



**CIVIL GEOTECHNICAL SERVICES**  
**ABN 26 474 013 724**  
**PO Box 678 Croydon Vic 3136**  
**Telephone: 9723 0744 Facsimile: 9723 0799**

23<sup>rd</sup> March 2012

Our Reference: 11185:JHF566

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
ESTUARY ESTATE (STAGE 7) – LEOPOLD**

Please find attached our Report No 11185AF that relates to the field density testing that was conducted within the filled allotments at the above subdivision. The level 1 inspections and associated field density testing was performed in early February 2012.

The inspections and testing of the earthworks was undertaken in general accordance with the Level 1 requirements of AS 3798 - Guidelines on Earthworks for Commercial and Residential Developments.

The site inspection and testing was performed by an experienced geotechnician from this office. Any areas that were deemed unsatisfactory were reworked and retested under his supervision. The testing was performed to the relevant Australian Standards and the accompanying test reports carry NATA endorsement. The attached compaction results, which were located randomly throughout the fill profile, are considered to be representative of the bulk fill materials that were placed across the reported allotments by Winslow Constructors during the aforementioned period. The approximate locations of the field density tests can be seen on the attached plan (Figure 1).

We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

A handwritten signature in black ink, appearing to read 'Justin Fry', written in a cursive style.

Justin Fry

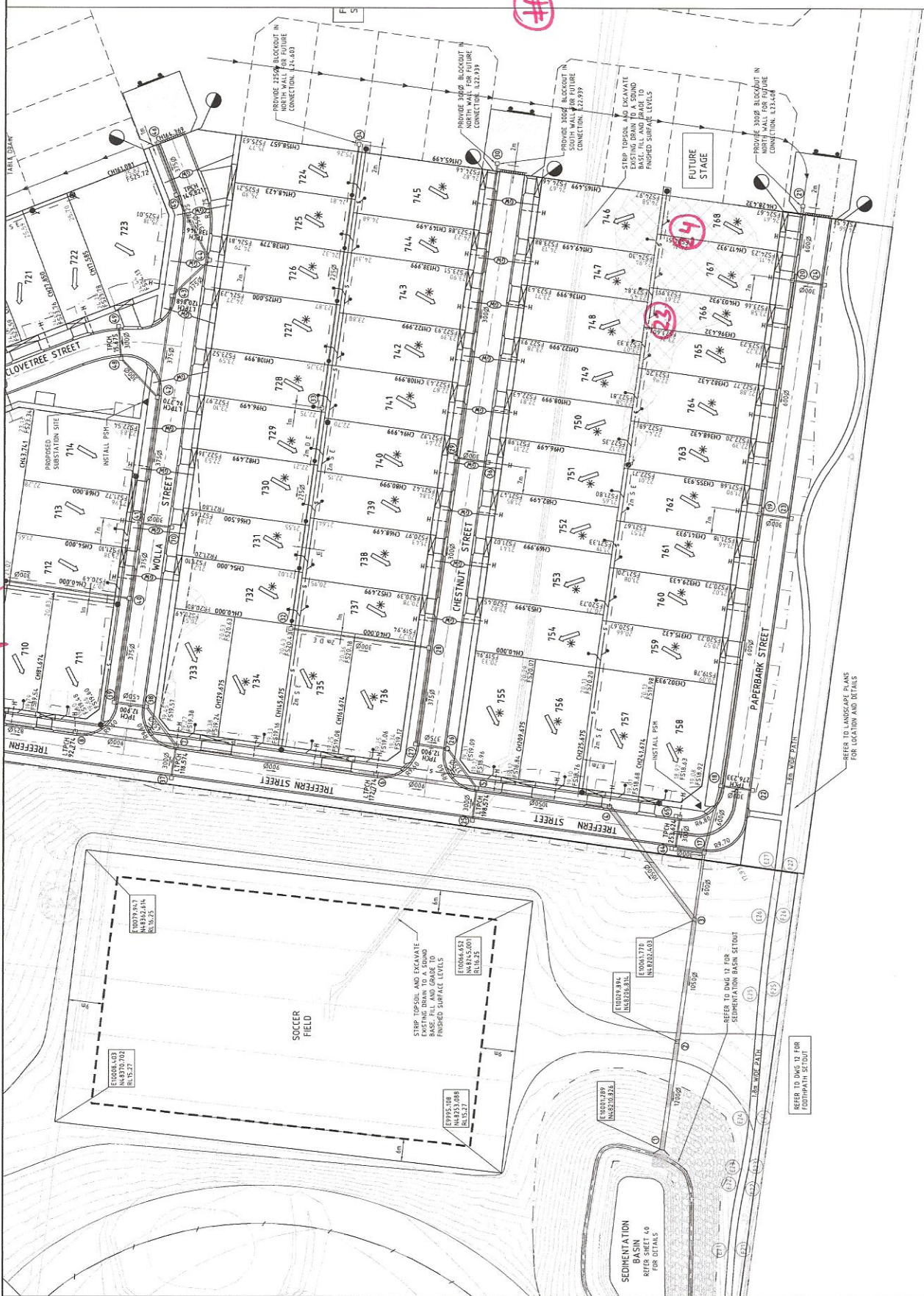
FIGURE 1

# APPROXIMATE FIELD DENSITY LOCATION

**LEGEND - LAIDLAY PLAN**

	STORMWATER DRAIN, PIT & PROPERTY INLET
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	SERVICE CONDUITS
	TACKLE PAVERS
	EXISTING ELECTRICITY (OVERHEAD)
	EXISTING GAS
	EXISTING TELSTRA
	EXISTING WATER
	EXISTING STORMWATER DRAIN
	EXISTING HOUSE DRAIN
	EXISTING SWALE DRAIN
	FINISHED BUILDING LINE LEVEL
	FINISHED GROUND LEVEL
	TOP OF RETAINING WALL
	BOTTOM OF RETAINING WALL
	ZERO LOT LINES
	RECREATIONAL STRUCTURE
	EX. STRUCTURAL FALL - 200mm DEEP
	OVERLAND FLOW
	ALLOCATION TO BE GRADED EVENLY IN DIRECTION OF FALL
	CONCRETE EDGE STRIP WITH SUCTION DRAIN
	'NO ROAD' SIGN & BARRIER
	LIMIT OF WORKS
	EXISTING TREE TO BE REMOVED
	TEMPORARY ROAD MARK
	PROPOSED DRIVEWAY

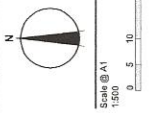
**WARNING**  
**Beware of Underground Services**  
 The locations of underground services are approximate only and No guarantee is given that all existing services are shown. Locate all underground services before commencement of works  
**DIAL 1100 BEFORE YOU DIG**  
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**Estuary Stage 7**  
 City of Greater Geelong  
 Roadworks and Drainage  
 Layout Plan - 2

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Designed By  
 Checked By  
 Authorised J.Gilham  
 Date December 2010

**estuary hepcord**  
 Principal  
 Estuary Property Developments Pty Ltd  
 Level 1, 6 Riverside Quay  
 Southbank, Victoria 3006

Revision	Date	Reason	Drawn	Checked	Approved
1	13.01.11	FOR APPROVAL	JG	JG	JG
2	16.01.11	FOR APPROVAL	JG	JG	JG

Drawing No. 025DEHL-07-04  
 Rev B  
 4 of 4  
 Approved for Construction



# COMPACTION ASSESSMENT

Job No 11185  
 Report No 11185AF  
 Date Issued 14/02/12

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	KTC
Project	ESTUARY - STAGE 7	Date tested	03/02/12
Location	LEOPOLD	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:50
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	23	24	-	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL	-	-	-	-	-	-
Measurement depth	mm 175	175	-	-	-	-
Field wet density	t/m <sup>3</sup> 1.93	1.93	-	-	-	-
Field moisture content	% 7.7	5.1	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	23	24	-	-	-	-
Compactive effort	Standard					
Override rock retained on sieve	mm 19.0	19.0	-	-	-	-
Percent of oversize material	wet 0	0	-	-	-	-
Peak Converted Wet Density	t/m <sup>3</sup> 2.04	2.03	-	-	-	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup> -	-	-	-	-	-
Optimum Moisture Content	% 12.0	9.5	-	-	-	-

Moisture Variation From Optimum Moisture Content	4.0% dry	4.5% dry	-	-	-	-
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Density Ratio ( R <sub>HD</sub> )	% 95.0	95.0	-	-	-	-
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Material description

Test No 23 - 24 Clay Fill
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A581HILF V1.10 OCT 09



This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025

Accreditation No 9909

Approved Signatory : Justin Fry