants from CSTS undertook the following scope of works;

- Review of readily available historic and current aerial photography,
- Review of readily available geology and acid sulfate soil risk maps,
- Review of readily available groundwater information held within the National Resource Atlas,
- Review of Contaminated Land Register and sites notified to the NSW EPA,
- Conduct non-intrusive site inspection.

4 Site Information

The site is rectangular in shape and covers an area of approximately 1,095m². The site is bordered by The Grand Parade to the East, Princess Street to the South, an access laneway to the West, and an apartment block to the North. The site has overall gentle slope (2°) from a high point (Approx 14.4m AHD) in the South-west to a low point (Approx 12.7m AHD) in the North-east.

The site is currently occupied by four (4) terrace houses. The houses appear rather old, though generally well maintained. The most southern terrace house (No.: 68) appears to be run-down and abandoned. Based on the appearance of the existing buildings, the site has been used for residential purposes for a long period of time, with the buildings appearing consistent with the 1943 aerial image.

5 Potential Contamination

5.1 Historical Information

5.1.1 Aerial Photograph 1943

The site and properties immediately north of the site appear to contain terrace houses. Further north, single detached dwellings can be observed. The Grand Parade, Princess Street and the access laneway are all visible, to the East, South and West respectively. To the south of Princess Street, an open grass area is observed, and a large, tall building can be seen. To the west, beyond the access laneway, duplex developments are observed. The beach immediately east of the site appears to have a long jetty extending into the bay. The general area appears to consist predominantly of residential properties.

5.1.2 Aerial Photograph 2014

The site appears to remain generally unchanged from the 1943 photograph, though the surrounding area has undergone significant redevelopment. The terrace houses to the north, extending to Gordon Street, have been demolished and redeveloped into two (2) apartment complexes. The duplex dwellings to the west have also been replaced with apartment complexes. The grassed area and large building to the south of Princess Street has been redeveloped and is currently a large hotel (Novotel). The jetty on the beach immediately east of the site has been removed.

5.2 Regulatory Notices Search

A search of the Contaminated Land Register for Notices issued under the *CLM Act 1997* did not return any results regarding this site. The site is also not included in the *List of NSW contaminated sites notified to the EPA*. The nearest notified site is a service station approximately 285m North-east of the site. The service station has previously been regulated, though the contamination within the service station (and area of impact) is not considered significant enough to warrant regulatory intervention.

6 Soil

6.1 Geology

Reference to the Sydney 1:100,000 Geological Sheet 9130 (Herbert C, 1983) indicates the general area of the site is underlain by coarse quartz sand with varying amounts of shell fragments. This is confirmed by reviewing the driller's logs for the groundwater bores in Section 7.1. The driller's logs identified the area as underlain by unconsolidated sands.

6.2 Acid Sulfate Soil Risk

CSTS has reviewed the NSW DLWC (1997) *Botany Bay – Acid Sulfate Soil Risk Map – Edition Two* to determine the potential for Acid Sulfate Soils. Based on this review, the site is within an area of low probability of encountering Acid Sulfate Soils at depths greater than 3m bgl. The general area (Brighton-Le-Sands) has been identified as Aeolian Sand-plains with elevations in excess of 4m AHD.

7 Groundwater

7.1 Groundwater Condition

Information pertaining to groundwater condition was determined by review of information held within the National Resource Atlas. Four (4) groundwater bores were reviewed. From the centre of the site, the bores were located approximately 60m North (GW106899), 130m North-west (GW107350), 280m West (GW105629) and 315m South-west (GW110845) of the site. Groundwater was encountered at 6.10m bgl, 5.80m bgl, 4.27m bgl and 5.49m bgl respectively. Based on the available information, groundwater within the site is expected to be encountered approximately 4-6m bgl.

7.2 Dewatering

Based on the predicted groundwater levels, CSTS is of the opinion that dewatering of groundwater for excavation will be required. Depending on the excavation and construction method, a possible method of dewatering could include the installation of 'sheet piles' to act as a cut-off wall. Spears would then be placed within the excavation and progressively dewatered during excavation, to minimise the potential for oxidation

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of acid sulfate soils, if encountered. The extracted water could then be reinjected beyond the cut-off walls. Treatment of the water may be required prior to reinjection. CSTS notes that approval from the NSW Office of Water may be required and should be contacted for further information.

Due to the predicted groundwater levels, the basement construction will likely be required to be 'Tanked' to eliminate the requirement for continued, permanent dewatering processes.

8 Conclusions

- The site has remained significantly unchanged since 1943 and has been used for residential purposes,
- The site appears to have low potential for significant soil contamination to be present,
- Deep excavations within the site may encounter Acid Sulfate Soils,
- Groundwater will likely be encountered during excavation and require a dewatering management plan to be prepared,
- Dewatering processes may require approval from the NSW Office of Water to be sought.

9 Limitations

CSTS has relied on information provided and produced by others. CSTS has made no effort to substantiate the information provided or used and accepts no responsibility for the accuracy of the information.

CSTS has only conducted a non-intrusive assessment of the site. The site inspection was conducted from the site boundary only. Factors that may influence the report may not have been observable from the site boundary. Should conditions within the site vary from the expected, this office should be contacted immediately. The conclusions of this report may vary depending on additional information which may become available.

This report has been prepared for an expressed purpose and for the express use of Morris Property Group and any third party they deem necessary. Reliance upon information held within this report by others is done so at own risk. This report has not been prepared in accordance with NSW OEH *Guidelines for Consultants Reporting on Contaminated Sites 2011*, and has been prepared only to assess the potential risks based on readily available information. CSTS makes no warranties, implied or otherwise, regarding the accuracy of information used within this report.

Should you have any further queries regarding this report, please do not hesitate to contact our office.

10 Attachments

- 1943 Aerial Photograph
- 2014 Aerial Photograph
- Groundwater Bore Summary Reports



Sourced: <http://maps.six.nsw.gov.au> 23/05/2014
 Imagery Date: 1943

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Notes: This drawing has been produced using a base plan provided by others to which additional information e.g.: density test, DCP and Test Pit locations or notes have been added. Some or all the information shown on the plan may not be relevant at the time of producing this drawing.

Drawn:	CR
Approved:	NG
Date:	23/05/2014
Scale:	NTS

1943 Aerial Photograph
 64-68 The Grand Parade
 Brighton-Le-Sands, NSW

Drawing No:	ENVAA_001
Job No:	MPG 2039



Sourced: www.nearmap.com 23/05/2014
 Imagery Date: 05/05/2014

Compaction and Soil Testing Services Pty Ltd



Notes: This drawing has been produced using a base plan provided by others to which additional information e.g.: density test, DCP and Test Pit locations or notes have been added. Some or all the information shown on the plan may not be relevant at the time of producing this drawing.

Drawn:	CR
Approved:	NG
Date:	23/05/2014
Scale:	NTS

2014 Aerial Photograph
 64-68 The Grand Parade
 Brighton-Le-Sands, NSW

Drawing No:	ENVA_002
Job No:	MPG 2039

ENVA_002

MPG 2039

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Friday, May 23, 2014

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[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW105629

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW105629
LIC-NUM	10WA113397
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Spear
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Jetted - Water
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2003-11-19
FINAL-DEPTH (metres)	7.93
DRILLED-DEPTH (metres)	7.93
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	BUNYAN
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	4.27
SALINITY	
YIELD	1.50

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT	
CMA-MAP	9130-3S
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6240848.00
EASTING	329353.00
LATITUDE	33 57' 33"
LONGITUDE	151 9' 11"
GS-MAP	
AMG-ZONE	56
COORD-SOURCE	GIS - Geographic Information System
REMARK	

Form-A [\(top\)](#)

COUNTY	CUMBERLAND
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PARISH ST GEORGE
PORTION-LOT-DP 70//6770

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ST GEORGE
PORTION-LOT-DP 70 6770

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	7.93	100			Jetted - Water
1	1	Casing	Stainless Steel	0.00	6.93	42	38		Glued Stainless Steel;
1	1	Opening	Screen	6.93	7.93	42	38		(Unknown); SL: 60mm; (Unknown)

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
4.27	7.93	3.66		4.27		1.00			

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	7.93	7.93		sand, unconsolidated with sea shells	

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW106899

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW106899
LIC-NUM	10WA113717
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Spear
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Jetted - Water
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2005-11-22
FINAL-DEPTH (metres)	9.46
DRILLED-DEPTH (metres)	9.46
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	STRATA PLAN 13286
GWMA	*
GW-ZONE	*
STANDING-WATER-LEVEL	6.10
SALINITY	
YIELD	1.00

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT	
CMA-MAP	9130-3S
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6240861.00
EASTING	329673.00
LATITUDE	33 57' 32"
LONGITUDE	151 9' 24"
GS-MAP	
AMG-ZONE	56
COORD-SOURCE	GIS - Geographic Information System
REMARK	

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH ST GEORGE
PORTION-LOT-DP SP 13286

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ST GEORGE
PORTION-LOT-DP 13286

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	9.46	100			Jetted - Water
1	1	Casing	PVC Class 9	0.00	8.46	100	100		Glued Stainless Steel; A:
1	1	Opening	Screen	8.46	9.46	50			.01mm; Screwed

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
6.10	9.46	3.36		6.10		1.00			Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	9.46	9.46		Sand, unconsolidated	

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Groundwater Works Summary

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Work Requested -- GW107350

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW107350
LIC-NUM	10WA113918
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Spear
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Jetted - Water
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2005-09-24
FINAL-DEPTH (metres)	9.46
DRILLED-DEPTH (metres)	9.46
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	STRATA PLAN 447
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	5.80
SALINITY	
YIELD	1.00

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT	
CMA-MAP	9130-3S
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6240889.00
EASTING	329606.00
LATITUDE	33 57' 31"
LONGITUDE	151 9' 21"
GS-MAP	
AMG-ZONE	56
COORD-SOURCE	GIS - Geographic Information System
REMARK	

Form-A [\(top\)](#)

COUNTY CUMBERLAND
 PARISH ST GEORGE
 PORTION-LOT-DP SP447

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH ST GEORGE
 PORTION-LOT-DP 447

Construction [\(top\)](#)

Negative depths indicate Above Ground Level; H-Hole; P-Pipe; OD-Outside Diameter;
 ID-Inside Diameter; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	9.46	100			Jetted - Water
1	1	Casing	PVC Class 12	0.00	8.85	42			Glued Stainless Steel; A:
1	1	Opening	Screen	8.85	9.45	50			01mm; Screwed

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
5.80	9.46	3.66		5.80		1.00			Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	9.46	9.46		Sand, unconsolidated	

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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Work Requested -- GW110845

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW110845
LIC-NUM	10WA114294
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Spear
WORK-STATUS	
CONSTRUCTION-METHOD	Jetted - Water
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2006-11-06
FINAL-DEPTH (metres)	8.54
DRILLED-DEPTH (metres)	8.54
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	STRATA PLAN 45176
GWMA	
GW-ZONE	
STANDING-WATER-LEVEL	5.49
SALINITY	
YIELD	1.00

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6240643.00
EASTING	329387.00
LATITUDE	33 57' 39"
LONGITUDE	151 9' 12"
GS-MAP	
AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH ST GEORGE
PORTION-LOT-DP //45176

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH ST GEORGE
PORTION-LOT-DP 1 45176

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	8.54	100			Jetted - Water
1	1	Casing	PVC Class 9	0.00	7.63	100			Glued Stainless Steel; A:
1	1	Opening	Screen	0.00	0.00	50			.01mm; Screwed

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
5.49	8.54	3.05		5.49		1.00			Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	8.54	8.54	UNCONSOLIDATED ALL SAND		

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